

History of Science 720: Proseminar in Historiography and Methods

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Office hours: Wednesday 3–5 pm

Fall 2017
L173 Education
Thursday 2:25–4:55 pm

This course provides an introduction to the scholarly field that is the history of science. It gives a brief overview of some of the major themes and issues that occupy the field, and the different approaches scholars have used to address their questions. In the first section course, we will read texts that were formative in the development of the history of science (such as Kuhn's widely read book *The Structure of Scientific Revolutions*), as well as texts that are representative of different approaches that are paradigmatic in the field (such as the turn towards studying the practices of science instead of ideas or concepts). The second section of the course is comprised of clusters of readings that represent different subfields or areas of research interest with the history of science, and each of these weeks will be co-led by a guest instructor from the program who works in that area. This section of the course has a dual purpose: to introduce you to faculty members and their research strengths, and to give you a sampling of the variety of topics and issues that are currently animating scholarship in the field. The interests of the students enrolled in the class will also direct readings in this section of the course. For week ten we'll discuss potential questions or research areas relating to your interests that are not well covered by the assigned readings, and I will develop a reading list tailored towards these collectively defined needs. The last class meeting will be reserved for a discussion of your final paper assignments and the observations and/or issues you are encountering in your writing.

Assignments In addition to your active participation in weekly class discussions, you are also required to submit a weekly reading response for 10 of the 12 weeks with assigned readings (this means you get two opportunities to pass on doing a reading response, which you can take whenever best suits your needs). These reflections should be about 500 words and can be informal in nature, touching on issues such as: common themes or arguments in the readings, contrasts between the readings, the

purpose or value of the readings and/or approaches, things that you didn't understand in the readings, or questions that you would like to discuss in class. The aim of the readings responses is to get you thinking about what you'd like to talk about in advance of class, and we'll use the reading responses to help set the agenda for each discussion session. Please post your reading responses to the forum on the Canvas website at least 24 hours before class to allow time for your classmates and me to read them. Class participation and reading responses count for fifty percent of your final grade.

Your final paper assignment for this class will be a historiographical essay that reflects on a particular historical question, subfield of literature, or methodological approach. You can reflect either on texts and issues that we have discussed in class or on a body of literature in history of science (perhaps relating to your research interests) that we did not cover in class, but keep in mind that this is not intended to be a research paper and extensive source work should not be necessary. As part of the scheduled readings we will read several review essays that can serve as exemplars for writing about trends or themes in the discipline. Your paper should be about 15 pages in length, and will be due during the exam period after classes end (exact date to be discussed in class). The final essay counts for the other fifty percent of your final grade.

Evaluation You'll receive feedback on and an interim letter grade for your class participation and reading responses at mid semester. Your cumulative participation/reading responses and final paper will be assigned letter grades at the end of the semester.

Readings Course books will be available on reserve at College Library, and links to articles available through UW-Madison's electronic holdings will be compiled in the electronic course reserves page. Any texts not available through either the physical or electronic reserves will be posted on the Canvas site.

Course Schedule

September 7: Course introduction

- "What Is Historiography and Why Is It Important?" n.d. https://www.reddit.com/r/AskHistorians/comments/3ew9t8/what_is_historiography_and_why_is_it_important/
- "Historiography." n.d. <http://qcpages.qc.cuny.edu/writing/history/critical/historiography.html>
- Joseph Dumit. 2012. "How I Read." September 27. <http://dumit.net/how-i-read/>

September 14: Origins and outlines of the history of science

- Thomas S. Kuhn. 1996. *The Structure of Scientific Revolutions*. 3rd ed. Chicago: University of Chicago Press (including the postscript)

- Lynn Nyhart. 2016. “Historiography of the History of Science.” In *A Companion to the History of Science*, edited by Bernard Lightman, 7–22. Chichester, UK: Wiley Blackwell
- Victor L. Hilt. 1984. “History of Science at the University of Wisconsin.” *Isis* 75, no. 1 (March): 63–94

September 21: The practice turn

- Ian Hacking. 1983. *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science*. Cambridge: Cambridge University Press (Break, Part B)
- Léna Soler et al. 2014. “Introduction.” In *Science After the Practice Turn in the Philosophy, History, and Social Studies of Science*, edited by Léna Soler et al., 1–43. New York: Routledge (pp. 1–24)
- Harry M. Collins. 1974. “The TEA Set: Tacit Knowledge and Scientific Networks.” *Science Studies* 4 (2): 165–85
- Heinz Otto Sibum. 1995. “Reworking the Mechanical Value of Heat: Instruments of Precision and Gestures of Accuracy in Early Victorian England.” *Studies in History and Philosophy of Science Part A* 26 (1): 73–106

September 28: Circulation

- James A. Secord. 2003. *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*. Chicago: University Of Chicago Press (Prologue, Parts 1 and 3, Epilogue)
- Peter Galison. 1997. “Trading Zone: Coordinating Action and Belief.” In *The Science Studies Reader*, edited by Mario Biagioli, 137–60. New York: Routledge
- Susan Leigh Star and James R. Griesemer. 1989. “Institutional Ecology, ‘Translations’ and Boundary Objects: Amateurs and Professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–39.” *Social Studies of Science* 19 (3): 387–420
- Kapil Raj. 2007. *Relocating Modern Science: Circulation and the Construction*. New York: Palgrave Macmillan (Chapter 2)

October 5: Great men of science?

