

History 619/SI 719/Rackham 619/AC 620:
Knowledge/Power/Practice in Science, Technology & Medicine
Winter 2017
Tuesdays, 1-4 pm
5521 Haven Hall
[Gabrielle Hecht](#) & [Silvia Lindtner](#)

This graduate readings seminar provides a comprehensive introduction to some of the major themes and issues in the field of Science and Technology Studies (STS, or S&TS). Drawing on scholarship in history, anthropology, sociology, information studies, critical computing, and digital studies, the course mixes theoretical material with more empirically oriented studies. The course focuses particularly on the relation between social, political, and cultural contexts of the design and development of tools, practices, ideas, and objects within science, technology, and medicine. While some background in science, technology and/or medicine is helpful, this course does not require any particular expertise.

Work for the seminar will include reading approximately 200-400 pages per week, brief weekly response papers, active participation in seminar discussions, two short papers each based on a week's reading, and a final project of about 15 pages.

Requirements: Assignments and Expectations

Reading

All required readings except books will be available for download through the course Canvas site, or through the library's subscription to [ebrary](#).

The following books have been ordered for purchase:

Harry M. Collins and Trevor Pinch, *The Golem: What You Should Know about Science* (Cambridge: Cambridge University Press, 1998), 2nd edition; ISBN: 9780521645508

Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham: Duke University Press, 2003); ISBN: 9780822329176

Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* (Durham: Duke University Press, 2006); ISBN: 9780822336716

Antina von Schnitzler, *Democracy's Infrastructure: Techno-Politics and Protest after Apartheid* (Princeton University Press, 2016).

Isabelle Stengers. *In Catastrophic Times: Resisting the Coming Barbarism* (Open Humanities Press, 2015)

Optional (STS classics you might like to own):

Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts* (1986)

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

Thomas Misa, *Leonardo to the Internet: Technology and Culture from the Renaissance to the Present* (Johns Hopkins University Press, 2011)

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

Francesca Bray, "Gender and Technology," *Annual Review of Anthropology* 36 (2007): 37-53

Harry M. Collins and Trevor Pinch, *The Golem at Large: What You Should Know about Technology* (Cambridge: Cambridge University Press, 2002); ISBN: 9780521012706

Harry M. Collins and Trevor Pinch, *Dr. Golem: How to Think About Medicine* (Chicago: University of Chicago Press, 2008); ISBN: 9780226113678

Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (Cambridge: Cambridge University Press, 1998); ISBN: 9780226302317

Edward Hackett, Olga Amsterdamska, Michael Lynch, and Judy Wajcman, eds., *The Handbook of Science and Technology Studies, Third Edition* (Cambridge: MIT Press, 2008); ISBN: 9780262083645. **Also check for the 4th edition, which will be out soon with MIT Press.**

Daniel Kleinman and Kelly Moore, eds., *Handbook on Science, Technology and Society* (Routledge, 2014).

Sergio Sismondo, *An Introduction to Science and Technology Studies*, 2nd ed. (Oxford: Blackwell, 2009); ISBN: 9781405187657

Writing

There are four types of writing assignment:

1. **Weekly responses.** Every week — not including the weeks in which you are leading discussions and doing the recommended reading — you must turn in a 400-600 word (2-3 pages) response to the required reading. Rather than merely summarize the reading, you should engage with it analytically. See our Canvas site for examples of excellent response papers. ***The electronic version of this response is due no later than 8 am on the day of the seminar, submitted to the Assignments section of the course Canvas site. YOU MUST ALSO BRING 2 PAPER COPIES TO CLASS, one for each instructor.***
2. **Discussion papers.** Two are due during the semester, to be determined on the first day of class. See below under "discussion" for further details. Please review the whole syllabus carefully before the first day of class so that you can quickly express your preference.
3. **Final project.** Your final project will be a paper 2500-3500 words (10-12 pages) in length. The choice of topic and format is up to you. You may write a literature review, a grant proposal, an analysis of current events, or whatever other format

suits your professional training or needs. You must, however, receive approval for the topic and format you choose. Whatever you choose, you must directly engage with some aspect of the STS literature, and must read additional material (i.e., articles and/or books beyond those assigned in the course). This assignment has four parts:

