

HI 1013

History of Technology in Six Objects

Lecture MON/WED 10-10:50 AM McCool 215

Discussion THU 10-10:50 ALLEN 17 & FRI 10-10:50, ALLEN 23

INSTRUCTOR

Dr. Davide Orsini, Department History
Office hours: Wed/Fri 11-12:30, 238 Allen Hall
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Teaching Instructor: Jeremy Montgomery, History Department

COURSE OVERVIEW

History has been traditionally focused on studying people's past, but people's lives and experiences can be understood by analyzing the power relations embodied by the tools and techniques available to them. In order to understand the past, we must have some understanding of the role that technologies have played in co-shaping societies. Reciprocally, technologies often seem to bear the mark of the particular cultures in which they arise or flourish. The study of the history of technology therefore quickly brings us face to face with tricky questions: what is a technology? How is it related to, or different from, applied science? Can one technology be objectively superior to another? Are some technologies inevitable? Can there be technologies without users? Is technological change the same thing as progress? Are some cultures more technologically oriented than others? Are there distinct national styles of technology, and if so, is that because nations adapted themselves to a particular network of technologies, or the other way around?

This course is a study of individual technologies—artifacts, processes, and systems—from the previous three centuries, and is aimed at introducing you to potential answers to these questions. Through discussion, writing, and the study of recent historical scholarship on the history of technology, and related disciplines, we will examine the ways in which technologies and societies interact.

LEARNING OUTCOMES

Upon completing this course, students will be able to:

- Explain how culture and technology influence each other, and give examples of the different forms this can take.

- Describe the major schools of historical thought on the history of technology in modern Western culture, and argue for their relative merits.
- Explain the particular historical significance of a number of technological systems developed in the modern era.
- Conduct library research into, and write argumentative theses on, the history of technology.
- Characterize the changing relationship between science and technology as different cultures have understood it.
- Assess contemporary claims made for or about technology from a historical standpoint.

IMPORTANT DATES FOR THIS CLASS

October 9	Midterm exam in class
December 2	End of semester EXAM
December 9	Individual Essay due

COURSE TEXTS

You are required to purchase only one book for this class: Patrick Malone's *The Skulking Way of War* is available at the bookstore on campus. Given that it is the first reading assignment, make sure to purchase it before the course starts. All the other readings will be posted to the course website. Therefore, it is essential that you plan your reading schedule accordingly, so that lack of access to the internet or a computer where you have the readings stored does not prevent you from being prepared for class. You should complete all assigned readings before each class meeting. A detailed class schedule is attached below.

METHODS OF EVALUATION AND STANDARDS OF ACHIEVEMENT

Your grade for the course will be assigned based on your performance in these categories:

Class participation and discussion leading (20%). This course includes a discussion component; your willingness and ability to work out the ideas and information you get through lecture and assigned readings will be a part of your grade. If you can't talk about history, you haven't learned it yet! I will assess your participation in two ways. First, you will be asked to bring questions for discussion on the reading. Second, I will expect you to make at least one substantive contribution to the conversation per unit. Successfully fulfilling each these requirements will result in full credit; failing to do so will result in zero

credit. In each unit, there will be a specific period of time set aside for discussion, but you are welcome and encouraged to make contributions or ask questions at any point. Each student will have responsibility for leading discussion once during the semester, on a schedule to be determined during the first week. This means preparing a summary of the course readings for that period, and a list of questions or points for discussion by the rest of the class.

Midterm examination (30%). The midterm will be given in class and will cover the reading and lectures for the relevant portion of the course. It will consist of term identifications, short-answer questions, and an essay portion.

End of term examination (30%). There will be a final examination. It will be comprehensive, cumulative, and will consist of identifications, short-answer questions, and an essay portion.

Individual Paper (20%). At the end of the semester, you will write an essay of approximately 1500 words on a specific technological artifact or process of your choosing (subject to consultation with and approval of the instructor). This must be based on scholarly research materials obtained through our library.

The grading scale for this course is:

90-100: A
80-89: B
70-79: C
60-69: D
<60: F

COURSE SCHEDULE

Week 1 – Introduction to the course

Wed 8/21/19 – Mechanics, logistics, and expectations

PART I: QUESTIONS, PROBLEMS, AND CONCEPTS

Week 2 – What is technology?

Mon. 8/26/19

- *The Skulking way of war* – In class discussion

Wed. 8/28/19

- "What Is Technology?" in Merritt Roe Smith, and Gregory Clancey, eds., *Major Problems in the History of American Technology* (Houghton Mifflin, 1997), 1-25.
- Leo Marx, "Technology: The Emergence of a Hazardous Concept," *Technology and Culture* 51:3 (July 2010), 561-577.

Week 3 – Technology and society: does technology drive society or the other way around?

