



PSCI 464: Technology & Development
Humboldt State University
Spring 2009 / CRN: 24203
MW 1530-1650; Founders Hall 235

(Diego Rivera, Man at the Crossroads, 1934)

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Course Description

Until recently, technological innovation was presented as providing ready solutions to a wide range of social and ecological problems. Science and technology enjoyed unquestioned authority. Since the 1960s, however, science and technology have increasingly been contested across a wide range of issues, including environmental pollution (“Silent Spring”), warfare (“Agent Orange”) and basic research (“recombinant DNA”). The social, economic, and environmental repercussions of new technologies have challenged the traditional representation of science and technology as progressive and liberating forces.

In the course, we will consider the role of technology in social development broadly defined to include both human communities and the (natural) environment. We begin with a theoretical introduction to the debates around the nature and meaning of technology, environment, progress, and risk. We then move on to consider the role of technology in development in both the “developed” North and the “underdeveloped” South. Along the way, we will explore questions of appropriate technologies in the context of food and biotechnology, affluence and overconsumption, and globalization and inequality, among others.

Learning Outcomes

By the end of the course, students should be able to

- evaluate the nature and role of technology in human society;
- recognize the subjective nature of technological innovation;
- critically assess the unequal distribution of costs and benefits associated with new technologies; and
- define and assess the role of appropriate technology in development.

General Course Information

Required Texts

The following books are required and are available at the HSU Bookstore:

- Norman Uphoff, Milton J. Esman, and Anirudh Krishna. *Reasons for Success: Learning from Instructive Experiences in Rural Development*. (West Hartford, CT: Kumarian, 1998). ISBN: 978-1565490765.
- David Nye. *Technology Matters: Questions to Live With*. (Cambridge: MIT Press, 2007). ISBN: 978-0-262-64067-1.
- Helena Norberg-Hodge. *Ancient Futures: Learning from Ladakh*. (San Francisco: Sierra Club Books, 1992). ISBN: 978-0871566430.

Additional required readings are available through the course Moodle site.

Course Requirements

Your grade in this course will be based on the following assignments:

Critical Responses (30%):

Each week, you may submit a one page critical response to the readings for that week. Critical responses are due by 9:00 pm on Sunday of the week that the readings are due (e.g., a critical response for the second week, January 28-February would be due by 9 pm Sunday, January 27). Late critical responses will not be accepted. All responses must be in either MS Word or plain text format (or included in the text of the email message itself). The response should be no more than two single-spaced paragraphs (one page). The first paragraph will briefly recount the main argument of the reading or readings for that week. The second paragraph will critically evaluate and assess the reading(s). You should also pose at least one discussion-type question in your response. Critical responses will be graded on a $\sqrt{0}$ (credit/no credit) scale, and critical responses that do not meet the basic expectations laid out here will not receive credit. There are a total of 12 weeks in which you may elect to submit a critical review (excluding week 1 and presentation weeks). Your grade for the critical responses is equal to the number of responses submitted x 10%, to a maximum of 100% (e.g., 10 critical responses = 100%, 8=80%, etc.).

Essay (30%):

You will be responsible for writing an essay of 2,000 words (approximately 8 typed, double-spaced pages) on a topic of your choice related to the topics considered in class. An outline and preliminary bibliography is due Wednesday, February 27. A draft of your essay is due for peer review no later than the beginning of class on Wednesday, April 2. Failure to submit an outline, preliminary bibliography, or paper draft will result in a per-item 10% penalty your final paper mark. The final draft of your essay is due in class on Wednesday, April 23. Late papers will be penalized at one-half letter grade per day. Please remember that this is an academic essay. I expect that the essay include citations from academic sources (e.g., peer reviewed journals), and that it be generally free from grammatical and typographical errors. I also expect that the essays advance some kind of thesis or argument.

You will also be responsible for commenting on one of your colleague's papers through the peer review process. In order to facilitate the peer review process, you will need to divide into groups of 2-3 students based on paper topics and provide me with a list of the members of your group as soon as possible. Peer review comments must be returned to the author of the essay and to me on Wednesday, April 9. Failure to submit a paper for review, or failure to complete a meaningful review will result in a one-letter-grade penalty on your final paper mark.

Paper Presentation (10%):

During the final two weeks of class, students will present their research paper to the class. Details on the presentation and discussion will be provided in class.

Class Discussion Facilitation (10%):

Working in groups of 2-3 students, you will be responsible for facilitating class discussion. I will introduce the basic ideas, concepts and debates on Monday of each week. Student-facilitated discussion will take place on Wednesday of each week (except weeks 1, 7, and 10). The exact nature of your facilitation is up to you, and I am happy to discuss ideas with you before the seminar you lead

Participation (20%):

This course is organized as a seminar. In order to be successful, you must come to class prepared to discuss the material. Regular attendance and participation in class is expected. I expect that you have completed the required readings for a given week before class, that you attend regularly and that you contribute to seminar discussions. Attendance is a necessary but not a sufficient condition for doing well on your participation mark.