- a. A *proposal* that clearly describes your topic and how it relates to course materials and concepts. This should consist of a 800-1000 word abstract, along with a preliminary bibliography of 7-9 works. We strongly recommended that you discuss your ideas with us before submitting your proposal. The proposal is ***due in class (bring 2 copies) and our Canvas site on March 7.***
 - b. A good *preliminary draft* of the paper is **due by email to all class members and in our Canvas site by noon on April 16th**. This should be at least 2000 words, and should include a full bibliography. You are expected to read everyone's draft in order to have an effective wrap-up discussion on April 18th, the last day of class. We will divide the class up into thematic clusters; you will be providing substantial written comments on the other papers in your cluster.
 - c. The *final version*, edited, revised, and proofread, is **due on by 4 pm on Friday, April 21st** in the instructors' mailboxes (if possible) as well as our Canvas site. **Final project.** Your final project will be a paper 2500-3500 words (10-12 pages) in length. The choice of topic and format is up to you. You may write a literature review, a grant proposal, an analysis of current events, or whatever other format suits your professional training or needs. You must, however, receive approval for the topic and format you choose. Whatever you choose, you must directly engage with some aspect of the STS literature, and must read additional material (i.e., articles and/or books beyond those assigned in the course). This assignment has four parts:
4. Occasional reflections. At three points in the term (Weeks 1, 4, and 14), we ask you to write something that doesn't fall into one of the above categories. See the corresponding session on the schedule for details.

Discussion

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

Cold calling: to encourage full involvement and preparation, the instructors or seminar leaders for the day may "cold call" several students during each class. This means that you will be asked a direct question on the readings and that your answers should demonstrate your knowledge of the material and your ability to draw interesting connections from them to other readings. This practice is not intended to single out or embarrass anyone. Instead, its goal is to help you prepare for class and to learn to think and talk "on your feet," a crucial skill required by almost any profession.

We will grade you on both the regularity and the quality of your participation, including your responses to cold calls. Attendance without regular, thoughtful, constructive participation is not acceptable.

Presentations and leading discussion: Twice during the term, you will help lead class

discussion. This is a substantial assignment that typically requires more than one week of preparation, so you should plan accordingly. It involves:

- Selecting and reading one of the starred books or sets of articles from the “recommended reading” list for that week (each presenter picks a different book or set of articles).
- Finding 2 scholarly reviews if reading a book.
- Writing an 800-1200 word “think piece” that reviews the book you have chosen *and relates it to the assigned reading*. **You must pre-circulate this piece to the entire class [or post this piece to the class blog] no later than 5 pm on the Monday before the seminar. Bring a printed copy to class and upload to Canvas site; also post the book reviews to our Canvas site.**
- Meeting with the other student(s) presenting in that session 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 the concepts, theories, or historiographical frames from the readings.
- Distribute hard copies of the handout to all class members at the start of the seminar.
- At the beginning of the class session, presenters will jointly spend **no more than 20 minutes** outlining the themes from the common readings and elaborating your discussion questions. Presentations should draw upon the recommended readings as appropriate, but they should NOT engage in extended reviews of those readings (that’s what the pre-circulated “think pieces” are for). Everyone is expected to read these pre-circulated pieces.
- **Presentations will be timed.** You will receive a 5-minute warning at the 15-minute mark. A timer will go off at the 20-minute mark, and you must stop talking then. Again, this is not intended to embarrass you. Rather, it is meant to prepare you for professional presentations, which are always time-limited. Speaking concisely and effectively is an important skill in any profession.
- **Leading discussion:** After the initial presentation(s), the discussion leaders will moderate and guide the next 45-60 mins of discussion. You should be prepared to pose discussion-worthy questions about the readings, call on your peers, listen to contributions, and facilitate productive conversation among class members. A successful discussion ranges broadly over the readings and topic; relates the week’s readings to earlier readings and the larger issues of the course as a whole; involves all the students in the class; and gives all students time and encouragement to express their views and raise the issues they find important. The instructors may occasionally intervene during this period, but the goal is for the students to engage with each other to discuss some of the important issues raised by the readings.

Grading breakdown

- Weekly responses: 20 %
- Participation: 20 %
- Discussion “think piece” and presentation: 30% (15% each)
- Final paper (including prep stages): 30%

All assignments must be turned in on time. No exceptions.

