STSC-003: Technology and Society

STSC/HSOC/SOCI-003 — Spring 2017 — TTh 10:30am-12:00 —Stiteler B26

Instructor

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Course description

This course focuses on the ways in which humans have used technology to reshape their relations with each other and with their environment. It follows the impact of technical developments throughout human history and across the globe—from stone tools, cave painting, and agriculture to ancient cities, metallurgy, and aqueducts; from windmills, cathedrals, and steam engines to atom bombs, the Internet, and genetic engineering. Throughout, we will consider the aesthetic, religious, and mythical dimensions of technological change, focusing on the circumstances in which innovations emerge and their impact on social order, on the environment, and on the ways humans understand themselves.

Readings

All course readings will be available as PDFs on Canvas. In order to get the most out of lectures, you should aim to complete readings before the lecture for which they are assigned.

Overview of Assignments and Grading

Weekly discussion posts	20%	Due: Thursdays by 10:30am
Paper #1	20%	Due: Feb. 7
Paper #2	20%	Due: Mar. 14
Paper #3	20%	Due: Apr. 11
Paper #4	20%	Due: May 8

Assignments

Weekly discussion posts: By the Thursday class meetings (i.e., 10:30am) of most weeks — see the schedule below for a few exceptions — you should post a short quotation or interesting detail from one of the week's readings to the appropriate Canvas discussion thread, along with a sentence or two explaining why you find it interesting or posing a question that it raises for you. These *brief* posts (no more than 100 words) will be graded on a satisfactory/not-satisfactory basis.

Short papers: Each of the following papers should be about 1500-1800 words in length (i.e., about 5-6 double-spaced pages), including citations. All papers should be submitted as Word documents (doc or docx) via Canvas. Further instructions for each of the assignments will be provided at least 10 days before the due date given in the schedule below.

- Paper #1: Artifacts of Power. For this assignment you will consider what technological artifacts can tell us about social structures and hierarchies of power. You will have to visit the Penn Museum to complete this assignment. Your task is to identify and describe *two* artifacts: (1) one which was used to centralize power or consolidate social hierarchies, and (2) one which was used to decentralize power or flatten social differences. Your paper should draw both on course readings and lectures and on interpretive material that you find in the museum relating to the artifacts in question. Your two artifacts may originate either in the same society or in different societies. Your essay should devote about equal space — i.e., about 2-3 pages — to each artifact.
- Paper #2: Technological Systems. For this assignment you will situate a particular technological artifact in relation to the broader sociotechnical system of which it is a part. Your paper should start with newspaper article (or other media report) produced during the last year. What aspects of the sociotechnical system does the article describe? What aspects does it leave out, and how might including those aspects have changed the impression of the technology that it gives?
- Paper #3: Pushing Back. For this assignment you will consider the history of resistance to technological change in relation to your own experience. Describe a situation in your life in which you could have used a technology but chose not to. Why didn't you? How was your choice similar to or different from examples of technological resistance that we have explored in the course?
- Paper #4: Maintaining the Revolution. For the focus of this paper, choose one of the following potentially transformative technologies, each of which has been the subject of a great deal of hype and speculation in recent years: (1) self-driving cars, (2) virtual reality, (3) genome editing, (4) solar power. Drawing on arguments and analogies from the course readings and lectures, explain what role (1) existing ("old") technologies and infrastructures and (2) ongoing maintenance might play in the success or failure of these "innovations."

Your paper assignments will be graded according to the following criteria, in rough order of importance: presence of a clear and compelling argument or thesis that is sustained throughout the essay; good use of supporting evidence and arguments, with citations to relevant readings and lectures (and with direct quotations used only when the specific wording is essential); clear and logical organization on the level of paragraphs and the essay as a whole; absence of typos, grammatical errors, sentence fragments and other signs of sloppy writing.

Note on the use of electronic devices in class

Use of laptop computers and other portable electronic devices in class is prohibited. While laptops are efficient and convenient devices for note-taking, they are also powerful and merciless distractions for everyone: not only for the user, but also for classmates and the instructor. And there are real benefits to taking hand-written notes. Precisely because it is slower than typing, hand-writing encourages you to critically engage with lectures and note those things that strike you as most significant, surprising, or challenging. This is a kind of engagement that will come in handy as you work on your papers and prepare for the exams. If you have a disability that prevents you from taking handwritten notes, we will be happy to make the necessary accommodations. Please show respect for everyone by arriving on time, silencing mobile phones and other devices, and minimizing distraction for yourself and for others. Thank you!

Academic integrity

You are expected to abide by the University of Pennsylvania's Code of Academic Integrity (http://www.upenn.edu/academicintegrity/ai_codeofacademicintegrity.html). For the purposes of this course, this mainly means (1) treating the instructor and your classmates with respect and (2)

doing your own work and properly citing the sources you use. Your instructor and graders are committed to ensuring a welcoming and tolerant atmosphere in the classroom, establishing clear expectations and grading standards, and treating all students fairly and respectfully.

