

STSS 6040: Technology and Social Theory

Fall 2003 Graduate Course
 Department of Science and Technology Studies
 Rensselaer Polytechnic Institute
 Tuesdays, 9am-12n, Sage 5711

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 ofc hrs: Tue. 12-1pm
 & by appt. (Sage 5206)

In response to graduate student interest, Tech and Social Theory will experimentally be offered this semester in a manner that is closely tied to the department's qualifying examination in technology. The general format will be that of a reading seminar, with weekly readings organized principally around disciplinary and topical divisions of the tech exam list. I've taken a general look at our overall graduate curriculum. Due to our decision to eliminate the master's core, and the fact that we do not have an introductory pro-seminar in our program, I am looking at "tech and social theory", "science and social theory" and "science and technology policy" as serving as a basic introduction to the content, theories, and methods of STS. I have tried to choose a course design and a set of objectives that do so while complementing the other offerings in the department. As noted below, the primary emphasis of this course will be that of developing critical (and constructive!) reading skills, and providing an initial foundation for exploring the breadth and depth of the contemporary technology studies literature.

This course will also ask you to learn how to identify and engage with the strengths and weaknesses of the disciplinary traditions, theoretical perspectives and methodological approaches that can be found within STS. It is not, however, constructed as a formal introduction to these constitutive elements of our field. Formal introduction to the disciplines, theory and methods of STS is expected to take place in other courses (e.g.: Mike's "Structuralism, Post-Structuralism, and the Technosciences," Ron's "Cultures of Inquiry," and Kim's "Advanced Qualitative Methods").

This course design is experimental. We will spend the first class period discussing the graduate program, the appropriate goals for "tech and social theory," and this proposed syllabus. Specific changes to the syllabus may be made based on this discussion. Students from other departments and institutions are invited to join us in the class. For these students, the course requirements may be modified to suit their academic program and objectives.

Course Objectives:

- To develop critical reading skills suitable for graduate (Ph.D.) level of study. This will include critical engagement with an author's argument, the ability to recover the disciplinary, theoretical and methodological approaches that underlay an author's work, and to critically appreciate both the strengths and weaknesses of the author's approach and position.
- To develop an initial understanding of the different theoretical traditions that inform technology studies, including an awareness of the principal authors and debates that define these traditions. This should contribute to an early "cognitive map" of the field of technology studies, and should be instrumental in developing a broad outlook of the field.
- To develop the capacity to identify a coherent body of literature in a specific area of interest (topical, theoretical, or methodological) and to develop initial familiarity with that literature. As consistent with the terms of the qualifying exam, you are not expected or encouraged to seek original theoretical contributions. Nonetheless, you should be able to appreciate and describe the theoretical positions and tensions within the existing literature, and to develop a sense of where original research could be conducted to extend an existing body of knowledge.

Requirements:

- *Reflections on Weekly Readings.* A 300-500 word informal reflection on the week's required readings. This must not be a summary, but a statement of what you found most interesting about the readings and your assessment of it. Submit by email to instructor on the evening before class, with a copy to everyone else in the course. (This can run as an ongoing email dialogue as well.)
- *Class Participation.* Students who, for whatever reason, feel uncomfortable with the quality of their participation in class (or in a given class session) may meet with me one-on-one during the half-hour immediately following class, or submit a formal essay following a class meeting in lieu of class participation. The essays should be a critical but constructive commentary on the readings and/or class discussion.
- *Book Report (oral).* During the semester, each student will be asked to provide an oral report on three books or article clusters (during different weeks). Your report should emphasize how the book stands in relation to the week's required readings (theoretically, methodologically, etc...), and how it may be of interest (or non-interest) to others in the seminar.
- *Two Exam Questions and Pedagogic Rationale.* Towards the end of the semester, you will be asked to submit two exam questions. Do not answer these questions. Instead, submit a 900+ word explanation (pedagogic rationale) for why these questions would be interesting and appropriate to ask for a qualifying exam in technology.
- *Final Paper(s) and Oral Presentation.* See below.