Science, Technology, Medicine & Society (STeMS) colloquium series

Everyone is welcome and encouraged to attend the Science, Technology, Medicine, and Society (STeMS) faculty-graduate student colloquium. STeMS meets 4-6 times each semester, usually on Monday afternoons from 4 to 5:30 in 1014 Tisch Hall. Consult the STS program website for a list of Winter 2017 events.

Three semesters of attendance at the STeMS colloquium are required for the STS Graduate Certificate Program. To receive credit toward the certificate, you must register for Rackham 571 (a 1-credit course) each semester.

Schedule of Seminar Topics and Readings

1/10 – Week 1: What is “Science and Technology Studies”?

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



[Langdon Winner, “Do Artifacts Have Politics?” *Daedalus* vol. 109, no. 1 \(Winter 1980\): 121-136.](#)  

Paul N. Edwards, “[How to Read a Book](#)” .



“[Reading a Scholarly Monograph](#)”. 

Due: Write 1-2 paragraphs discussing what you think STS is and can do. Incorporate a brief discussion of the Collins & Pinch and Winner readings in your response. This replaces the reading response for this week.

1/17 – Week 2: Foundations 1: The Sociology of Scientific Knowledge (SSK)



Steven Shapin and Simon Schaffer, “Understanding Experiment,” “Seeing and Believing,” and “The Polity of Science,” in *Leviathan and the Air-Pump* (Chicago: University of Chicago Press, 1985), pp. [3-39](#)  and [40-79 & 332-44](#) .

[David Bloor, “The Strong Programme in the Sociology of Knowledge,” in *Knowledge and Social Imagery*, 2nd ed. \(Chicago: University of Chicago Press, 1991\) \(orig. 1976\), pp. 3-23.](#)  

[Harry Collins, “Introduction,” and “The Scientist in the Network,” in *Changing Order: Replication and Induction in Scientific Practice* \(Chicago: University of Chicago Press, 1992\), pp. 1-4, 129-57.](#)  

[Donna Haraway, “Part I Syntactics – The Grammar of Feminism and Technoscience.”](#)
[“PART II Semantics:](#)
[Modest Witness@Second Millenium.FemaleMan® Meets OncoMouse™”](#)
[in *Modest Witness@Second Millenium. FemaleMan® Meets OncoMouse™*, New York:](#)

[Routledge, 1997, pp. 1-119](#)  

[Karin Knorr Cetina, "Introduction," and "What is a Laboratory," in *Epistemic Cultures: How the Sciences Make Knowledge* \(Harvard University Press, 1999\), pp. 1-45.](#)  

Recommended:

***Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts*

***Michael Lynch, *Scientific Practice and Ordinary Action: Ethnomethodology and Social Studies of Science*

***Michael Mulkay, *Science and the Sociology of Knowledge*

***Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England*

Barry Barnes, David Bloor, and John Henry, *Scientific Knowledge: A Sociological Analysis*

David Bloor, *Knowledge and Social Imagery*



Ian Hacking, *The Social Construction of What?*



Karin Knorr Cetina and Michael Mulkay (eds.), *Science Observed: Perspectives on the Social Study of Science*



Trevor Pinch, *Confronting Nature: The Sociology of Solar-Neutrino Detection*



1/24 – Week 3: Foundations 2: Technology Studies

[David Noble, "Social Choice in Machine Design," in *The Social Shaping of Technology*, 2nd ed., eds. Donald MacKenzie and Judy Wajcman \(Open University Press, 1999\), pp. 161-76.](#)  

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

[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 *The Social Construction of Technological Systems*, eds. Wiebe Bijker, Thomas Hughes, and Trevor Pinch \(Cambridge: MIT Press, 1987\), pp. 17-50.](#)  

[Bryan Pfaffenberger, "The Harsh Facts of Hydraulics: Technology and Society in Sri Lanka's Colonization Schemes," *Technology & Culture* 31 \(1990\): 361-97.](#)  

[Nina E. Lerman, "'Preparing for the Duties and Practical Business of Life': Technological Knowledge and Social Structure in Mid-19th-Century Philadelphia," *Technology and Culture* 38.1 \(Jan 1997\): 31-59.](#)  