Religious obligations and special accommodations

If you have religious obligations that will conflict with any of the requirements of the class, including class attendance, please inform the instructor within two weeks of the beginning of the semester so that alternate arrangements can be made. Similarly, if you require any special accommodations to participate fully in the class, please inform the instructor as soon as possible, either in person or by email, with documentation from Student Disabilities Services. We will do everything we can to ensure that everyone in the class can participate fully and comfortably.

Schedule of lectures, readings, and assignments

*[Thursdays when a discussion post is due on Canvas by 10:30am are marked with ** below]*

Date	Topic	Readings
Jan. 12 (Th)	Introduction and overview	
Jan. 17 (T)	The tool-using animal(s)	McNeill and McNeill, "The Human Apprenticeship," in *The Human Web*, pp. 9-24; Leroi-Gourhan, "Gesture and Program," pp. 237-249
** Jan. 19 (Th) **	Mutual domestication	McNeill and McNeill, "Shifting to Food Production," in *The Human Web*, pp. 25-40; Russell, "Evolution Revolution," in *Evolutionary History*, pp. 54-70
Jan. 24 (T)	Technologies of inequality	McLellan and Dorn, "Pharaohs and Engineers," in *Science and Technology in World History*, pp. 46-70
** Jan. 26 (Th) **	Technologies of exchange	Hart, "Money is Always Personal and Impersonal"; Maurer, "Money Talks"
Jan. 31 (T)	Engineering the social order	Bray, Chapter 1 (pp. 39-55) and Chapter 4 (pp. 121-153) from *Technology, Gender, and History in Imperial China*
** Feb. 2 (Th) **	PENN MUSEUM VISIT	
Feb. 7 (T)	Technological determinism and possibilism	White, "Technology in the Middle Ages," in *Technology in Western Civilization*, pp. 66-79; Friedel, "Plows and Horses," in *The Culture of Improvement*, pp. 13-29 **** PAPER #1 DUE ON FEBRUARY 7 ****
** Feb. 9 (Th) **	The print "revolution"	Eisenstein, *The Printing Revolution in Early Modern Europe*, pp. 41-90; McLuhan, "Printed Word, Architect of Nationalism," in *Understanding Media*, pp. 170-178
Feb. 14 (T)	Inventing invention	Biagioli, "Patent Republic: Representing Inventions, Constructing Rights and Authors"
** Feb. 16 (Th) **	Paths not traveled	Pomeranz, "Without Coal? Colonies? Calculus?

		Counterfactuals and Industrialization in Europe and China," pp. 241-276
Feb. 21 (T)	The empire of cotton	Beckert, "Emancipation and Empire: Reconstructing the Worldwide Web of Cotton Production in the Age of the American Civil War"
** Feb. 23 (Th) **	Technology in translation	Frumer, "Translating Time: Habits of Western-Style Timekeeping in Late Edo Japan"
Feb. 28 (T)	Networks of power	Hughes, "The Evolution of Large Technological Systems," in *The Social Construction of Technology* (1987), pp. 51-82
** Mar. 2 (Th) **	The one best way	Taylor, *Principles of Scientific Management* (1911), pp. 30-60; Ford, *My Life and Work* (1922), pp. 91-115
March 4-12	SPRING BREAK	
Mar. 14 (T)	Industrialized warfare	Adas, "The Great War and the Assault on Scientific and Technological Measures of Human Worth," pp. 345-401; Sassoon, "Prelude: The Troops" and "Counter-Attack" (1918) **** PAPER #2 DUE ON MARCH 14 ****
** Mar. 16 (Th) **	Defining technology	Schatzberg, "*Technik* comes to America"
Mar. 21 (T)	Gigantomania	Josephson, "'Projects of the Century' in Soviet History: Large-Scale Technologies from Lenin to Gorbachev"
** Mar. 23 (Th) **	Kitchen debates	Cowan, *More Work for Mother*, pp. 192-215; Parr, "What Makes Washday Less Blue? Gender, Nation, and Technology Choice in Postwar Canada"
Mar. 28 (T)	Small is beautiful	Hughes, "Counterculture and Momentum," in *American Genesis,* pp. 443-472; Wetmore, "Amish Technology"
Mar. 30 (Th)	NO CLASS	
Apr. 4 (T)	The global monoculture	Cullather, "Introduction" (pp. 1-11) and "A Parable of Seeds" (pp. 159-179) in *The Hungry World*
** Apr. 6 (Th) **	Patenting life	Kevles, "Can They Patent Your Genes?"
Apr. 11 (T)	War machines	Gusterson, "Toward an Anthropology of Drones: Remaking Space, Time, and Valor in Combat" **** PAPER #3 DUE ON APRIL 11****
** Apr. 13 (Th) **	The robots are here	Irani, "The Cultural Work of Microwork"
Apr. 18 (T)	The shock of the old	Edgerton, "Time," in *Shock of the Old*, pp. 28-51; Russell and Vinsel, "Hail the Maintainers"
** Apr. 20 (Th) **	Into the landfill	Hurley, "From Factory Town to Metropolitan Junkyard: Postindustrial Transitions on the Urban Periphery"
Apr. 25 (T)	Concluding thoughts	
May 1-9	EXAM PERIOD	**** PAPER #4 DUE ON MAY 8 ****