Final Paper(s):

You have the option of submitting one or two final papers (guideline: 1,800 words for one; 1,200 words each for two) drawn from among the following possibilities. In each case, the topic may coincide with the proposed exam questions and may include the required readings and book reports. They should be topically distinct from one another if you choose to submit two papers. Formally, you will have the last two weeks of the semester to develop your final paper or papers. You will also be given an opportunity to share your findings with the other students in an oral presentation. Beyond this no interim feedback will be given, so you are encouraged to circulate your paper amongst yourselves prior to its final submission.

- *Review Essay:* An essay based on reading at least three books or article clusters (three articles per cluster). Although you are not constrained as to format, you may wish to adopt the academic format of a review essay. Please consult with me in advance if you believe that your paper may lie outside the bounds of "tech and social theory."
- *Bibliography and Rationale:* Provide a list of at least three books or article clusters that are currently not found on the tech exam list, along with a rationale for why their inclusion in a list (in the general list or the list you intend to compile for yourself—choose one or the other) would be suitable for the tech exam. Your selection may be based on topic, discipline, theory, or method, and may be composed as an "intensive" study of a specific area, or as a selection of complementary works.
- *Alternative Syllabus for "Tech and Social Theory":* Design an alternative syllabus for "Tech and Social Theory" along with accompanying pedagogic rationale for what the syllabus sets out to accomplish in a manner that is different from, or complementary to the design and objectives of the present course. It is important in this assignment to draw on the literature introduced (or not introduced) to you in class, including those introduced by other students, in constructing your rationale. I welcome critical feedback, but encourage you to be constructive in your approach in weighing both the strengths and weaknesses of different instructional methodologies. The syllabus itself need not be complete, but sufficient only to demonstrate the intended changes. In the evaluation, the emphasis will be placed on the accompanying rationale. An electronic copy of the current syllabus will be provided on request, which you are welcome to "lift" from in retaining certain portions of the syllabus.
- *Extended Essay on Exam Questions:* You may also provide an extended (1500+ word) essay regarding possible exam questions in lieu of a second paper. (Submit as a single draft.)

Grades, Objectives, and Subjective Evaluation:

I believe that quantitative systems of grading (for example, those that assign different percentages to different tasks) can hinder the initiative and originality required for successful academic scholarship. You will be evaluated based on your demonstrated abilities and improvement in each of the three course objectives. Each will be given equal emphasis (33 1/3%). Please give careful thought as to how your work will demonstrate your contribution to each of these objectives. Primary emphasis will be placed on the quality of your work and ideas, and not effort. Every student will also be given a subjective, written evaluation of their performance with regards to each of the course objectives, based on the following general criteria.

Outstanding: A demonstrated maturity and depth of understanding that exceeds the expectations for this course. Your comments and/or writing may include highly sophisticated and/or original insights that demonstrate a clear capacity for original scholarship.

Strong (Excellent Potential): A strong and fully competent engagement with the literature that suggests that you already show substantial promise for conducting original research in the field of technology studies.

Adequate: Adequate understanding and engagement with the literature. However, you are encouraged to develop further strengths in this area to develop your capacity for original scholarship.

Needs Work: Some demonstrated weakness exists in your approach to this objective. Details will be provided in the written evaluation.

Please note that in keeping with the spirit of the exercise, this is designed to be a self-contained course for which no incompletes will be issued (except where there are clearly extenuating circumstances). The instructor also reserves the right to modify a grade based on the individual circumstances of a student.

Taking the Course as Independent Study:

Students who have previously taken Tech and Social Theory with another instructor, who wish to continue their readings through an independent study (generally in preparation for their exams) are welcome to do so within the framework of this course. These students will be asked to join in on the first hour and a half of the seminar (to contribute to peer-to-peer learning), and to participate in separate meetings on Tuesdays from 12:30-1:00pm. The formal requirements for the independent study will be negotiated separately with each student.

The Fine Print: At the graduate level, students are expected to be familiar with the general norms of academic conduct. Specific RPI policies regarding academic honesty may be found in the *Rensselaer Student Handbook*. Beyond this, please note that attendance is required in this course. Beyond the week of 4S or one academic meeting in your area of disciplinary specialization, and one additional absence related to illness, an unrecognized religious holiday, or other reasonable cause, please consider submitting makeup work for any absences. Use of gender-fair language is also expected.

