

HISTORY OF TECHNOLOGY, ENVIRONMENT, & HEALTH: THEORY & METHOD

Graduate Seminar

History 26: 510: 598

SPRING 2005 SYLLABUS

Stephen Pemberton, Ph.D.

Assistant Professor, Federated Department of History
New Jersey Institute of Technology / Rutgers University, Newark

Class Meetings

Cullimore Hall 407

Thursdays 5-7:30 p.m.

Office & Contact

Cullimore Hall 324, NJIT Campus

Phone: 973-596-5716

Email: stephen.pemberton@njit.edu

Office Hours

Mondays 1-3 p.m. and by appointment

This course introduces students to the histories of technology, environment, and health while examining some of the diverse strategies that historians in these fields are using today to make sense of the past. We will examine what is distinctive about these fields of history, as well as what it means to engage in the historical study of technologies, the environment, health, medicine, and the life sciences. How, for example, do historians of technology, environment, and health interpret society, culture, and politics? What assumptions and approaches do they share with the social historian, the cultural historian, the political historian, or the student of world history? How, for instance, do historians of technology, environment, and health treat matters of class, race, and gender? And how have these historians employed the theories and methods of other scholarly disciplines in their work, including the insights of anthropologists, biologists, philosophers, political activists, and sociologists. As these questions suggest, the principle goal of the course is to introduce the student of history to some of the vital ideas, scholarly trends, and methods that inform our efforts to gain historical perspective on matters of technology, environment, and/or health.

Requirements:

Readings

Weekly reading assignments will average one book and one article per week. Each book will emphasize an important aspect of the history of technology, environment, and health. Before coming to class, you should familiarize yourself with the factual content of the work as well as the author's argument and his or her use of sources. In class, I will encourage you to think critically about the theoretical and methodological issues raised in the readings. This goal will only be attainable if you come prepared.

Books for the course can be purchased through online booksellers or through New Jersey Books, which is located at the corner of University and Bleeker. Copies of the assigned articles will be available online through the DANA library electronic reserve. Full citations for the books and articles appear in the attached bibliography at the end of this syllabus.

Attendance and Class Participation

Class participation should involve active listening and engagement. Attendance is both expected and required.

Discussion Responsibility

During the first class, I will assign responsibilities for leading discussions to individual students based on their preferences. During most classes, I will have at least one student leader who I will expect to introduce and/or moderate discussion of one of the day's readings. On days that you are responsible for a reading, you should prepare a lesson plan that fosters critical discussion rather than a mere restatement of the reading material. Areas you might want to focus class discussion include: the author's argument/s, the author's use of sources, his or her methodology, how the weekly reading on theory relates to this methodology, the organization of the book and whether or not it works successfully, and how the readings for that week relate to the other material we examined earlier in the semester. I will lead the first book discussion (week two) so you will become familiar with my expectations for the discussion moderators. After week two, this responsibility will rotate among the students enrolled in the class.

Final Paper

You will write a final paper of 15-20 pages in length. For this paper you will select a primary document of interest to you that also concerns a subject of relevance to the history of technology, environment, and/or health. I will ask you to do a close historical "reading" of that document in your paper. This historic document can be as formal as an environmental law, a government report, or a medical journal article. It might be as informal as a technological landscape, a novelistic treatment of an illness or natural disaster, or even a nature or public health film. Your "reading" of your chosen document should place the document in its historical context as well as attempt to make an analytical argument about the document's historical meaning. In doing this, you will be

asked to make explicit use a theoretical and/or methodological approach in your “reading” of the document. Preferably, you will use one of the theories and/or methods that we will discuss in the course of the semester. Because you must select a document and have it approved by the seventh week of the course, you should begin thinking about this assignment during the early part of the semester. You will present your paper project before the class during one of the last two weeks of the semester. As a class, we will use the presentations as an opportunity to discuss and critique your progress on these final papers. The final paper is due without exception by May 5 at 5 pm.

Project Description and Annotated Bibliography

As part of your final paper, I will ask you to write a one page description of your paper topic, and include an annotated bibliography that lists secondary source materials and their relevance to your project. The annotated bibliography is due in class during week 8 of the course (March 10). Because this is not an extensive research paper, your list of secondary materials should be limited to four or five sources.

Paper Outline

To help organize and conceptualize your final paper, I will also ask you to submit a detailed outline of your project during the tenth week of the semester. The outline should include a brief paragraph explaining your choice of document, use of theory, and overall argument. The outline is due in class on week 10 (March 31).

