

# Technology and American Identity

## History 615, section 4. George Mason University. Spring 2005

Thursdays, 7:20 – 10 pm. Innovation Hall 205.

Course website: <http://mason.gmu.edu/~zschrage/hist615spring05/home.htm>

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Office Hours: Mondays 2:15 – 4:15 pm and by appointment.

*Syllabus updated: February 1, 2005*

Since the creation of the United States, Americans have used technology not only to solve problems, make money, and have fun, but also to define themselves as individuals, as groups, and as a nation. This course will explore the relationship between tools and identity, using a broad definition of identity that includes questions of nation, region, labor, class, gender, and consumption. In doing so, it will also introduce students to some of the key methods, sources, and ideas used by historians of technology.

### Books

Brende, Eric. *Better Off: Flipping the Switch on Technology*. New York: HarperCollins, 2004.

Hughes, Thomas Parke. *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970*. 1989. Reissue, Chicago, 2004.

Kline, Ronald R. *Consumers in the Country: Technology and Social Change in Rural America*. Baltimore, Md.: Johns Hopkins University Press, 2000.

McCurdy, Howard E. *Space and the American Imagination*. Washington: Smithsonian, 1999.

Mindell, David A. *War, Technology, and Experience aboard the USS Monitor*. Baltimore, Md: Johns Hopkins University Press, 2000.

Nye, David E. *America as Second Creation: Technology and Narratives of New Beginnings*. Cambridge: MIT Press, 2003.

Oldenziel, Ruth. *Making Technology Masculine: Men, Women and Modern Machines in America, 1870-1945*. Amsterdam: Amsterdam University Press, 1999.

Sandelowski, Margarete. *Devices & Desires: Gender, Technology, and American Nursing*. Chapel Hill: University of North Carolina Press, 2000.

Smith, Mark M. *Mastered by the Clock: Time, Slavery, and Freedom in the American South*. Chapel Hill: University of North Carolina Press, 1997.

Smith, Merrit Roe, and Leo Marx, eds. *Does Technology Drive History? The Dilemma of Technological Determinism*. Cambridge: MIT Press, 1994.

\*Turkle, Sherry. *The Second Self: Computers and the Human Spirit*. New York: Simon & Schuster, 1984.

Welke, Barbara Young. *Recasting American Liberty: Gender, Race, Law, and the Railroad Revolution, 1865-1920*. New York: Cambridge University Press, 2001.

**\*Note:** *The Second Self* is out of print, so please order a used copy from [bookfinder.com](http://bookfinder.com) or some other source early in the semester. The other books have been ordered at the university bookstore in the Johnson Center.

### Requirements

*Reading responses (70 percent)*

Each week, each student will write a 750-1000 word reaction essay to the assigned book. The essays should not summarize the reading. Rather, they should critique it, explaining its significance, noting its weaknesses, and relating it to other reading the student has done within the course and without. The essays should be designed to stimulate class discussion by provoking other students. In short, they should serve as the good part of a book review. See <http://www.schrage.info/teaching/review.html>

for some ideas on how to approach this. We will read thirteen book assignments (plus one museum exhibit review), but only ten responses are required, to allow for illness, family emergencies, and other problems.

Please e-mail the responses to [zschrag@gmu.edu](mailto:zschrag@gmu.edu) by **9am** on the day of the discussion. Please send them as a plain-text e-mail message (no attachments) with a subject header that includes “615” and the name of the author whose book you are reading. Formal footnotes are not required, but please provide page numbers for quotations and key facts.

*Discussion leading (15 percent)*

Twice during the semester, each student will join with one or two others to lead the seminar. This will require reading an article-length work (listed under “additional reading”) in addition to the assigned book, presenting that additional work to the class, and preparing discussion questions for the group.

*Discussion participation (15 percent)*

Students are expected to be in their seats and ready to take notes at the start of class, and to participate actively in class discussions.

Basic classroom rules

- Bring the books we are discussing to class each week.
- Do not eat in the classroom, before or during class.
- Turn off all cell phones, pagers, and other noisemakers.