Course Schedule:

Note on required readings: Between weeks five (5) and thirteen (13), required readings will be selected at least one week in advance amounting to approximately three articles and/or book chapters. Listed below are also the “relevant selections” from the latest tech exam list that pertain to the topic listed for a given week. (Items marked with an asterisk (*) are not on the latest exam list.) You may choose from (or beyond) this list in providing your three book reports during the course of the semester. Please note that some items are repeated in this list as they pertain to multiple topics.

Week 1: Opening Session

This syllabus will be distributed in advance. Please come prepared to discuss the syllabus, course objectives, and requirements.

GENERAL LITERATURE:

Week 2: Canonical Literature

Bijker, Wiebe and Trevor Pinch. 1987. “The Social Construction of Facts and Artifacts,” in *The Social Construction of Technological Systems*.

Pinch, Trevor. 1996. “The social construction of technology: A review,” in *Technological change: Methods and themes in history of technology*, edited by R. Fox. Amsterdam: Harwood Academic Publishers.

Winner, Langdon. 1986/1980. “Do Artifacts Have Politics?” in *The Whale and the Reactor*.

Woolgar, Steve. 1991. “The turn to technology in social studies of science,” *Science, Technology, and Human Values* 16 (1):20-50.

Golinski, Jan. 1998. “An Outline of Constructivism,” Chapter 1 in *Making Natural Knowledge: Constructivism and the History of Science*. **(Optional)**

Relevant Exam List Selections

- Bijker, Wiebe, et al. 1987. *The Social Construction of Technological Systems*.
- Hess, David J. 2001. *Selecting Technology, Science, and Medicine*. Available at home.earthlink.net/~davidhesshomepage/globaliz.html
- Sclove, Richard E. 1995. *Democracy and Technology*.
- Smith, Merritt Roe, and Leo Marx. 1994. *Does Technology Drive History?*
- Winner, Langdon. 1986. *The Whale and the Reactor*.
- Woolgar, Steve. 1991. “The turn to technology in social studies of science,” *Science, Technology, and Human Values* 16 (1):20-50; Winner, Langdon. 1993. “Upon opening the black box and finding it empty: Social constructivism and philosophy of technology,” *Science, Technology, & Human Values* 18:362-378; Pinch, Trevor. 1996. “The social construction of technology: A review,” in *Technological change: Methods and themes in history of technology*, edited by R. Fox. Amsterdam: Harwood Academic Publishers. (Article cluster)

Week 3: New Literature

Latour, Bruno. 1993. *We Have Never Been Modern*, Chapter 2. (**Chapter 1 optional**)

Haraway, Donna. 1991/1984. "A Cyborg Manifesto: Science, Technology and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs, and Women*.

Feenberg, Andrew. 1999. *Questioning Technology*. Chapter 5, "The Problem of Agency."

Bowker, Geoffrey and Susan Leigh Star. 1999. *Sorting Things Out*, Chapter 2. (**Chapter 3, optional**)

Relevant Exam List Selections

*Ronell, Avital. 1989. *The Telephone Book: Technology, Schizophrenia, Electric Speech*.

Bowker, Geoffrey C. and Susan L. Star. 1999. *Sorting Things Out: Classification and Its Consequences*.

Downey, Gary L., and Joseph Dumit (Eds.). 1998. *Cyborgs and Citadels: Anthropological Interventions in Emerging Sciences and Technologies*.

Feenberg, Andrew. 1999. *Questioning Technology*.

Haraway, Donna J. 1991. *Simians, Cyborgs, and Women: The Reinvention of Nature*.

*Haraway, Donna. 1997. Modest-Witness@Second-Millennium.Femaleman-Meets-Oncomouse: Feminism and Techoscience.

Latour, Bruno. 1993. *We Have Never Been Modern*.

MacKenzie, Donald. 1996. *Knowing Machines: Essays on Technical Change*.

Woodhouse, Edward, David Hess, Steve Breyman, and Brian Martin. 2002. *Science Studies and Activism: Possibilities and Problems for Reconstructivist Agendas, Social Studies of Science*, 32:297-319.

DISCIPLINARY PERSPECTIVES**Week 4: Anthropology / Sociology**

Fortun, Kim. 2001. *Advocacy after Bhopal*, Chapter 4, "Working Perspectives."

Rapp, Rayna. 1999. *Testing Women, Testing the Fetus*, Chapter 5, "Waiting and Watching."