Assignment Dates

Week 6 (February 24): Document Approval
Week 8 (March 10): Description & Annotated Bibliography
Week 10 (March 31): Paper Outline
Week 16 (May 5): Final Paper

Grading

15% for attendance & participation
20% for leading discussions of reading
15% for project presentations
50% for final paper (including bibliography & outline)
Consistent effort and improvement will be weighted heavily in grading.

Semester Schedule

January 20. Theory & Method: Their Import for Historical Understandings of Technology, Environment, & Health

January 27. Technology & History

Readings: (1 book, 1 article)

David Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940*

Thomas Hughes, "The Evolution of Large Technological Systems"

February 3. Explorations in the History of Technology.

Readings: (5 articles)

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"

Michel Callon, "Society in the Making: The Study of Technology as a Tool for Sociological Analysis"

Ruth Schwartz Cowan, "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology"

Rosalind Williams, "Cultural Origins and Environmental Implications of Large Technological Systems"

Jeffrey Stine and Joel Tarr, "At the Intersections of Histories: Technology and the Environment"

February 10. Environment & History

Begin: Document Assignment

Readings: (1 book, 1 article required)

Alfred Crosby, *The Columbian Exchange: The Biological and Cultural Consequences of 1492*

Richard White, "American Environmental History: The Development of a New Historical Field"

Optional Readings: (3 articles)

Alfred Crosby, "The Columbian Voyages, the Columbian Exchange, and Their Historians"

David A. Johnson, "Environmental History, Retrospect and Prospect"

Richard White, "Environmental History: Watching a Historical Field Mature"

February 17. Life Sciences, Environment & History

Readings: (1 book, 1 article)

Philip Pauly, *Biologists and the Promise of American Life: From Meriwether Lewis to Alfred Kinsey*

Alfred Crosby, "Ecological Imperialism: The Overseas Migration of Western Europeans as a Biological Phenomenon," 28-44.

February 24. Explorations in Environmental History I.

Due: Document Assignment

Reading: (1 book)

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

Optional Reading: (1 article)

William Cronon, "The Trouble with Wilderness: or, Getting Back to the Wrong Nature"

March 3. Explorations in Environmental History II.

Begin: Project Description and Annotated Bibliography

Readings: (1 book, 4 articles*)

Jennifer Price, *Flight Maps: Adventures with Nature in Modern America*

Donald Worster, "Transformations of the Earth: Toward an Agroecological Perspective in History"

Alfred Crosby, "An Enthusiastic Second"

Richard White, "Environmental History, Ecology, and Meaning"

Carolyn Merchant, "Gender and Environmental History"

William Cronon, "Modes of Prophecy and Production: Placing Nature in History"

Stephen Pyne, "Firestick History"

Donald Worster, "Seeing Beyond Culture"

*For this week, you should read *Flight Maps* by Jennifer Price, the two articles by Worster and two of the following four (White, Merchant, Cronon, Pyne). The Crosby article is optional, and does not count as a reading in this context. The articles belong to a "Round Table" forum on environmental history that appeared in the *Journal of American History* in March 1990. I want you to think about the kinds of environmental history articulated in each of the readings you engage.

March 10. Health & Medicine & Their Histories

Due: Project Description and Annotated Bibliography

Readings: (1 book, 2 articles)

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

Charles Rosenberg, “Framing Disease: Illness, Society, and History”

Roger Cooter, “‘Framing’ the End of the Social History of Medicine”

March 17. No Class – Spring Break.

Begin: Paper Outline

March 24. Explorations in the History of Health & Medicine I.

Readings: (1 book, 1 article)

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

Joan Scott, “The Evidence of Experience”

March 31. Explorations in the History of Health & Medicine II.

Due: Paper Outline

Readings: (1 book, 2 articles)

Megan Vaughn, *Curing Their Ills: Colonial Power and African Illness*

Hubert Dreyfus and Paul Rabinow, “From the Repressive Hypothesis to Bio-Power”

Michel Foucault, “The Subject and Power”

April 7. Theories of Knowledge and the Practice of History

Reading: (1 book)

John Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine*

April 14. A Case Study in the Contemporary

Reading: (1 book)