[Ruth Oldenziel, "Boys and Their Toys: the Fisher Body Craftsman's Guild, 193-1968, and the Making of a Male Technical Domain," *Technology and Culture* 38.1 \(Jan 1997\): 60-96.](#)



Recommended:

***Wiebe Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*

*** Francesca Bray, *Technology, Gender and History in Imperial China: Great Transformations Reconsidered*

***Susan J. Douglas, *Inventing American Broadcasting, 1899-1922*

***Thomas P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930*

***David Noble, *Forces of Production: A Social History of Industrial Automation*

***Ruth Oldenziel, *Making Technology Masculine: Men, Women, and Modern Machines in America, 1870-1945*

***Ruth Schwartz Cowan, *More Work for Mother*

Claude Fischer, *America Calling: A Social History of the Telephone to 1940*

Nelly Oudshoorn and Trevor Pinch, eds., *How Users Matter: The Co-Construction of Users and Technology*

Donald Mackenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance* (1993)

David Noble, *America By Design: Science, Technology, and the Rise of Corporate Capitalism*

Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology*

Shoshana Zuboff, *In the Age of the Smart Machine*

1/31 – Week 4: Materiality and Actor-Network Theory



[Bruno Latour, "Give Me a Laboratory and I Will Raise the World," in *Science Observed: Perspectives on the Social Study of Science*, eds. Karin Knorr-Cetina and Michael Mulkay](#)


[\(London: Sage, 1983\), pp. 141-70.](#)

[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.](#)

[Madeleine Akrich, "The De-Description of Technical Objects," in *Shaping Technology/Building Society*, eds. Wiebe Bijker and John Law \(MIT Press, 1992\), pp. 205-24.](#)

[John Law, "Notes on the Theory of the Actor Network: Ordering, Strategy and Heterogeneity," *Systems Practice* 5 \(1992\): 379-93.](#)  

Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network Theory* (Oxford University Press, 2007), pp. [1-17](#) , [173-262](#) .

Due: Write 1-2 paragraphs unpacking an object through an STS lens. Post on Canvas with a picture of the object, and bring the object to class. This is addition to the weekly response.

Recommended:

***Michel Callon, *The Laws of the Markets*

***Stefan Helmreich, *Silicon Second Nature: Culturing Artificial Life in a Digital World*

***Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society*

***Bruno Latour, *We Have Never Been Modern*

***John Law, *Aircraft Stories: Decentering the Object in Technoscience*

Michel Callon, John Law, and Arie Rip, eds., *Mapping the Dynamics of Science and Technology: Sociology of Science in the Real World*

Bruno Latour, *Gifford Lectures on Natural Religion* (2013)



John Law and John Hassard, eds., *Actor Network Theory and After*



John Law and Annemarie Mol, eds., *Complexities: Social Studies of Knowledge Practices*

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

2/7 – Week 5: Constructions of Health, the Body and Medicine

Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham: Duke University Press, 2003), pp. 1-85.

[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 \(1995\): 408-37.](#)  

[Liz Roberts, "Assisted Existence: An Ethnography of Being in Ecuador," *Journal of the Royal Anthropological Institute* 19 \(2013\): 562-80.](#)  

[Mei Zhan, "Introduction," and "Get on Track with the World," "Does it Take a Miracle?," and "Discrepant Distances," and "Epilogue" in *Other-Wordly: Making Chinese Medicine Through Transnational Frames* \(Duke University Press, 2009\), pp. 1-31, 31-63, 91-119, 175-203.](#) [Duke University Press eLibrary]

Recommended:

***Steven Epstein, *Inclusion: The Politics of Difference in Medical Research*

***Julie Livingston, *Improvising Medicine: An African Oncology Ward in an Emerging Cancer Epidemic*

***Alondra Nelson, *Body and Soul: The Black Panther Party and the Fight against Medical Discrimination*

***Elizabeth Roberts, *God's Laboratory: Assisted Reproduction in the Andes*

***Alexandra Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America*

***Charis Thompson, *Making Parents: The Ontological Choreography of Reproductive Technologies*

Joel Howell, *Technology in the Hospital: Transforming Patient Care in the Early Twentieth Century*