MacKenzie, Donald. 1996. *Knowing Machines*, Chapter 10, "Tacit Knowledge and the Uninvention of Nuclear Weapons," with Graham Spinardi.

Relevant Exam List Selections

Downey, Gary L., and Joseph Dumit (Eds.). 1998. *Cyborgs and Citadels: Anthropological Interventions in Emerging Sciences and Technologies*.

Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*.

Fortun, Kim 2001. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*.

MacKenzie, Donald. 1996. *Knowing Machines: Essays on Technical Change*.

Pfaffenberger, Brian, "Technological Dramas." *Science, Technology and Human Values* 17.

Rapp, Rayna. 1999. *Testing Women, Testing the Fetus: The Social Impact of Amniocentesis in America*.

Suchman, Lucy. 1987. *Plans and Situated Actions: The Problem of Human-Machine Communication*.

*Willis, Paul. 1981. *Learning to Labor: How Working Class Kids Get Working Class Jobs*.

Week 5: History

Relevant Exam List Selections

Adas, Michael. 1989. *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance*.

*Ronell, Avital. 1989. *The Telephone Book: Technology, Schizophrenia, Electric Speech*.

*Cronon, William. 1991. *Nature's Metropolis: Chicago and the Great West*.

*Green, Venus. 2001. *Race on the Line: Gender, Labor and Technology in the Bell System, 1880-1980*.

*Fouche, Rayvon. 2003. *Black Inventors in the Age of Segregation: Granville T. Woods, Lewis H. Latimer, and Shelby J. Davidson* (Baltimore, MD: Johns Hopkins University Press).

*Hecht, Gabriele. 1998. *The Radiance of France: Nuclear Power and National Identity after World War II*.

Kettler, Friedrich. 1990. *Discourse Networks, 1800 / 1900*.

*Mindell, David. 2002. *Between Human and Machine: Feedback, Control and Computing Before Cybernetics*.

*Meikle, Jeffrey. 1995. *American Plastic: A Cultural History*

*Mumford, Lewis. 1934. *Technics and Civilization*. To be read with Lynn White, *Medieval Technology and Social Change*, chapter 1.

Noble, David. 1984. *Forces of Production: A Social History of Industrial Automation*.

Nye, David. 1994. *American Technological Sublime*.

Pacey, Arnold. 1999. *Meaning in Technology*.

Smith, Merritt Roe, and Leo Marx. 1994. *Does Technology Drive History?*

Staudenmaier, John. 1985. *Technology's Storytellers: Reweaving the Human Fabric*.

Week 6: Philosophy / Psychology

Relevant Exam List Selections

Boden, Margaret A. (Ed.). 1996. *The Philosophy of Artificial Life*.

Caporael, Linnda R. 1986. "Anthropomorphism and mechanomorphism: Two faces of the human machine." *Computers in Human Behavior* 2:215-234; Caporael, Linnda R., E. Gabriella Panichkul, and Dennis R. Harris. 1993. "Tinkering with gender." In *Research in Philosophy and Technology. Vol. 13. Technology and Feminism*, edited by J. Rothschild. Greenwich, CT: JAI Press. (Article cluster)

Feenberg, Andrew. 1999. *Questioning Technology*.

Lave, Jean. 1988. *Cognition and Practice*.

Levy, Pierre. 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace*.

Suchman, Lucy. 1987. *Plans and Situated Actions: The Problem of Human-Machine Communication*.

Winner, Langdon. 1986. *The Whale and the Reactor*.

TOPICAL AREAS**Week 7: Gender**Relevant Exam List Selections

Balsamo, Anne. *Technologies of the Gendered Body: Reading Cyborg Women*.

Bray, Francesca. 1997. *Technology and Gender: Fabrics of Power in Late Imperial China*.

Caporael, Linnda R., E. Gabriella Panichkul, and Dennis R. Harris. 1993. "Tinkering with gender." In *Research in Philosophy and Technology*. Vol. 13. *Technology and Feminism*, edited by J. Rothschild. Greenwich, CT: JAI Press.

Fortun, Kim. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*. (University of Chicago Press, 2001).

Forty, Adrienne. 1986. *Objects of Desire*.

Green, Eileen and Alison Adam. 2001. *Virtual Gender*.

