

Sociology 573
Fall 2008
T 4:10-6:50
Office hours: T 2-4, and by appointment

Phaedra Daipha
A358 Lucy Stone
pdaipha@rci.rutgers.edu

TECHNOLOGY AND SOCIETY

This course sets itself the challenge of taking the ‘and’ in its title seriously. Fully endorsing the premise that technology and society are co-constituted -that we cannot understand one without understanding the other- does not necessarily imply abandoning all forms of technological determinism or rejecting social constructivism. But it does entail striving to keep both technology *and* society in focus when analyzing their ongoing, open-ended entanglements. The challenge, then, is to figure out how exactly they matter to each other under different scenaria.

I have made an effort to keep the scenaria we will cover during the semester sufficiently varied; nonetheless, as has been my policy in the past, I want to let the class as a whole determine what is to be our last topic of discussion. Similarly, we will consider multiple types of technology in the assigned readings, and we will extrapolate on many more during class discussion. Particular emphasis, however, will be given to information technologies- because of their contemporary relevance and the urgent political, moral, and cultural questions they pose, but also because of their material fluidity and the associated extraordinary level of interpretative potential that confronts users as well as analysts.

COURSE LOGISTICS

Grade

25% attendance and participation
15% class discussion lead-in
10% paper presentation
50% paper

Attendance and Participation

This course is designed as a seminar and its success depends on active engagement and dialogic exchange. You are expected to come to class each week fully prepared to analyze, discuss, and debate the issues raised in the assigned reading material.

Class Discussion Lead-in Assignment

You will be responsible for leading the discussion for one of our meetings, to be determined during the second week of class. The idea is not to provide a summary of that week's readings; rather, your job is to critically introduce the material and come up with a few (3-5) substantive questions in the form of a one-page handout (to be electronically distributed to the rest of the group by 9 am on the day of class) to get the discussion rolling. Such questions may target what you consider the key issue/problematic raised by the author(s) in question, a shortcoming in the argument/evidence, a puzzling claim, broader implications, exciting/provocative comparisons, and so forth.

Paper

At the end of the semester, you are to submit a research paper of approximately 20 to 25 pages. Your paper can be (a) analytic, critically reflecting on a substantive issue covered in the course, or (b) empirical, drawing on extant theoretical perspectives to illuminate an aspect of the dynamics between the technical and the social. I ask that you decide on a research topic by the end of the 6th week, when you are expected to provide me with a written prospectus and a preliminary bibliography and make an appointment to discuss matters further. During our last meeting, you will be required to give a 10-minute oral presentation on the thesis and potential findings of your project.

Required Texts

The literature on technology and society is rich, already vast, and ever-growing. In an effort to give you as broad a taste of what is out there as possible, I decided to not restrict our focus to a few specific books but rather to base the discussion on multiple sources. Of course, I highly recommend you consider investing in the books listed below, if you have not done so already.

Articles and book chapters marked with an asterisk are required reading and will be made available on the course website on Sakai. Required -i.e., asterisked- excerpted books will also be available in the library. All other texts are strongly recommended, and I will draw upon them in class as time permits.

CLASS SCHEDULE

September 2 Introductions

(in-class showing of excerpts from the film "Who Killed the Electric Car?" and brainstorming on the relationship between technology and society)

September 9 Beyond Technological Determinism

(Or the naïve forms of it, at least. As we shall see, it proves very difficult to conceive of technology as neutral or value-free. Plus, there's a strong argument to be made that we may not wish to do so, anyway.)

*Heilbroner, 1967, "Do Machines Make History?", *Technology and Culture* 8: 335-55

* Bimber, 1990, "Karl Marx and the Three Faces of Technological Determinism", *Social Studies of Science* 20: 333-51

* Winner, 1981, "Do Artifacts Have Politics?", *Daedalus* 109:121-36

* Joerges, 1999, "Do Politics have Artefacts?", *Social Studies of Science* 29: 411-31

Responses and Replies:

- Woolgar and Cooper, 1999, "Do Artefacts have Ambivalence? Moses' Bridges, Winner's Bridges, and other Urban Legends in S&TS"
- Joerges, 1999, "Scams Cannot Be Busted: Reply to Woolgar and Cooper"

Mumford, 1964, "Authoritarian and Democratic Technics"

Ellul, 1964, *The Technological Society*

Pfaffenberger, 1992, "Technological Dramas"

Smith and Marx (eds), 1995, *Does Technology Drive History? The Dilemma of Technological Determinism*

Gieryn, 2002, "What Buildings Do", *Theory and Society* 31: 35-74

Wyatt, 2008, "Technological Determinism is Dead, Long Live Technological Determinism", in

September 16 From the Technological Shaping of Society to the Social Shaping of Technology...

(Technology_ is_ neutral. Essentially, this is the "guns don't kill people, people kill people" argument; but the analytical framework that emerges proves extremely rewarding.)