- Janet Browne. 1996. *Charles Darwin: A Biography*. Vol. 1 – Voyaging. Princeton, NJ: Princeton University Press (Introduction, Chapters 12–15, 21)
- Crosbie Smith. 1998. *The Science of Energy: A Cultural History of Energy Physics in Victorian Britain*. Chicago: University of Chicago Press (Chapters 1–4, 14, Epilogue)

- Margaret W. Rossiter. 1993. "The Matthew Matilda Effect in Science." *Social Studies of Science* 23 (2): 325–41
- Mary Jo Nye. 2006. "Scientific Biography: History of Science by Another Means?" *Isis* 97 (2): 322–29

October 12: Consumers and users

- Ronald R. Kline. 2000. *Consumers in the Country: Technology and Social Change in Rural America*. Revisiting rural America. Baltimore, MD: Johns Hopkins University Press (Introduction, Parts 1 and 3, Conclusion)
- Nelly Oudshoorn and Trevor Pinch. 2003. "How Users and Non-Users Matter." In *How Users Matter: The Co-Construction of Users and Technology*, edited by Nelly Oudshoorn and Trevor Pinch, 1–16. Cambridge, MA: MIT Press
- Ruth Schwartz Cowan. 1976. "The 'Industrial Revolution' in the Home: Household Technology and Social Change in the 20th Century." *Technology and Culture* 17 (1): 1–23

October 19: Science and macropolitics

- Michel Foucault. 1995. *Discipline and Punish: The Birth of the Prison*. 2nd ed. New York: Vintage Books ("The Body of the Condemned," "Docile Bodies," and "Panopticism")
- Sheila Jasanoff. 2006. "Biotechnology and Empire: The Global Power of Seeds and Science." *Osiris* 21 (1): 273–92
- Paul Forman. 1973. "Scientific Internationalism and the Weimar Physicists: The Ideology and Its Manipulation in Germany after World War I." *Isis* 64 (2): 151–80
- Robert K. Merton. 1938. "Science and the Social Order." *Philosophy of Science* 5 (3): 321–37
- *Merton Thesis*. 2016. In *Wikipedia, the Free Encyclopedia*. Page Version ID: 738222401. September 7. Accessed September 8, 2016. https://en.wikipedia.org/w/index.php?title=Merton_Thesis&oldid=738222401
- Steven Shapin. 1988. "Understanding the Merton Thesis." *Isis* 79 (4): 594–605

October 26: Material agency and "actants"

- Bruno Latour. 1993. *The Pasteurization of France*. Translated by Alan Sheridan and John Law. Cambridge, MA: Harvard University Press (Part 1)
- Andrew Pickering. 1995. *The Mangle of Practice*. Chicago: University of Chicago Press (Chapters 1–2)

- Bruno Latour. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press (“Objects Too Have Agency”)
- Michel Callon. 1999. “Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fisherman of St. Brieuc Bay.” In *The Science Studies Reader*, edited by Mario Biagioli, 67–83. New York: Routledge
- Timothy Mitchell. 2002. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press (“Can the Mosquito Speak?”)

November 2: Producing knowledge and social order

- Steven Shapin and Simon Schaffer. 1989. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*. Princeton, NJ: Princeton University Press
- Steven Shapin and Simon Schaffer. 2011. “Up for Air: Leviathan and the Air-Pump a Generation On.” In *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life*, 2nd ed., xi–xlix. Princeton, NJ: Princeton University Press
- Mi Gyung Kim. 2014. “Archeology, Genealogy, and Geography of Experimental Philosophy.” *Social Studies of Science* 44 (1): 150–62

November 9: Student choice readings

- Readings to be determined

November 16: Transnational knowledge (with Pablo Gómez)

- Pablo F. Gómez. 2017. *The Experiential Caribbean: Creating Knowledge and Healing in the Early Modern Atlantic*. Chapel Hill: University of North Carolina Press (Introduction, Chapters 2–5, 7)
- Dipesh Chakrabarty. 2011. “The Muddle of Modernity.” *American Historical Review* 116 (3): 663–75
- Neil Safier. 2010. “Global Knowledge on the Move: Itineraries, Amerindian Narratives, and Deep Histories of Science.” *Isis* 101 (1): 133–45

November 23: Thanksgiving recess (no class)

November 30: Gender and historical analysis (with Marie Hicks)

- Marie Hicks. 2017. *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing*. Cambridge, MA: MIT Press (Introduction, Chapters 1–3)

- Joan W. Scott. 1986. "Gender: A Useful Category of Historical Analysis." *American Historical Review* 91 (5): 1053–75
- Safiya Umoja Noble. 2013. "Google Search: Hyper-Visibility as a Means of Rendering Black Women and Girls Invisible." *InVisible Culture*, no. 19

December 7: History of Science meets history of education (with Adam Nelson)

- Adam R. Nelson. 2017. "Citizens or Cosmopolitans? Constructing Scientific Identity in the Early American College." *History of Education Quarterly* 57 (02): 159–84
- John C. Greene. 1984. *American Science in the Age of Jefferson*. Ames: Iowa State University Press (Chapters 1 and 10)
- Sverker Sörlin. 1993. "National and International Aspects of Cross-Boundary Scientific Travel in the Eighteenth Century." In *Denationalizing Science: The Contexts of International Scientific Practice*, edited by Elisabeth T. Crawford, T. Shinn, and Sverker Sörlin, 43–72. Berlin: Springer Science & Business Media

December 14: Student paper topic discussion (optional)

- No assigned readings