*Green, Venus. 2001. *Race on the Line: Gender, Labor and Technology in the Bell System, 1880-1980*.

Haraway, Donna J. 1991. *Simians, Cyborgs, and Women: The Reinvention of Nature*.

*Haraway, Donna. 1997. Modest-Witness@Second-Millennium.Femaleman-Meets-Oncomouse: Feminism and Techoscience.

Oudshoorn, Nelly. 1994. *Beyond the Natural Body: An Archeology of Sex Hormones*.

Tavris, Carole. 1992. *The Mismeasure of Woman*.

Wacjman, Judy. 1991. *Feminism Confronts Technology*.

Week 8: Race / Ethnicity / Identity / DifferenceRelevant Exam List Selections

(All readings on gender will also remain relevant for the broader discussions of this week.)

Adas, Michael. 1989. *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance*.

*Barton, Craig E.. 2001. *Sites of Memory: Perspectives on Architecture and Race* (Princeton, NJ: Princeton Architectural Press).

*Chinn, Sarah. 2000. *Technology and the Logic of American Racism: A Cultural History of the Body as Evidence*.

Eglash, R. *African Fractals: modern computing and indigenous design*. New Brunswick: Rutgers University Press 1999.

Espeland, W. N. 1998. *The Struggle for Water: Politics, Rationality and Identity in the American Southwest*.

Fortun, Kim. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*. (University of Chicago Press, 2001).

*Fouche, Rayvon. 2003. *Black Inventors in the Age of Segregation: Granville T. Woods, Lewis H. Latimer, and Shelby J. Davidson* (Baltimore, MD: Johns Hopkins University Press).

*Green, Venus. 2001. *Race on the Line: Gender, Labor and Technology in the Bell System, 1880-1980*.

*Haraway, Donna. 1997. Modest-Witness@Second-Millennium.Femaleman-Meets-Oncomouse: Feminism and Techoscience.

- *Kolko, Beth e., et al. 2002. *Race in Cyberspace* (New York: Routledge).
- *Meikle, Jeffrey. 1995. *American Plastic: A Cultural History*
- *Nelson, Alondra. et al. 2001. *Technicolor: Race, Technology, and Everyday Life* (New York University Press).
- *Nelson, Alondra. 2002. *Afrofuturism: A Special Issue of Social Text* (Duke University Press).
- Norris, Pippa. 2001. *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*.
- Peña, Devon Gerardo. 1997. *The Terror of the Machine: Technology, Work, Gender and Ecology of the U.S.-Mexico Border*.
- Woodhouse, Edward, David Hess, Steve Breyman, and Brian Martin. 2002. "Science Studies and Activism: Possibilities and Problems for Reconstructivist Agendas," *Social Studies of Science*, 32:297-319.

Week 9: Technology and Work

Relevant Exam List Selections

- Akera, Atsushi. "Engineers or Managers?" in *Systems, Experts and Computers* ed. Agatha Hughes and Thomas Hughes; "Voluntarism and the Fruits of Collaboration," *Technology and Culture* 42(2001): 710-36; "IBM's Early Adaptation to Cold War Markets" *Business History Review* 76 (2002): 767-802. (Article cluster)
- Bray, Francesca. 1997. *Technology and Gender: Fabrics of Power in Late Imperial China*.
- Bucciarelli, Larry. 1994. *Designing Engineers*.
- Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*.
- Forty, Adrienne. 1986. *Objects of Desire*. (Relevant sections, including domestic work)
- *Green, Venus. 2001. *Race on the Line: Gender, Labor and Technology in the Bell System, 1880-1980*.
- Noble, David. 1984. *Forces of Production: A Social History of Industrial Automation*.
- Norris, Pippa. 2001. *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*.
- Peña, Devon Gerardo. 1997. *The Terror of the Machine: Technology, Work, Gender and Ecology of the U.S.-Mexico Border*.
- Sclove, Richard E. 1995. *Democracy and Technology*. (Relevant sections)
- Suchman, Lucy. 1987. *Plans and Situated Actions: The Problem of Human-Machine Communication*.
- Taylor, Frederick Windlow. 1911. *Principles of Scientific Management*.
- Thomas, Robert. 1994. *What Machines Can't Do: Politics and Technology in the Industrial Enterprise*.
- *Tucker, R. *The Marx-Engels Reader*. Selections. (Article cluster)
 Marx, "Thesis on Feuerbach," 143-45;
 Marx, *The German Ideology*, 146-200;
 "Marx on the History of His Opinions," 3-6;
The Grundrisse, selections, 278-93;
Capital, Volume I, selections, 319-28, 392-411;
 Engels, *Condition of the Working Class in England*, 579-85.
- Wacjman, Judy. 1991. *Feminism Confronts Technology*. (Relevant sections)
- Wallerstein, Immanuel. 1974. "The Rise and Future Demise of the World Capitalist System: Concepts

