**HTS 6002**

**Proseminar in the History of Technology**

**Spring Semester, 2013**

**Old CE 104, Thursdays, 6.05 – 8.55pm**

“Identifies major areas of interest in the history of technology and introduces a variety of

approaches to the discipline”

Prof. John Krige

(Old CE 105, Phone 4-7765, email john.krige@hts.gatech.edu)

Attendance in class and production of weekly bullet-points and occasional papers is obligatory. The final grade will be based on a take-away paper, to be submitted no later than 6pm on May 4. Class participation will be taken into consideration when attributing a final grade.

**January 10. Introduction**

General discussion and introduction

**January 17. Historical Overview**

Joel Mokyr, *The Lever of Riches. Technological Creativity and Economic Progress*

(New York: OUP, 1990) (exclude part IV if you are pressed)

**January 24.**  **Standardization and Mass Production (I)**

Merritt Roe Smith, *Harpers Ferry Armory and the New Technology* (Ithaca: Cornell

University Press).

**January 31. Standardization and Mass Production (II)**

David A. Hounshell**,** *From the American System to Mass Production 1880 – 1932. The*

*Development of Manufacturing Technology in the United States* (Johns Hopkins

University Press, 1984), chapters 1-4.

**February 7. Standardization and Mass Production (III)**

David A. Hounshell**,** *From the American System to Mass Production 1880 – 1932. The*

*Development of Manufacturing Technology in the United States,* chapters 5-8.

**February 14. Some ‘theory’: Technological Determinism, Path Dependence and**

**Social Constructivism**

Merritt Roe Smith and Leo Marx (eds), *Does Technology Drive History? The Dilemma of*

*Technological Determinism* (MIT Press. 1998), chapters by Roe Smith, Hughes, Williams, Marx, Staudenmaier.

Paul David, “Clio and the Economics of QWERTY,” *The American Economic Review,*

75:2 (1985), 332-337.

Wiebe E. Bijker, Thomas P. Hughes and Trevor Pinch (eds), *The Social Construction of*

*Technological Systems* (Cambridge: MIT Press,1998), ‘General Introduction’, and

articles by Pinch and Bijker, and Hughes.

**February 21. American Technological Prowess**

Interview with Tom Hughes by Art Mollela:

http://www.americanheritage.com/articles/magazine/it/1989/1/1989\_1\_18.shtml

Thomas P Hughes**,** *American Genesis. A History of the American Genius for Innovation*

(Penguin Books, 1990), excluding chapters 6 and 7 if you are pressed.

**February 28. Infrastructural Technologies: Power**

Thomas Hughes, *Networks of Power. Electrification in Western Society 1880-1930*

(Johns Hopkins University Press, 1983), Introduction, Chapters 1, 2, 7, 8 and 9.

**March 7. Industrial Research**

David Hounshell, “The Evolution of Industrial Research in the United States,” In Richard

S. Rosenbloom and William J. Spencer, *Engines of Innovation. U.S. Industrial Research*

*at the End of an Era* (Boston: Harvard Business School Press, 1996), 13-85 (provided by JK)

David Hounshell and John Kenly Smith, *Science and Corporate Strategy, DuPont R and D, 1902-1980* (Cambridge University Press, 1989), 221-274.

**March 14. Science, Technology and the Cold War State**

Vannevar Bush, *Science. The Endless Frontier* (first published 1945: multiple editions)

(provided by JK).

Aaron L. Friedberg, *In the Shadow of the Garrison State* (Princeton University Press), chapter 8

(provided by JK)

Joseph V. Kennedy, “The Sources and Uses of U.S. Science Funding,” *The New Atlantis,* Summer 2012, 3-20 (provided by JK)

John Krige, “Diplomacy, Foreign Policy Post 1945,” in Hugh Slotten, ed, *The Oxford Encyclopedia of American Scientific, Medical and Technological History* (New York, OUP, 2013) (provided by JK)

**March 21. Midterm Break No class**

**March 28. A critique of the Linear Model**

Philip Scranton, “Technology, Science and American Innovation,” *Business History,*

**48:3** (2006), 311-331.

David Edgerton, “The ‘Linear Model’ did not Exist: Reflections on the History and

historiography of Science and Research in Industry in the Twentieth Century,” in

Grandin, Wormbs and Widmalm (eds), *The Science-Industry Nexus. History, Policy*

*Implications* (New York: Watson, 2004), 31-57 and Hounshell’s reply (provided by JK).

Chalmers W. Sherwin and Raymond S. Isenson, “Project Hindsight: A Defense

Department Study of the Utility of Research,” *Science* **156:3782** (June 1967), 1571-1577.

Peter Thompson, “TRACES: Basic Research Links to Technology Appraised,” *Science*

**163:3865** (January 1969), 374 -375.

**April 4. Technology and Use**

David Edgerton, “From Innovation to Use: Ten Eclectic Theses on the Historiography of

Technology,” *History and Technology* **16:2** (1999), 111-136.

David Edgerton, *The Shock of the Old. Technology and Global History Since 1900*

(Oxford University Press, 2007).

Nellie Oudshoorn and Trevor Pinch, *How Users Matter. The Co-Construction of Users*

*and Technology* (MIT Press, 2003). Introduction (provided by JK)

**April 11. Domestic Technology**

Ruth Schwartz Cowan, *More Work for Mother. The Ironies of Household Technology*

*from the Open Hearth to the Microwave* (Basic Books, 1983), chapters 1, 4, 6-8.

Susan Strasser, *Never Done. A History of American Housework* (New York: Henry Holt,

2000), chapters 10-15.

Sue Bowden and Avner Offner, “Household Appliances and the Use of Time: the United

States and Britain Since the 1920s,” *Economic History Review* **XLVII :4** (1994), 725-

748.

**April 18. The Transnational Turn**

Bayly et al, “AHR Conversation: on Transnational History,” *American Historical Review,* 111 (2006), 1441-1464.

Erik Van der Vleuten, “Towards a Transnational History of Technology: Meanings, Promises, Pitfalls, *Technology and Culture, 4*9:4 (2008), 974-994.

Asif Siddiqi, “Competing Technologies, National(ist) Narratives, and Universal Claims: Towards a Global History of Space Exploration, *Technology and Culture,* (2010), 425-443.

Zuoyue Wang, “Transnational Science During the Cold War,” *Isis,* 101 (2010), 367-377.

John Krige, “Hybrid Knowledge: The Transnational Coproduction of the Gas Centrifuge for Uranium Enrichment in the 1960s,” *British J. for the History of Science,*  45:3 (2012), 337-357.

John Krige, “Embedding the National in the Global: US-France Collaboration in Space in the 1960s”, in N. Oreskes and J. Krige, eds, *Nation and Knowledge. Science and Technology in the Global Cold War* (MIT Press).

**April 25. General Overview and Summing Up**

**The take-away paper will be distributed at the end of this class.**

**May 4th, 6pm Deadline for submission of exam scripts**