* Bijker, 1995, *Of Bicycles, Bakelites, and Bulbs*, Introduction, chapter 2, and Conclusion

* Klein and Kleinman, 2002, "The Social Construction of Technology: Structural Considerations", *Science, Technology & Human Values* 27: 28-52.

Grint and Woolgar, 1992, "Computers, Guns, and Roses: What's Social About Being Shot?", *Science, Technology and Human Values* 17: 381-80.

Kling, 1992, "When Gunfire Shatters Bone: Reducing Sociotechnical Systems to Social Relationships", *Science, Technology and Human Values* 17: 381-5.

September 23 **... to the Mutual Shaping of Technology and Society**

(There are various ways to formulate this insight, as we shall see. Here, we focus on the actor-network perspective.)

* Law, 1987, "Technology and Heterogeneous Engineering, The Case of Portuguese Expansion"

* Callon, 1991, "Techno-Economic Networks and Irreversibility"

* Latour, 1992, "Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts", and "Technology is Society Made Durable"

Hughes, 1987, "Technological Momentum", and "The Evolution of Large Technological Systems"

Akrich and Latour, "A Summary of a Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies"

Law and Callon, 1992, "The Life and Death of an Aircraft: A Network Analysis of Technical Change", in *Shaping Technology/Building Society*: 21-52

September 30 **Technofeminism**

(Or, to borrow another book title by Judy Wacjman: Feminism Confronts Technology)

* Haraway, 1991, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century", in *Simians, Cyborgs and Women*: 149-81.

* Plant, 1998, *Zeros and Ones: Digital Women and the New Technoculture* (selections)

* Wajman, 2000, "Reflections on Gender and Technology Studies: In What State is the Art?", *Social Studies of Science* 30: 447-64

* Faulkner, 2001, "The Technology Question in Feminism: A View from Feminist Technology Studies", *Women's Studies International Forum* 24: 79-95

October 7 **Mass Media(ted) Reality**

(Before the New Media, all talk was about the Mass Media. The readings of this week lay the groundwork for us to explore the problematics of miniaturized technologies later on)

* McLuhan, 1964, *Understanding Media: The Extensions of Man* (selections)

* Baudrillard, “Simulacra and Simulations”, and “The Masses: The Implosion of the Social in the Media”

* Silverstone, 1994, *Television and Everyday Life*, (selections)

* Luhmann, 2000, *The Reality of the Mass Media* (selections)

Adorno, 1954, “Television and the Patterns of Mass Culture”, and “How to Look at Television”

Williams, 1974, *Television: Technology and Cultural Form*

Kellner, 1990, *Television and the Crisis of Democracy*

October 14 **Technological Design and Use**

(We will progressively investigate how design and use constantly redefine each other and themselves through the interpretative flexibility afforded by technological artifacts)

* Woolgar, 1991, “Configuring the User: The Case of Usability Trials”

* Silverstone and Haddon, 1996, “Design and the Domestication of Information and Communication Technologies: Technical Change and Everyday Life”

* Mackay, et al., 2000, “Reconfiguring the User: Using Rapid Application Development”

* Oudshoorn, et al., 2005, “Diversity and Distributed Agency in the Design and Use of Medical Video-Communication Technologies”

* Berg, 1998, “The Politics of Technology: On Bringing Social Theory into Technological Design”

Akrich, 1992, “The De-Description of Technical Objects”

Bijker, 1992, “The Social Construction of Fluorescent Lighting, Or How an Artifact Was Invented in Its Diffusion Stage”

Latour, 1996, *Aramis, or The Love of Technology*

Casper and Clarke, 1998, “Making the Pap Smear the “Right Tool” for the Job”, in *Social Studies of Science* 28: 255-90

Oudshoorn and Pinch (eds), 2003, *How Users Matter: The Co-Construction of Users and Technology*

October 21 **Prosthetic Technologies**

(We start by examining the notion of technological prosthesis, both at the level of the body and the imagination...)

* Jain, 1999, “The Prosthetic Imagination: Enabling and Disabling the Prosthesis Trope”

* Viseu, 2003, “Simulation and Augmentation: Issues of Wearable Computers”, *Ethics and Information Technology* 5: 17-26

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- * Winance, 2006, "Trying Out the Wheelchair: The Mutual Shaping of People and Devices Through Adjustment", *Science, Technology and Human Values* 31: 52-72
 - * Mamo, 2007, "Negotiating Conception: Lesbians' Hybrid-Technological Practices", *Science, Technology and Human Values* 32: 369-93

 - Casper, 1995, "Fetal Cyborgs and Technomoms on the Reproductive Frontier: Which Way to the Carnival?" in *The Cyborg Handbook*
 - Moser, 2000, "Against Normalization: Subverting Norms of Ability and Disability", *Science as Culture* 9: 201-40.
 - Smith and Morra (eds), 2005, *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future*
 - Van Hilvoorde et al., 2007, "Flopping, Klapping and Gene Doping: Dichotomies Between "Natural" and "Artificial" in Elite Sport", in *Social Studies of Science* 37: 173-200.