for Comparative Analysis,” *Comparative Studies in Society and History* **16**: 387-415.

*Willis, Paul. 1981. *Learning to Labor: How Working Class Kids Get Working Class Jobs*.

Woodhouse, Edward, David Hess, Steve Breyman, and Brian Martin. 2002. “Science Studies and Activism: Possibilities and Problems for Reconstructivist Agendas,” *Social Studies of Science*, 32:297-319.

Week 10: Economy, Business, Institutions, Organizations

Relevant Exam List Selections

Akera, Atsushi. “Engineers or Managers?” in *Systems, Experts and Computers* ed. Agatha Hughes and Thomas Hughes; “Voluntarism and the Fruits of Collaboration,” *Technology and Culture* 42(2001): 710-36; “IBM’s Early Adaptation to Cold War Markets” *Business History Review* 76 (2002): 767-802. (Article cluster)

*Chandler, Alfred. 1977. *The Visible Hand: The Managerial Revolution in American Business*.

*Cronon, William. 1991. *Nature’s Metropolis: Chicago and the Great West*.

Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*.

Espeland, W. N. 1998. *The Struggle for Water: Politics, Rationality and Identity in the American Southwest*.

Fortun, Kim. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*. (University of Chicago Press, 2001).

*Hecht, Gabriele. 1998. *The Radiance of France: Nuclear Power and National Identity after World War II*.

*Mindell, David. 2002. *Between Human and Machine: Feedback, Control and Computing Before Cybernetics*.

Noble, David. 1984. *Forces of Production: A Social History of Industrial Automation*.

Peña, Devon Gerardo. 1997. *The Terror of the Machine: Technology, Work, Gender and Ecology of the U.S.-Mexico Border*.

Smith, Merritt Roe, and Leo Marx. 1994. *Does Technology Drive History?*

Thomas, Robert. 1994. *What Machines Can’t Do: Politics and Technology in the Industrial Enterprise*.

Wallerstein, Immanuel. 1974. “The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis,” *Comparative Studies in Society and History* **16**: 387-415.

Week 11: Global Perspectives

Relevant Exam List Selections

Adas, Michael. 1989. *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance*.

Bray, Francesca. 1997. *Technology and Gender: Fabrics of Power in Late Imperial China*.

Castells, Manuel. 1996. *The Rise of the Network Society*.

*Cronon, William. 1991. *Nature’s Metropolis: Chicago and the Great West*.

Eglash, R. *African Fractals: modern computing and indigenous design*. New Brunswick: Rutgers University Press 1999.

Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*.

- Fortun, Kim. *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders*. (University of Chicago Press, 2001).
- *Hecht, Gabriele. 1998. *The Radiance of France: Nuclear Power and National Identity after World War II*.
- Levy, Pierre. 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace*.
- *Meikle, Jeffrey. 1995. *American Plastic: A Cultural History*
- Nye, David. 1994. *American Technological Sublime*.
- Peña, Devon Gerardo. 1997. *The Terror of the Machine: Technology, Work, Gender and Ecology of the U.S.-Mexico Border*.
- Wallerstein, Immanuel. 1974. "The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis," *Comparative Studies in Society and History* **16**: 387-415.