**Policies**

All assignments are governed by the George Mason University **honor code**, online at <http://www.gmu.edu/departments/unilife/honorcode.html>. You are expected to work independently and to acknowledge all sources, including assigned texts and materials found online. Consult Gordon Harvey’s “Writing with Sources,” <http://www.fas.harvard.edu/~expos/sources> for instructions on when and how to cite, and ask me if you need clarification. In general, any sentence in your work that can be traced to a single sentence in someone else’s work should bear a footnote. Any collaboration, such as consultation with the Writing Center, should also be acknowledged. Violations of academic integrity will be reported to the administration and may result in grade penalties, including failure of the course.

In case of **inclement weather**, please call the main switchboard at 703-993-1000 or consult the main web page at <http://www.gmu.edu/> to see if classes are cancelled. I expect to cancel class only when the university cancels all classes.

If you are a student with a **disability** and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 993-2474. All academic accommodations must be arranged through the DRC.

All students are expected to check their **gmu.edu e-mail** regularly and are responsible for information sent to their GMU addresses.

## Schedule

Note that *Technology and Culture* articles may be downloaded from JSTOR (up to 1998) or Project Muse (since 1998). Other readings have URLs or will be posted on electronic reserve or the course website.

### 1. January 27. Approaches

- Smith and Marx, eds. *Does Technology Drive History?*
- Kranzberg, Melvin. "Technology and History: 'Kranzberg's Laws.'" *Technology and Culture* 27 (1986): 544-60.
- Winner, Langdon. "Do Artifacts Have Politics?" in *The Whale and the Reactor* (University of Chicago Press, 1986): 19-39.

### 2. February 3. Nation

- Nye, *America as Second Creation*

Additional reading:

- Palmer, Scott W. "Peasants into Pilots: Soviet Air-Mindedness as an Ideology of Dominance," *Technology and Culture* 41 (2000): 1-26.
- Roberts, Lissa Louise. "An Arcadian Apparatus: The Introduction of the Steam Engine into the Dutch Landscape." *Technology and Culture* 45 (2004): 251-276.

### 3. February 10. Region

- Smith, *Mastered by the Clock*

Additional reading:

- Portuondo, Maria M. "Plantation Factories: Science and Technology in Late-Eighteenth-Century Cuba." *Technology and Culture* 44 (2003): 231-257.
- Worster, Donald. *Under Western Skies: Nature and History in the American West* (New York: Oxford University Press, 1992): 64-78, 93-105, 263-266. [e-reserves]

### 4. February 17. War

- Mindell, *War, Technology, and Experience*
- Wells, H. G. "The Land Ironclads" (1903), on course website.

Additional reading:

- Churchill, Robert H. "Gun Ownership in Early America: A Survey of Manuscript Militia Returns," *William and Mary Quarterly* (2003). [online at the History Cooperative]
- Knowles, Anne Kelly. "Labor, Race, and Technology in the Confederate Iron Industry," *Technology and Culture* 42 (2001): 1-26.
- Storey, William Kelleher. "Guns, Race, and Skill in Nineteenth-Century Southern Africa." *Technology and Culture* 45 (2004): 687-711.

5. February 24. Law

- Welke, *Recasting American Liberty*

Additional reading:

- Cantelon, Philip L. "The Origins of Microwave Telephony—Waves of Change." *Technology and Culture* 36 (1995): 560-582.
- Lubar, Steven. "The Transformation of Antebellum Patent Law." *Technology and Culture* 32 (1991): 932-959.

6. March 3. Invention

- Hughes, *American Genesis*, 1-248.

Additional reading:

- Haring, Kristen. "The 'Freer Men' of Ham Radio: How a Technical Hobby Provided Social and Spatial Distance." *Technology and Culture* 44 (2003): 734-761.
- Owens, Larry. "Patents, the 'Frontiers' of American Invention, and the Monopoly Committee of 1939: Anatomy of a Discourse." *Technology and Culture* 32 (1991): 1076-1093.

7. March 10. Production

- Hughes, *American Genesis*, 249-472.

Additional reading:

- Alder, Ken. "Innovation and Amnesia: Engineering Rationality and the Fate of Interchangeable Parts Manufacturing in France." *Technology and Culture* 38 (1997): 273-311.
- Lindstrom, Richard. "'They all believe they are undiscovered Mary Pickfords': Workers, Photography, and Scientific Management." *Technology and Culture* 41, Number 4, October 2000, pp. 725-751
- Hecht, Gabrielle. "Political Designs: Nuclear Reactors and National Policy in Postwar France," *Technology and Culture* 35 (1994): 657-85.