Mon. 9/2/19 – LABOR DAY – No class

Wed. 9/4/19 Technological determinism

- Langdon Winner, "Do Artifacts Have Politics?" *Daedalus* 109:1 (Winter 1980), 121-136.
- Sally Wyatt, "Technological Determinism is Dead; Long Live Technological Determinism," in Hackett et. al., eds., *The Handbook of Science and Technology Studies*, Third Edition (Cambridge, MA, The MIT Press, 2008). Pp. 165-180.

Week 4 – Social construction of technology: design, use.

Mon. 9/9/19

- Trevor J. Pinch and Wiebe E. Bijker. "The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other." *Social Studies of Science* 14 (August 1984), 399-441.

Wed. 9/11/19

- Ronald Kline and Trevor Pinch, "Users as Agents of Technological Change: The Social Construction of the Automobile in the Rural United States," *Technology and Culture* 37 (1996): 763-95

Week 5 – The evolution of technological systems: electric power

Mon. 9/16/19

- Thomas Hughes, "The Evolution of Large Technical Systems," in Wiebe Bijker, Thomas Hughes, and Trevor Pinch, eds. *The Social Construction of Technological Systems* (Cambridge MA: MIT Press, 1987), pp. 51-82.

Wed. 9/18/19

- "The Great White Way" in David Nye, *Electrifying America: Social Meanings of a New Technology* (MIT Press, 1992), 30-84.

NOTE: All students should have met with the instructor to get approval for their research essay topics by the end of this unit.

Week 6 – Nuclear power, dual use, and the Cold War

Mon. 9/23/19

- MacKenzie, Donald. "Nuclear Missile Testing and the Social Construction of Accuracy," in Mario Biagioli, ed., *The Science Studies Reader* (New York: Routledge, 1999), 342-57.

Wed. 9/25/19

- Gabrielle Hecht, "Political Designs: Nuclear Reactors and National Policy in Postwar France," *Technology and Culture* (October 1994): 657-685.
- Alex Roland, "Was the Nuclear Arms Race Deterministic?" *Technology and Culture* (Jan 2010)

Week 7 – Technology as culture: The Bomb as "social technology"

Mon. 9/30/19

- Joseph Masco, "Lie detectors: On Secrets and Hypersecurity in Los Alamos." *Public Culture* 14 (3), 2002: 441-467.

Wed. 10/2/19

- Watching "The Atomic Café," 1982 documentary by Rafferty, Loader, and Rafferty. (Excerpts)

Week 8 – Science, technology, and technoscience: experiments and air pumps in the 17th century.

Mon. 10/7/19

- David Channell, *A History of Technoscience: Erasing the Boundaries between Science and Technology*, Routledge, 2017. “Introduction,” pp. 1-26.
- Steven Shapin and Simon Schaffer, *Leviathan and the Air Pump* (Princeton: 2011): “Understanding experiment” and “Replication and its troubles: Air pumps in the 1660s,” pp. 3-22, 225-282.

Wed. 10/9/19

- MIDTERM EXAM in class

Week 9 – Technologies of the future: Computers

Mon. 10/14/19

- Watching "Inventing the Future" (1992). Written, produced and directed by Nancy Linde

Wed. 10/16/19

- Edwards, Paul N. "Constructing Artificial Intelligence." Chapter 8 in *The Closed World: Computers and the Politics of Discourse in Cold War America*. Cambridge, MA: MIT Press, 1996, pp. 239-273.

Week 10 – Digital media: Hacking, freedom, and cybersecurity

Mon. 10/21/19

- Gabriella Coleman, “Hacker Politics and Publics,” *Public Culture* 23 (3), 2011: 511-516.

Wed. 10/23/19

- Gabriella Coleman and Alex Golub, “Hacker Practice: Moral genres and the cultural articulation of liberalism,” *Anthropological Theory* 28 (3), 2008: 255-277

Week 11 – The telephone: social order, and race

Mon. 10/28/19

- "The Telephone in America" and "Educating the Public" in *America Calling: A Social History of the Telephone to 1940* (University of California Press, 1994), 33-85.

Wed. 10/30/19

- Venus Green. "Race and Technology: African American Women in the Bell System, 1945-1980." *Technology and Culture* 36:2 (1995), pp. 101-144.

Week 12 – Mobile phones: Resource extraction, global markets, and the corporate state

Mon. 11/4/19

- Dev Nathan and Sandip Sarkar, "Blood on your mobile"?, *Economic and Political Weekly* Vol. 45, n. 43 (October, 2010): 22-24.

Wed. 11/6/19

- Emma Park and Kevin. P. Donovan, "Is your Mobile Phone Company Seeing like a State"?, *Limn* 7 (July, 2016): <http://limn.it/between-the-nation-and-the-state/>

Week 13 – Colonialism, collective identities, and the meanings of technology.

Mon. 11/11/19

- Michael Adas, *Machines as the Measure of Men*, Cornell University Press, 1989. "Introduction," pp. 1-16, and Chapter 3 Chapter 3: pages 133-152 [on Europe; pay special attention to pages 133-34 and 143-145; you may simply skim the rest of the excerpt] and 152-165 [Africa – read all].
- Itty Abraham, "The Ambivalence of Nuclear Histories," *Osiris* 21 (1), 2006: 49-65.