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

April 21. Project Presentations

April 28. Project Presentations

May 5. Final Paper Due

Course Bibliography

Books

- William Cronon, *Nature's Metropolis: Chicago and the Great West* (Norton, 1992)
- Alfred Crosby, *The Columbian Exchange: The Biological and Cultural Consequences of 1492* (Praeger Paperback, 30th Anniversary edition, 2003)
- David Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940* (MIT Press, 1992 reprint)
- Philip J. Pauly, *Biologists and the Promise of American Life: From Meriwether Lewis to Alfred Kinsey* (Princeton University Press, 2000)
- Adriana Petryna, *Life Exposed: Biological Citizens after Chernobyl* (Princeton University Press, 2002)
- John Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine* (University of Chicago Press, 2001)
- Jennifer Price, *Flight Maps: Adventures with Nature in Modern America* (Basic Books, 1999)
- Charles Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (University of Chicago Press, 1987)
- Keith Wailoo, *Dying in the City of the Blues: Sickle Cell Anemia and the Politics of Race & Health* (University of North Carolina Press, 2001)
- Megan Vaughn, *Curing Their Ills: Colonial Power and African Illness* (Stanford University Press, 1991)

Journal Articles and Book Chapters

- Michel Callon, "Society in the Making: The Study of Technology as a Tool for Sociological Analysis," in Bijker, Hughes, and Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (MIT Press, 1987), 83-103.
- Roger Cooter, "'Framing' the End of the Social History of Medicine," in Frank Huisman and John Harley Warner, eds. *Locating Medical History: The Stories and Their Meanings* (Johns Hopkins University Press, 2004), 307-337.
- William Cronon, "Modes of Prophecy and Production: Placing Nature in History," *Journal of American History* (March 1990): 1122-1131.
- William Cronon, "The Trouble with Wilderness: or, Getting Back to the Wrong Nature," in William Cronon, ed. *Uncommon Ground: Toward Reinventing Nature* (Norton 1995), 69-90.
- Alfred Crosby, "The Columbian Voyages, the Columbian Exchange, and Their Historians," in Alfred W. Crosby, *Germs, Seeds, & Animals: Studies in Ecological History* (Armonk, 1994), 3-27.
- Alfred Crosby, "Ecological Imperialism: The Overseas Migration of Western Europeans as a Biological Phenomenon," in Alfred W. Crosby, *Germs, Seeds, & Animals: Studies in Ecological History* (Armonk, 1994), 28-44.
- Alfred Crosby, "An Enthusiastic Second," *Journal of American History* (March 1990): 1107-1110.
- Hubert Dreyfus and Paul Rabinow, "From the Repressive Hypothesis to Bio-Power," in Hubert Dreyfus and Paul Rabinow, *Michel Foucault: Beyond Structuralism and*

- Hermeneutics* (University of Chicago Press, 2nd ed., 1983), 126-142.
- Michel Foucault, "The Subject and Power," in Hubert L. Dreyfus and Paul Rabinow, *Michel Foucault: Beyond Structuralism and Hermeneutics* (University of Chicago Press, 2nd ed., 1983), 208-226.
- Thomas Hughes, "The Evolution of Large Technological Systems," in Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (MIT Press, 1987), 51-82.
- David A. Johnson, "Environmental History, Retrospect and Prospect," *Pacific Historical Review* (February 2001) 70: 55-57.
- Carolyn Merchant, "Gender and Environmental History," *Journal of American History* (March 1990): 1117-1121.
- 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 Bijker, Hughes, and Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (MIT Press, 1987), 17-50.
- Stephen Pyne, "Firestick History," *Journal of American History* (March 1990): 1132-1141.
- Charles Rosenberg, "Framing Disease: Illness, Society, and History," in Charles Rosenberg and Janet Golden, eds., *Framing Disease: Studies in Cultural History* (Rutgers University Press, 1992), xii-xxvi.
- Ruth Schwartz Cowan, "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology," in Bijker, Hughes, and Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (MIT Press, 197), 261-280.
- Joan Scott, "The Evidence of Experience," *Critical Inquiry* (Summer 1991) 17: 773-797.
- Jeffrey Stine and Joel Tarr, "At the Intersections of Histories: Technology and the Environment," *Technology and Culture* 39 (October 1998): 601-640.
- Richard White, "American Environmental History: The Development of a New Historical Field," *Pacific Historical Review* (August 1985) : 297-335.
- Richard White, "Environmental History, Ecology, and Meaning," *Journal of American History* (March 1990): 1111-1116.
- Richard White, "Environmental History: Watching a Historical Field Mature," *Pacific Historical Review* (February 2001) 70: 103-111.
- Rosalind Williams, "Cultural Origins and Environmental Implications of Large Technological Systems," *Science in Context* (August 1993) 6: 75-100
- Donald Worster, "Seeing Beyond Culture," *Journal of American History* (March 1990): 1142-1147.
- Donald Worster, "Transformations of the Earth: Toward an Agroecological Perspective in History," *Journal of American History* (March 1990): 1087-1106.