Evelyn Fox Keller, *The Mirage of a Space between Nature and Nurture*

Laura Stark, *Behind Closed Doors: IRBs and the Making of Ethical Research*

Shobita Parthasarathy, *Building Genetic Medicine: Breast Cancer, Technology, and the Comparative Politics of Health Care*

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*

Joseph Dumit, *Picturing Personhood: Brain Scans and Biomedical Identity*

Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*

Shigehisa Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*

Margaret Lock, *Encounters with Aging: Mythologies of Menopause in Japan and North America*

Margaret Lock and Vinh-Kim Nguyen, *An Anthropology of Biomedicine*

Elizabeth Lunbeck, *The Psychiatric Persuasion: Knowledge, Gender, and Power in Modern America*

Emily Martin, *The Woman in the Body: A Cultural Analysis of Reproduction*

Martin Pernick, *The Black Stork: Eugenics and the Death of "Defective" Babies in American Medicine and Motion Pictures since 1915*

Jenny Reardon, *Race to the Finish: Identity and Governance in an Age of Genomics*

Charles Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866*

Charles Rosenberg, *The Care of Strangers: The Rise of America's Hospital System*



Keith Wailoo, *Dying in the City of the Blues: Sickle Cell Anemia and the Politics of Race and Health* (

Harriet Washington, *Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present*



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

2/14 – Week 6: Experts, Publics, and Trust

Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty* (Durham: Duke University Press, 2006).

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

[Sheila Jasanoff, "Civic Epistemology," in *Designs on Nature: Science and Democracy in Europe and the United States* \(Princeton: Princeton University Press, 2005\), pp. 247-71.](#)  

[Shobita Parthasarathy, "Breaking the Expertise Barrier: Understanding Activist Challenges to Science and Technology Policy Domains," *Science & Public Policy* 37 \(2010\): 355-67.](#)  

Recommended:

***Steven Epstein, *Impure Science: AIDS, Activism, and the Politics of Knowledge*

***Scott Knowles, *The Disaster Experts: Mastering Risk in Modern America*

***Donald Mackenzie, *Mechanizing Proof: Computing, Risk, and Trust*

***Adriana Petryna, *Life Exposed: Biological Citizens after Chernobyl*

***Yaron Ezrahi, *The Descent of Icarus: Science and the Transformation of Contemporary Democracy*

***Marion Fourcade, *Economists and Societies: Discipline, Profession, and Profession in the United States, Britain, and France, 1890s to 1990s*

***Sheila Jasanoff, *Designs on Nature: Science and Democracy in Europe and the United States*

***Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy*

***Kaushik Sunder Rajan, *Biocapital: The Constitution of Postgenomic Life*

Sheila Jasanoff, *The Fifth Branch: Science Advisers as Policymakers*

Harry Collins and Robert Evans, *Rethinking Expertise*

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

Jan Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760-1820*

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*

Sheila Jasanoff, *Science at the Bar: Law, Science, and Technology in America*

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



Richard Sclove, *Democracy and Technology*



Larry Stewart, *The Rise of Public Science*



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*



2/21 – Week 7: Numbers, Counting, Categorizing, and Classifying

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](#) .

[Kim Tallbear, “Racial Science, Blood, and DNA,” in *Native American DNA: Tribal Belonging and the False Promise of Genetic Science* \(Minneapolis: University of Minnesota Press, 2013\), pp. 31-66.](#)  

[Theodore M. Porter, “Introduction,” “A World of Artifice,” “How Social Numbers are Made Valid,” 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. 3-48, 193-216.](#)  

[Ian Hacking, “Biopower and the Avalanche of Printed Numbers,” *Humanities in Society* 5 \(1982\): 279-95.](#)  

[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* \(Princeton University Press, 2007\), pp. 229-70.](#)  

Recommended:

***John Carson, *The Measure of Merit: Talents, Intelligence, and Inequality in the French and American Republics, 1750-1940*

***Kurt Danziger, *Constructing the Subject: Historical Origins of Psychological Research*

***Ian Hacking, *The Taming of Chance*

***Sarah Igo, *The Averaged American: Surveys, Citizens and the Making of a Mass Public*

***Michel Foucault, *The Order of Things*

***Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity*

***Jennifer Terry, *An American Obsession: Science, Medicine, and Homosexuality in Modern America*

Georges Canguilhem, *The Normal and the Pathological*

Joshua Cole, *The Power of Large Numbers: Population, Politics, and Gender in Nineteenth Century France*