March 17 NO CLASS (SPRING BREAK)

8. March 24. Profession

- Oldenziel, *Making Technology Masculine*

Additional reading:

- Brown, John K. "Design Plans, Working Drawings, National Styles: Engineering Practice in Great Britain and the United States, 1775-1945." *Technology and Culture* 41 (2000): 195-238.
- Meiksins, Peter. "The 'Revolt of the Engineers' Reconsidered." *Technology and Culture*, Vol. 29, No. 2. (Apr., 1988), pp. 219-246.
- Reynolds, Terry S. "Defining Professional Boundaries: Chemical Engineering in the Early 20th Century." *Technology and Culture* 27 (1986): 694-716.

- Seely, Bruce E. "The Scientific Mystique in Engineering: Highway Research at the Bureau of Public Roads, 1918-1940." *Technology and Culture* 25 (1984): 798-831.

#### 9. March 31. Consumption

- Kline, *Consumers in the Country*
- Cowan, Ruth Schwartz. "The Consumption Junction: A Proposal for Research Strategies in the Sociology of Technology," in Wiebe E. Bijker, et al., eds., *The Social Construction of Technological Systems* (Cambridge: MIT Press, 1987), 261-280. [e-reserves]

Additional reading:

- Greenberg, Joshua Mark. "From Betamax to Blockbuster: Mediation in the Consumption Junction" (Ph.D. diss., Cornell University, 2004), chapter 1.
- Zachmann, Karin. "A Socialist Consumption Junction: Debating the Mechanization of Housework in East Germany, 1956-1957." *Technology and Culture* 43 (2002): 73-99.

#### 10. April 7. Labor

- Sandelowski, *Devices & Desires*

Additional reading:

- Borg, Kevin. "The 'Chauffeur Problem' in the Early Auto Era: Structuration Theory and the Users of Technology." *Technology and Culture* 40 (1999): 797-832
- Mohun, Arwen Palmer. "Laundrymen Construct Their World: Gender and the Transformation of a Domestic Task to an Industrial Process." *Technology and Culture* 38 (1997): 97-120.

#### 11. April 14. Fantasy

- McCurdy, *Space and the American Imagination*

Additional reading:

- Belasco, Warren. "Algae Burgers for a Hungry World? The Rise and Fall of Chlorella Cuisine." *Technology and Culture* 38 (1997): 608-634.
- Schatzberg, Eric. "Ideology and Technical Choice: The Decline of the Wooden Airplane in the United States, 1920-1945." *Technology and Culture* 35 (1994): 34-69.

#### 12. April 21. Exhibition

- George Basalla, "Museums and Technological Utopianism," in Ian M.G. Quimby and Polly Anne Earl (eds), *Technological Innovation and the Decorative Arts*, Winterthur Conference Report, 1973 (Charlottesville: University of Virginia, 1974), 355-373

Attend one museum exhibit or historic site with a technology theme, and write up a review in the style of a Technology and Culture exhibit review. (For examples, search the T&C database within Project Muse for "exhibit review.")

#### 13. April 28. Simulation

- Turkle, *The Second Self*

Additional reading:

- Downey, Greg. "Virtual Webs, Physical Technologies, and Hidden Workers: The Spaces of Labor in Information Internetworks." *Technology and Culture* 42 (2001): 209-235.
- Lessig, Lawrence. "The Laws of Cyberspace" (1998), [http://www.lessig.org/content/articles/works/laws\\_cyberspace.pdf](http://www.lessig.org/content/articles/works/laws_cyberspace.pdf)

14. May 5. Choices

- Brende, *Better Off*

Additional reading:

- Pinch, T. J. "Should One Applaud?' Breaches and Boundaries in the Reception of New Technology in Music." *Technology and Culture* 44 (2003): 536-559.
- Spiller, James. "Radiant Cuisine: The Commercial Fate of Food Irradiation in the United States." *Technology and Culture* 45 (2004): 740-763.