Week 12: Information Technology

Relevant Exam List Selections

- Boden, Margaret A. (Ed.). 1996. *The Philosophy of Artificial Life*.
- Caporael, Linnda R. 1986. "Anthropomorphism and mechanomorphism: Two faces of the human machine." *Computers in Human Behavior* 2:215-234; Caporael, Linnda R., E. Gabriella Panichkul, and Dennis R. Harris. 1993. "Tinkering with gender." In *Research in Philosophy and Technology. Vol. 13. Technology and Feminism*, edited by J. Rothschild. Greenwich, CT: JAI Press. (Article cluster)
- Castells, Manuel. 1996. *The Rise of the Network Society*.
- Eglash, R. *African Fractals: modern computing and indigenous design*. New Brunswick: Rutgers University Press 1999.
- Friedman, Batya (Ed.). 1997. *Human Values and the Design of Computer Technology*.
- Green, Eileen and Alison Adam. 2001. *Virtual Gender*.
- *Haraway, Donna. 1997. Modest-Witness@Second-Millennium.Femaleman-Meets-Oncomouse: Feminism and Techoscience.
- Helmreich, Stefan. 1998. *Silicon Second Nature: Culturing Artificial Life in a Digital World*.
- Kettler, Friedrich. 1990. *Discourse Networks, 1800 / 1900*.
- *Kolko, Beth e., et al. 2002. *Race in Cyberspace* (New York: Routledge).
- Kiesler, Sarah (Ed.). 1997. *Culture of the Internet*.
- Lessig, Lawrence. 1999. *Code and Other Laws of Cyberspace*.
- Levy, Pierre. 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace*.
- MacKenzie, Donald. 1996. *Knowing Machines: Essays on Technical Change*.
- *Mindell, David. 2002. *Between Human and Machine: Feedback, Control and Computing Before Cybernetics*.
- Norris, Pippa. 2001. *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*.
- Suchman, Lucy. 1987. *Plans and Situated Actions: The Problem of Human-Machine Communication*.
- Winner, Langdon. 1986. "Mythinformation," in *The Whale and the Reactor*.

Week 13: Other Topics (Student Preference)

Relevant Exam List Selections

Design & Consumption

Eglash, R. *African Fractals: modern computing and indigenous design*. New Brunswick: Rutgers University Press 1999.

Forty, Adrienne. 1986. *Objects of Desire*.

Friedman, Batya (Ed.). 1997. *Human Values and the Design of Computer Technology*.

Hannigan, Jeff. 2000. "Interactive Learning/Learning Interactive."
http://www.idsa.org/whatsnew/01ed_proceed/hannigan.pdf

*Meikle, Jeffrey. 1995. *American Plastic: A Cultural History*

*Nelson, Alondra. et al. 2001. *Technicolor: Race, Technology, and Everyday Life* (New York University Press).

Norman, Donald A. 1990. *The design of everyday things*. NY: Doubleday [Originally published as *Psychology of Everyday Things*, Basic Books, 1988].

Urban/Regional Studies

Berman, Marshall. 1982. "In the Forest of Symbols: Some Notes on Modernism in New York." Part 5 of *All That's Solid Melts into Air: the Experience of Modernity*, pp.287-348.

Castells, Manuel. 1996. *The Rise of the Network Society*.

Davis, Mike. 1992. *City of Quartz: Excavating the Future in Los Angeles*.

Espeland, W. N. 1998. *The Struggle for Water: Politics, Rationality and Identity in the American Southwest*.

Graham, Stephen and Simon Marvin. 2001. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*.

Harvey, David. 1973. *Social Justice and the City*.

Jacobs, Jane. 1961. *Death and Life of Great American Cities*.

Health, Medicine, Biotechnology

Haraway, Donna J. 1991. *Simians, Cyborgs, and Women: The Reinvention of Nature*.

*Haraway, Donna. 1997. Modest-Witness@Second-Millennium.Femaleman-Meets-Oncomouse: Feminism and Techoscience.

Krimsky, Sheldon. 1991. *Biotechnics and Society: The Rise of Industrial Genetics*.

Oudshoorn, Nelly. 1994. *Beyond the Natural Body: An Archeology of Sex Hormones*.

Rapp, Rayna. 1999. *Testing Women, Testing the Fetus: The Social Impact of Amniocentesis in America*.

Thackray, Arnold (Ed.). 1998. *Private Science: Biotechnology and the Rise of the Molecular Sciences*.

Wright, Susan. 1994. "The Social Transformation of Recombinant DNA Technology, 1972-1982."
Chapter 2 of *Molecular Politics: Developing American and British Regulatory Policy for Genetic*

Engineering, 1972-1982.