Wed. 11/13/19

- In class practicum (writing your final essay)

Week 14 – Technology and ethics: disability & techno-dreams

Mon. 11/18/19

- Ingunn Moser, "Disability and the promises of technology: Technology, subjectivity and embodiment within an order of the normal," *Information, Communication & Society* 9 (3), 2006: 373-395.

Wed. 11/20/19

- Patrick McCray, "Many Are Cold, Few Are Frozen" in *Histories of the Future* (2015). Web. <http://histscifi.com/>
- Primary sources from ALCOR, Inc.

Week 15 – Preparation for Individual Essay

Mon. 11/25/19

Wrap-up discussion

Wed. 11/27/19 – Thanksgiving – No Class

Week 16 – In Class exam

Tue 12/2/19 – Final exam (1.5 hours)

Individual Essays due on 12/9/2019 (delivered on-line)

OFFICE HOURS

I will be holding office hours in my office, 238 Allen Hall, from 11:00 to 12:30 every Wednesday and Friday. If you would like to consult with me but can't make it on during those hours, feel free to e-mail me and set up a meeting.

You are required to meet with me once (preferably during these times) in order to gain approval for your research essay topic.

DISCUSSION SECTIONS

Please, check in with Jeremy Montgomery, who is in charge of leading discussion on Thursday and Friday.

ELECTRONICS POLICY

The use of laptop computers is *strongly discouraged*, and they are permitted for purposes of notetaking only. I reserve the right to prohibit their use entirely, excepting only students whose use of such devices is covered by an accommodation per the Disability and Accessibility policy (see below). Students are expected to silence all other electronic devices (e.g., phones) and to refrain from their use during class. Disruptive and/or distracting use of any electronic device is strictly prohibited.

TITLE IX

MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX/EEO Programs at 325-8124 or by e-mail to titleix@msstate.edu. Additional resources are available at <http://www.msstate.edu/web/security>, or at <http://students.msstate.edu/sexualmisconduct/>

DISABILITY AND ACCESSIBILITY POLICY

As a matter of University and class policy, all University-approved requests for accommodation of students with special needs will be met. Students requiring any special accommodation should consult with the Student Support Services offices, located at 01 Montgomery Hall, and involve the instructor and their TA as soon as possible afterwards. The website for that office is <http://www.sss.msstate.edu/disabilities/>.

STUDENT HONOR CODE

Mississippi State has an approved Honor Code that applies to all students. The code is as follows: "As a Mississippi State University student, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Student will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information, please visit: <http://honorcode.msstate.edu/policy>.

FURTHER INFORMATION ON ACADEMIC HONESTY AND PLAGIARISM

For written assignments:

- Unless you secure permission from the instructor in advance, you **may not** use sources other than course texts, material posted to the course website, lecture notes, or class discussion in the thematic essays.

- All citations must be done in standard MLA (Modern Language Association) formats. There are many reference books and websites that will be able to provide you with enough information to format your citations correctly. We will also go over citation practices in class.
- **No paper will be considered acceptable that is based exclusively on material given in lectures.** In other words, your paper must demonstrate familiarity with the relevant text sources available to you, and you must acknowledge by citation your debt to them. Put still another way, there is no such thing as a no-citation paper in this class.
- For the record, you must correctly and completely cite a source
 - every time you quote it directly, no matter how brief the quote;
 - every time you use or refer to its ideas;
 - every time you summarize or paraphrase factual information it contains;
 - every time you use a **specific** fact that is not common knowledge to the average reader, and
 - at least the first time you refer to it by its title or author's name.

When in doubt, err on the side of caution. You can hardly go wrong by having too many citations, but you **must not have too few**.

- Group study, including *preparation* for essays, is permitted and encouraged. It is fine to share your notes with anyone and everyone. You may debate the relative merit of one another's essay ideas, and make suggestions on how another student's argument might be improved. You must, however, *stop* collaborating when it comes to the *production* of the paper: outlines, organization, thesis elaboration, and the actual writing itself.

For all parts of the course:

Needless to say, any of the more exotic ways of violating one's scholarly conscience (turning in work written by someone else, submitting a paper that has already been used in a different class, misrepresenting the circumstances of an appeal for an extension, peeking over someone's shoulder during an exam or quiz, and so on) are treated in the same dire fashion as plagiarism.

University Safety Statement. *Mississippi State University values the safety of all campus community members. Students are encouraged to register for Maroon Alert texts and to download the Everbridge App. Visit the Personal Information section in Banner on your mystate portal to register. To report suspicious activity or to request a courtesy escort via Safe Walk, call University Police at 662-325-2121, or in case of emergency, call 911. For more information regarding safety and to view available training resources, including helpful videos, visit ready.msstate.edu.*