Simon A. Cole, *Suspect Identities: A History of Fingerprinting and Criminal Identification*

Lorraine J. Daston and Katherine Park, *Wonders and the Orders of Nature, 1150-1750*

Alain Desrosières, *The Politics of Large Numbers: A History of Statistical Reasoning*

Sander Gilman, *Difference and Pathology: Stereotypes of Sexuality, Race, and Madness*



Theodore M. Porter, *The Rise of Statistical Thinking, 1820-1900*



Libby Schweber, *Disciplining Statistics: Demography and Vital Statistics in France and England, 1830-1885*


2/28 – Winter Break

NOTE! Paper proposal due 3/7

3/7 – Week 8: Feminist STS



[Sandra Harding, “Feminist Standpoint Epistemology” \(orig. 1991\) in *The Gender and Science Reader*, eds. Muriel Lederman and Ingrid Bartsch \(London: Routledge, 2001\), pp. 145-68.](#)  

Donna Haraway, [“A Cyborg Manifesto”](#)  and [“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. 149-201.

[Sergio Sismondo, “The Scientific Domains of Feminist Standpoints,” *Perspectives on Science* 3 \(1995\): pp. 49-65.](#)  

[Chela Sandoval, “New Sciences: Cyborg Feminism and the Methodology of the Oppressed,” in *The Cybercultures Reader*, eds. David Bell and Barbara M. Kennedy](#)

[\(Routledge, 2000\), pp. 374-87.](#)  

[Anne Fausto-Sterling, "The Bare Bones of Sex: Part 1—Sex and Gender," *Signs* 30 \(2005\): pp. 1491-1527.](#)  

Recommended:

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

***Anne Fausto-Sterling, *Sexing the Body: Gender Politics and the Construction of Sexuality*

***Sarah Franklin and Helena Ragoné, *Reproducing Reproduction: Kinship, Power, and Technological Innovation*

***Sandra Harding, *The Science Question in Feminism*

***Evelyn Fox Keller, *Reflections on Gender and Science*

***Lisa Nakamura, *Digitizing Race*

***Nelly Oudshoorn, *Beyond the Natural Body: An Archaeology of Sex Hormones*

***Chela Sandoval, *Methodology of the Oppressed* (

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*

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

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

Sandra Harding, *Sciences from Below: Feminisms, Postcolonialities, and Modernities*

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

Muriel Lederman and Ingrid Bartsch, eds., *The Gender and Science Reader*

Jonathan Metz, *Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs*

Londa Schiebinger, *Has Feminism Changed Science?*

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

3/14 – Week 9: Technopolitics, Nation, Geopolitics

Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II* (MIT Press, 1998): [chapter 2](#) [ebrary]

[Timothy Mitchell, *The Rule of Experts: Egypt, Techno-Politics, Modernity* \(2002\), "Can the Mosquito Speak?"](#)  

[Timothy Mitchell, "Carbon democracy," *Economy and Society*, 38:3 \(2009\): 399-432](#)  

Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (MIT Press, 2012): [chapters 1](#) and [chapter 10](#) [**ebrary**]

[Itty Abraham and Ashish Rajadhyaksha, "State Power and Technological Citizenship in India: From the Postcolonial to the Digital Age," *East Asian Science and Technology Studies*, 9 \(2015\): pp. 65-85.](#)  

Recommended:

***Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*

***Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*

***Donald Mackenzie, *Inventing Accuracy*

***Ken Alder, *Engineering the Revolution*

***Toby Jones, *Desert Kingdom: How Oil and Water Forged Modern Saudi Arabia*

*** Itty Abraham, *How India became Territorial: Foreign Policy, Diaspora, Geopolitics*

Timothy Mitchell, *Carbon Democracy*

Sara Pritchard, *Confluence: The Nature of Technology and the Remaking of the Rhône*

Hugh Gusterson, *Nuclear Rites: A Weapons Laboratory at the End of the Cold War*

David H. Guston, *Between Politics and Science*

Sheila Jasanoff (ed.), *Reframing Rights: Bioconstitutionalism in the Genetic Age*

John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe*

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*

Steven Yearley, *Sociology, Environmentalism, Globalization: Reinventing the Globe*

Sonja Schmid, *Producing Power: The Pre-Chernobyl History of the Soviet Nuclear Industry*

Gyan Prakash, *Another Reason: Science and the Making of Modern India*

James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human*

Condition Have Failed



Chandra Mukerji, *A Fragile Power: Science and the State*



Thomas Zeller, *Driving Germany: the Landscape of the Autobahn*



Suzanne Moon, *Technology and Ethical Idealism: A History of Development in the Netherlands East Indies*



Gabrielle Hecht, ed., *Entangled Geographies: Empire and Technopolitics in the Global Cold War* (MIT Press, 2011).