General Course and University Policies

A Note on Written Work:

All written assignments submitted for this course should be properly formatted and cited. I expect that you will proofread your work before submitting it to me, and ideally you will have someone else proof it as well. Consequently, a maximum of two errors (grammatical, improper citation, etc.) per page will be accepted. One point will be deducted from your grade on the assignment for each error beyond the second on each page. All citations must be in APSA format. A style guide is available at <http://www.wisc.edu/writing/Handbook/DocAPSA.html>.

Moodle Site:

Course information will regularly be posed to the course Moodle Site. Moodle is the freeware alternative to Blackboard. I will provide a brief overview on accessing and using Moodle on the first day of the course. You can access the course site at learn.humboldt.edu.

Contacting Me:

The most effective way to contact me is through e-mail (noah.zerbe@humboldt.edu). Barring unusual circumstances (being out of town, ill, in a blackout, etc.) I will respond within 24 hours. If not, send me a followup. Please be sure your subject line includes "PSCI 464" and a general description of the topic so that the e-mail is not filtered out as spam. Also, be sure to sign your e-mail so that I know who sent it

Academic Honesty:

Plagiarism or other forms of cheating will not be tolerated, and will result in an automatic zero for the assignment, failure of the course, and potentially more serious sanctions from the University according to the Academic Honesty policy. Please don't do it.

Students are responsible for knowing policy regarding academic honesty. For more information, visit: Academic Honesty Policy (http://studentaffairs.humboldt.edu/judicial/academic_honesty.php) or the HSU Catalog (<http://www.humboldt.edu/~humboldt/catalogpdfs/catalog2007-08.pdf>)

Support:

HSU offers excellent resources to help you succeed in your academic endeavors. These include the Library, Computer Labs, Computer Help Desk, Academic Support Center, Learning Center, and Writing Center. I strongly encourage you to take advantage of them!

Disability Resources:

If you have a documented disability and would like to discuss academic accommodations, please contact me as soon as possible. Our campus Student Disability Resource Center (SDRC) can assist you with the accommodation process and can be reached at (707) 826-4678 or (707) 826-5392 (TTD). The SDRC is located in House 71 (Little Apartments) off Library Circle. See <http://www.humboldt.edu/~sdrc/> for more information.

Add/Drop policy:

Students are responsible for knowing the University policy, procedures, and schedule for dropping or adding classes. See Schedule Adjustments (Adding or Dropping) (<http://www.humboldt.edu/~reg/regulations/schedadjust.html>) for more information.

Emergency Evacuation:

Please review the evacuation plan for the classroom (posted on the orange signs), and review Campus Emergency Preparedness (http://studentaffairs.humboldt.edu/emergencyops/campus_emergency_preparedness.php) for information on campus Emergency Procedures. During an emergency, information can be found campus conditions at: 826-INFO or Emergency Conditions (http://studentaffairs.humboldt.edu/Download/emergencyops/emergency_operations_plan_guidelines.pdf)

Attendance and Disruptive Behavior:

Students are responsible for knowing policy regarding attendance and disruptive behavior: Class Attendance and Disruptive Behavior (http://studentaffairs.humboldt.edu/judicial/attendance_behavior.php)

Course Calendar

Note: The calendar provided below is subject to change with appropriate notice.

January 21: Course Introduction

- No required reading

January 26 & 28: Analyzing Technology in Society

- Nye, Ch. 1 (pp. 1-15)
- Brian Martin and Evelleen Richards. 1995. "Scientific Knowledge, Controversy, and Public Decision Making." Ch. 22 (pp. 506-26) in Sheila Jasanoff, et al., eds. *Handbook of Science and Technology Studies* (Newbury Park, CA: Sage).
- "Happiness" and "Economics Discovers Its Feelings." *The Economist*. 23 December 2006. 4 pgs.

February 2 & 4: Of Cars and Cities: Processes of Technological Change

- Nye, Ch. 2-4 (pp. 16-66)
- Paul Sweezy. 2000 [1973]. "Cars and Cities." *Monthly Review*. 51(11).

- Langdon Winner. 1980 [1986]. “Do Artifacts Have Politics?” Ch. 2 (pp. 19-39) in *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. (Chicago: Univ. of Chicago Press).

February 9 & 11: Technology and the Problem of Globalization in Late Capitalism

- Nye, Chs. 5, 7, and 8 (pp. 67-86 and 109-160).
- David Harvey. 1990. “From Fordism to Flexible Accumulation,” Ch. 9 (pp. 141-72) in *The Condition of Post-Modernity: An Enquiry into the Origins of Cultural Change*. (Cambridge: Blackwell).