October 28

New Technologies of the Self

(...we then zoom out to study cyborg identities in more wholistic terms...

- * Lash, 2001 "Technological Forms of Life", *Theory, Culture and Society* 18: 105-20
 - * Turkle, "Always-On/Always-On-You: The Tethered Self", in *Handbook of Mobile Communication Studies*: 121-38.
 - * Bull, 2004, "To Each Their Own Bubble: Mobile Spaces of Sound in the City", in *Place, Space and Culture in a Media Age*
 - * Leshed, et al., 2008, "In-Car GPS Navigation: Engagement With and Disengagement From the Environment", *Proceedings of CHI 2008*
 - * Monahan, 2007, "War Rooms of the Street: Surveillance Practices in Transportation Control Centers", *The Communication Review* 10: 367-89.

 - Foucault, 1988, "Technologies of the Self"
 - Bull, 2000, *Sounding Out the City: Personal Stereos and the Management of Everyday Life*
 - Turkle, 1995, *Life on the Screen: Identity in the Age of the Internet*
 - Hayles, 1999, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*
 - Sengers, et al., 2008, "The Disenchantment of Affect"
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November 4 The Networked Community

(...and, finally, we zoom out as far as possible to consider emergent cyborgian interaction patterns and how they expand on prevailing notions of groups dynamics)

- * Castells, 2001, *The Internet Galaxy* (selections)
- * Sassen, 2002, "Towards a Sociology of Information Technology", *Current Sociology* 50: 365-88
- * Hampton and Wellman, 2003, "Neighboring in Netville: How the Internet Supports Community and Social Capital in a Wired Suburb", in *City and Community*: 277-311.
- * Steinkuehler and Williams, 2006, "Where Everybody Knows Your (Screen) Name: Online Games As "Third Places", in *Journal of Computer-Mediated Communication* 11

Castells, 1996, *The Rise of the Network Society*, esp. chapter 5
 Wellman and Gulia, 1999, "Net Surfers Don't Ride Alone: Virtual Communities As Communities", in *Networks in the Global Village*: 331-66.

Rheingold, 2000, *The Virtual Community: Homesteading on the Electronic Frontier*

Miller and Slater, 2001, *The Internet: An Ethnographic Approach*

Lampa, 2004, "Imagining the Blogosphere: An Introduction to the Imagined Community of Instant Publishing", at

http://blog.lib.umn.edu/blogosphere/imagining_the_blogosphere.html

Gillespie, 2007, *Wired Shut: Copyright and the Shape of Digital Culture*

November 11 Technology and Nature

(Multiple themes to explore here, obviously, but our framing questions will be: How is the balance between 'natural' and 'technological' hazards negotiated? Who gets to decide what constitutes acceptable risk?)

- * Scott, 1998, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, Introduction and Chapter 4
 - * Heller, 2002, "From Scientific Risk to Paysan Savoir-Faire: Peasant Expertise in the French and Global Debate over GM Crops", *Science as Culture* 11: 5-37
 - * Masco, 2006, *Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico* (selections)
 - * Bonneuil, et al., 2008, "Disentrenching Experiment: The Construction of GM Crop Trials as a Social Problem", *Science, Technology, and Human Values*
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Arendt, 1959, *The Human Condition*

Pfaffenberger, 1990, "The Harsh Facts of Hydraulics: Technology and Society in Sri Lanka's Colonization Schemes", *Technology and Culture* 31: 361-97

Kwa, 2001, "The Rise and Fall of Weather Modification: Changes in American Attitudes toward Technology, Nature, and Society", in *Changing the Atmosphere*: 135-65

November 18 **Technologies of the Future: The Case of Nanotechnology**
(We will revisit the themes of this course by exploring the hopes, dreams, and anxieties surrounding narratives on nanotechnology)

* Nordmann, 2005, "Noumenal Technology: Reflections On the Incredible Tininess of the Nano", *Techné* 8: 3-21

* Schummer, 2005, "Reading Nano: The Public Interest in Nanotechnology as Reflected Purchase Patterns of Books", *Public Understanding of Science* 14: 163-83.

* Rip, 2006, "Folk Theories of Nanotechnologists", *Science as Culture* 15: 349-65.

* Glimell, 2004, "Grand Visions and Lilliput Politics: Staging the Exploration of the "Endless Frontier", in *Discovering the Nanoscale*: 231-46.

* Robison, 2004, "Nano-Ethics", in *Discovering the Nanoscale*: 285-300

Barben, et al., 2008, "Anticipatory Governance of Nanotechnology: Foresight, Engagement, and Integration", in *Handbook of Science and Technology Studies*: 979-1000

December 2 **TBA**
(It is up to the class as a whole to determine our last topic of discussion We need to come to a decision by the end of October)

December 9 **Wrap-up and Paper Presentations**

December 22 **PAPERS DUE**