3/21 – Week 10: Culture and Politics of Hacking, Making, Entrepreneurship & Technoutopias

[Kavita Philip, "What is a Technological Author? The Pirate Function and Intellectual Property." *Postcolonial Studies* 8 \(2005\): 199-218.](#)  

[Silvia Lindtner, Shaowen Bardzell, Jeffrey Bardzell, "Reconstituting the Utopian Vision of Making: HCI After Technosolutionism" In Proc. of the ACM SIGCHI Conference on Human Factors in Computing Systems, CHI'16, pp. 1390 - 1402.](#)  

[Silvia Lindtner, "Hacking with Chinese Characteristics: The Promises of the Maker Movement Against Chinese Manufacturing Culture." *Science, Technology & Human Values* 40 \(2015\): 1-26.](#)  

[Johan Soderberg, "Automating Amateurs in the 3D Printing Community: Connecting the Dots between 'Deskilling' and 'User Friendliness.'" *Work Organization, Labour & Globalization* 7 \(2013\): 124-39.](#)  

[Adrian Johns, "Making a Nation" and "Intellectual Property and the Nature of Science," in *Piracy: The Intellectual Wars from Gutenberg to Gates* \(University of Chicago Press, 2009\), pp. 179- 211, 401-430.](#)  

Recommended:

***Gabriella Coleman, *Hacker, Hoaxer, Whistleblower, Spy: The Many Faces of Anonymous* (Verso, 2014)

***Gina Neff, *Venture Labor. Work and Burden of Risk in Innovative Industries.*

***Following 4 articles together

Lilly Irani, "Hackathons and the Making of Entrepreneurial Citizenship," *Science, Technology & Human Values* 40 (2015): 799-824.

Daniela K. Rosner and Morgan G. Ames. 2014. "Designing for Repair? Infrastructures and Materialities of Breakdown," in Proc. of the 17th ACM Conference on Computer supported cooperative work & Social Computing, CSCW'14, pp. 319-331

Susan Currie Sivek, "We Need a Showing of All Hands" Technological Utopianism in MAKE

Magazine,” *Journal of Communication Inquiry* 35, 3 (2011): 187-209

Denisa Kera, “Bionetworking over DNA and Online Forms of Biological Citizenship: STS and Design Perspectives,” *Genomics, Society and Policy* 6 (2010): 47-60

***Finn Brunton, *Spam: A Shadow History of the Internet* (MIT Press, 2013)

***Christopher M. Kelty, *Two Bits: The Cultural Significance of Free Software and the Internet*

***Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende’s Chile*

***Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Catalogue, and the Rise of Digital Utopianism*

Biella Coleman, *Hacking Freedom: The Ethics and Aesthetics of Hacking*

Nathan Ensmenger, *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise*

Tarelton Gillespie, *Wired Shut: Copyright and the Shape of Digital Culture*

Denisa Kera and Connor Graham. 2010. “Collective Sensor Networks and Future Communities: Designing Interaction Across Multiple Scales,” in Proc. of OZCHI’10, pp. 396-399.

Steven Levy, *Hackers: Heroes of the Computer Revolution* (New York: Anchor Press, 1994)


Maxigas, “Hacklabs and Hackerspaces – Tracing two genealogies,” *Journal of Peer Production*, Issue 2: Bio/Hardware hacking (2012);
<http://peerproduction.net/issues/issue-2/peer-reviewed-papers/hacklabs-and-hackerspaces/>

Johan Söderberg and Alessandro Delfanti, “Hacking Hacked! The Life Cycles of Digital Innovation,” *Science, Technology & Human Values* 40 (2015): 793-98

Yuling Sun, Silvia Lindtner, Xianghua Ding, Tun Lu, Ning Gu. 2015. “Reliving the Past & Making a Harmonious Society Today: A Study of Elderly Electronic Hackers in China,” in Proc. of CSCW’15.