February 16 & 18: Nature, Technology, and the Environment

- Nye, Ch. 6 (pp. 87-108).
- John Bellamy Foster. 2000. “Capitalism’s Environmental Crisis—Is Technology the Answer?” *Monthly Review*. 52(7) (Dec. 2000): 8pgs.
- Abby Kinchy, et al. 2008. “Against Free Markets, Against Science? Regulating the Socio-Economic Effects of Biotechnology.” *Rural Sociology*. 73(2): 147-179.
- Theresa Satterfield. 2005. “Risk as Narrative Value: A Theoretical Framework for Facilitating the Biotechnology Debate.” *International Journal of Biotechnology*. 7(1-3): 128-146.

February 23 & 25: Cyber Communities and Synthetic Worlds

- Stephen Kline, Nick Dyer-Rutherford, and Greig DePeuter. “Paradox Lost: Faith and Possibility in the Information Age.” Ch. 1 (pp. 3-26) in *Digital Play: The Interaction of Technology, Culture, and Marketing*. (Montreal: McGill-Queen’s University Press, 2003).
- Timothy Burke. “Matchmaker, Matchmaker, Make Me a Match: Artificial Societies vs. Virtual Worlds.” Unpublished paper presented at the DiGRA (2005). (14pgs).
- James Grimmelmann. “Virtual Borders: The Interdependence of Real and Virtual Worlds.” *First Monday*. 11(2) (2006): 12pgs.
- Jullian Dibbell. “The Life of a Chinese Gold Farmer.” *New York Times Magazine*. (17 June 2007) (8 pgs). See also the preview of Jin Ge’s documentary, *Gold Farmer*, at <http://www.youtube.com/watch?v=ho5Yxe6UVv4>.

March 2 & 4: The Internet as a Site of Resistance

- Timothy May. “The Crypto Anarchist Manifesto.” (2 pgs).
- Manuel Castells. 1997. “The Other Face of the Earth: Social Movements Against the New Global Order.” Ch. 2 (pp. 68-109) in *The Information Age: Economy, Society, Culture, Vol. 2, The Power of Identity*. (Oxford: Blackwell).
- Beth Simone Noveck. “Democracy—The Video Game: Virtual Worlds and the Future of Collective Action.” Ch. 17 (pp. 257-282) in Jack Balkin and Beth Simone Noveck, eds. *The State of Play: Law, Games, and Virtual Worlds*. (New York: New York University Press, 2006).

March 9 & 11: Debating the (Role of Technology) in Development

- Nye, Ch. 10 (pp. 185-207).
- Marilyn Waring. 1988. “A Woman’s Reckoning: An Introduction to the International Economic System.” Ch. 1 in *If Women Counted: A New Feminist Economics*. (San Francisco: Harper and Row).

- Hazel Henderon. 1989 [2004]. “Development Beyond Economism: Local Paths to Sustainable Development. Ninth Annual E.F. Schumacher Lecture. (11 pgs).
- Steven Yearley. “Technology, Science, and Development.” Ch. 6 (pp. 145-180) in *Science, Technology, and Social Change*. (London: Unwin Hyman, 1988).

March 16 & 19: Spring Break

No Classes

March 16 & 19: The Intersection of Technology and Development

- Helena Norberg-Hodge. Part 1 (pp. 9-90).
- EF Schumacher. 1973. “Intermediate Technology” excerpt from *Small is Beautiful: Economics as if People Mattered*. (5 pgs).
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March 23 & 25: Learning From Ladakh

- Helena Norberg-Hodge. Part 2-3 (pp. 91-192).

March 30 & April 1: The Politics of Appropriate Technology

- Uphoff, Ch. 1 (pp. 1-18)
- Arne Jacobson. 2005. “The Market for Micro-Power: Social Uses of Solar Electricity in Rural Kenya.” Tegemeo Institute of Agricultural Policy and Development, Egerton University, Nairobi, Kenya.
- Andrew Kimbrell. 2003. “Salmon Economics (and other lessons). Twenty-third Annual E.F. Schumacher Lecture. (22 pgs).
- Anthony Akubue. 2001. “Gender Disparity in Third World Technological, Social and Economic Development.” *Journal of Technology Studies*. 27(2): 64-73

April 6 & 8: Reasons for Success I

- Uphoff, et al., Chs. 2-6 (pp. 19-133)

April 13 & 15: Reasons for Success II

- Uphoff, et al., Chs. 7-10 (pp. 112-217)

April 20 & 22: Where to from Here? The Future of Technology

- Nye, Chs. 9 and 11 (pp. 161-184 and 209-226).
- Sheila Jasanoff. 2004. “Science and Citizenship: A new synergy.” *Science and Public Policy*. 31(2): 90-94.
- Clark Miller. 2005. “Science and Democracy in a Globalizing World: The challenges for American foreign policy.” *Science and Public Policy*. 32(3) (June): 174-186.

April 27 & 29: Research Presentations I

May 4 & 6: Research Presentations II