

Problems in the History of Science

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Mondays, 1:30–3:30

Bill's Office: HGS 206



This is a problem.

This seminar is an introduction to recent work in the history of science. We'll be reading books and articles published within the last five years that cover science in Europe and the United States since the medieval era. We'll confront several key historical questions: What is science? What is "modern" science? Where is the boundary between science and philosophy, technology, or politics? How does science intersect with government, gender, class, business, or law? But just as important, we'll also be asking questions about how the history of science is written: What topics are interesting? What questions are worth asking? What kinds of evidence are convincing? What makes a book "important"?

No previous background in history of science is required. I'm happy to recommend sources for general overviews as needed, along with other supplementary material.

Assignments

There are three skills you'll have to develop in this seminar: reading, talking, and writing. None of these are trivial. There's enough reading every week that you'll have to learn how to distill a large number of pages down to a few important arguments and pieces of evidence. In each of our class meetings, you'll also have to speak with confidence and engage your classmates as peers. And you'll practice three different genres of writing.

Every week, you'll submit *at most* one page about each reading; this page should include one paragraph summarizing the argument, one paragraph explaining what (or who) the author is reacting against, one paragraph noting what (or who) the author is aligning themselves with, and one paragraph of possible critiques or unresolved problems. (You should also plan to write additional notes for your own benefit.)

A book review of *any* book published on the history of science in the last five years will be due on February 25th; you'll have to get your book choice approved by February 11th. Please feel free to pick one of the books from the syllabus!

A review essay covering one of the week's topics will be due at the end of reading period (May 1st). For this essay, you'll need to situate recent work within a longer trajectory of historians grappling with the same topic. You should discuss five or six books published within the last five years (including the books on the syllabus), but you'll have to do substantial reading of earlier work as well. This essay should be no longer than 5,000 words.

Your grade will be based on both your speaking and your writing.

SCHEDULE

*All books should be available at the Yale Bookstore, but check www.bookfinder.com for the best prices.
All articles and book chapters are available on the course website.*

January 14: Introduction

PART I: WAYS OF KNOWING

January 18 (FRIDAY) – The Scientific Revolution

Deborah E. Harkness, *Jewel House: Elizabethan London and the Scientific Revolution* (New Haven: Yale University Press, 2007).

Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900* (New York: Palgrave MacMillan, 2007), introduction and conclusion.

January 28 – Medieval Science

David J. Collins, “Albertus, Magnus or Magus? Magic, Natural Philosophy, and Religious Reform in the Late Middle Ages,” *Renaissance Quarterly* 63 (Spring 2010), pp. 1–44.

Elly Truitt, “Celestial Divination and Arabic Science in Twelfth-Century England: The History of Gerbert of Aurillac’s Talking Head,” *Journal of the History of Ideas* 73 (April 2012), pp. 201–222.

Katharine Park, “Observation in the Margins,” in *Histories of Scientific Observation*, edited by Lorraine Daston and Elizabeth Lunbeck (Chicago: University of Chicago Press, 2011), pp. 15–44.

Nicolás Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies* (Cambridge: MIT Press, 2008) – preface and introduction only.

February 4 – Scientific Sight and Visual Evidence

Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: University of Chicago Press, 2012).

Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone, 2007).

February 11 – The Life Sciences since Darwin

– APPROVAL FOR BOOK REVIEW –

Adrian Desmond and James Moore, *Darwin’s Sacred Cause: How a Hatred of Slavery Shaped Darwin’s Views on Human Evolution* (London: Allen Lane, 2009).

Hellen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870–1950* (Chicago: University of Chicago Press, 2011).

February 18 – The Physical Sciences since Einstein

Richard Staley, *Einstein’s Generation: The Origins of the Relativity Revolution* (Chicago: University of Chicago Press, 2008).

David Kaiser, *How the Hippies Saved Physics* (New York: W. W. Norton, 2011).

PART II: SCIENCE AND POWER

February 25 – The Bomb and the Cold War

– BOOK REVIEW DUE –

Michael Gordin, *Five Days in August: How World War II Became a Nuclear War* (Princeton: Princeton University Press, 2007).

Alex Wellerstein, “Patenting the Bomb: Nuclear Weapons, Intellectual Property, and Technological Control,” *Isis* 99 (2008), pp. 57–87.

R. Scott Kemp, “The End of Manhattan: How the Gas Centrifuge Changed the Quest for Nuclear Weapons,” *Technology and Culture* 53 (April 2012), pp. 272–305.

March 4 – Corporate Science

Steven Shapin, *The Scientific Life: A Moral History of a Late Modern Vocation* (Chicago: University of Chicago Press, 2008).

William Rankin, “The Epistemology of the Suburbs: Knowledge, Production, and Corporate Laboratory Design,” *Critical Inquiry* (Summer 2010), pp. 771–806.

– SPRING BREAK –

March 25 – Science and the Public

Naomi Oreskes and Erik Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (New York: Bloomsbury Press, 2010).

Sarah Igo, *The Averaged American: Surveys, Citizens, and the Making of a Mass Public* (Cambridge: Harvard University Press, 2007).

PART III: SCIENCE, TECHNOLOGY, AND EVERYDAY LIFE

April 1 – Telecommunications and Computing

David M. Henkin, *The Postal Age: The Emergence of Modern Communications in Nineteenth-Century America* (Chicago: University Of Chicago Press, 2007).

Christopher Kelty, *Two Bits: The Cultural Significance of Free Software* (Durham: Duke University Press, 2008).

April 8 – Biotech

Hannah Landecker, *Culturing Life: How Cells Became Technologies* (Cambridge: Harvard University Press, 2007).

Daniel Kevles, “Eugenics, the Genome, and Human Rights,” *Medicine Studies* 1 (2009), pp. 85–93.

April 15 – Naturetech

David Biggs, *Quagmire: Nation-Building and Nature in the Mekong Delta* (Seattle: University of Washington Press, 2010).

Etienne Benson, *Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife* (Baltimore: Johns Hopkins University Press, 2010).

PART IV: PROBLEMS AND OPPORTUNITIES

April 22 – The *Isis* Focus Section

Jennifer Karns Alexander, “Thinking Again About Science in Technology,” *Isis* 103 (September 2012), pp. 518–526.

David Edgerton, “Time, Money, and History,” *Isis* 103 (June 2012), pp. 316–237.

John Pickstone, “Sketching Together the Modern Histories of Science, Technology, and Medicine,” *Isis* 102 (March 2011), pp. 123–133.

Marwa Elshakry, “When Science Became Western: Historiographical Reflections,” *Isis* 101 (March 2010), pp. 98–109.

Steve Fuller, “The Normative Turn: Counterfactuals and a Philosophical Historiography of Science,” *Isis* 99 (September 2008), pp. 576–584.

Peter Galison, “Ten Problems in History and Philosophy of Science,” *Isis* 99 (March 2008), pp. 111–124.

– REVIEW ESSAY DUE MAY 1st –