3/28 – Week 11: Postcoloniality, Neoliberalism, and Power

Antina von Schnitzler, *Democracy's Infrastructure: Techno-Politics and Protest after Apartheid* (Princeton University Press, 2016).

[Kavita Philip, “Producing Transnational Knowledge, Neoliberal Identities, and Technoscientific Practice in India,” in *Tactical Biopolitics: Art, Activism, and Technoscience*, eds. Beatriz da Costa and Kavita Philip \(MIT Press, 2008\), pp. 243-67.](#)  

Recommended:

***Beatriz da Costa and Kavita Philip, eds., *Tactical Biopolitics: Art, Activism, and Technoscience*

***Aiwha Ong and Nancy N. Chen, *Asian Biotech: Ethics and Communities of Fate*

***Aiwah Ong, *Neoliberalism as Exception: Mutations in Citizenship and Sovereignty*

***S. M. Amadae, *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism*

Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism*

Elizabeth Popp Berman, *Creating the Market University: How Academic Science Became an Economic Engine*

Karen Ho, "Situating Global Capitalisms: A View from Wall Street Investment Banks," *Cultural Anthropology* 20 (2005)

Bill Maurer "Due Diligence and 'Reasonable Man,' Offshore," *Cultural Anthropology* 20 (2005): 474-505

Lilly Irani, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E. Grinter, "Postcolonial Computing: A Lens on Design and Development," CHI 2010.

4/4 – Week 12: Politics of Design

[Natasha Schüll, *Addiction by Design: Machine Gambling in Las Vegas* \(Princeton University Press, 2014\).](#) [University of Michigan e-Book Library]

[Lucy Suchman, "Subject Objects," *Feminist Theory*, 12 \(2011\): 119-145](#)  .

Recommended:

***Allan Brandt, *The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product that Defined America*

***Wendy Chun, *Programmed Visions: Software and Memory*

***Donald Mackenzie, *An Engine not a Camera: How Financial Models Shape Markets*

*** AnnaLee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*

Orit Halpern, *Beautiful Data: A History of Vision and Reason since 1945*

Christophe Lécuyer, *Making Silicon Valley: Innovation and the Growth of High Tech, 1930-1970*

Sarah Lochlann Jain, *Injury: The Politics of Product Design and Safety Law in the United States*

Margaret Pugh O'Mara, *Cities of Knowledge: Cold War Science and the Search for the Next Silicon Valley*

4/11 – Week 13: Coming Catastrophes

[Isabelle Stengers. *In Catastrophic Times: Resisting the Coming Barbarism* \(Open Humanities Press, 2015\) \[open access\]](#)

[Julia Adeney Thomas. "History and Biology in the Anthropocene: Problems of Scale, Problems of Value." *American Historical Review* \(December 2014\): 1587-1607.](#)  

[Paul N. Edwards. "Control Earth," *Places* \(November 2016\):](#)

[Steven J. Jackson. "Rethinking Repair." in Tarleton Gillespie, Pablo Boczkowski, and Kirsten Foot, eds. *Media Technologies: Essays on Communication, Materiality and Society*.](#)

[MIT Press: Cambridge MA, 2014.](#)  

Donna Haraway, "Anthropocene, Capitalocene, Chthulucene: Staying with the Trouble," watch talk at <https://vimeo.com/97663518>.

Anna Lowenhaupt Tsing, "A Feminist Approach to the Anthropocene: Earth Stalked by Man," watch talk at <https://vimeo.com/149475243>.

Recommended:

***Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*

***Anna Tsing, *The Mushroom at the end of the World*

***Christophe Bonneuil & Jean-Baptiste Fressoz, *The Shock of the Anthropocene*

***Andreas Malm, *Fossil Capital*

4/16 – Draft of Paper Due by 6 pm, on Canvas

4/18 – Week 14: Wrap-Up Discussion

Due: Imagine there was one more week for this course. Suggest a topic along with readings for something we left out. Bring paper copies for all.

4/21 – Final Version of Paper Due