

University of Wisconsin-Madison
History of Science 720:
Proseminar in Historiography and Methods
Fall 2020

Wednesdays 8:50-11:50 a.m.
Curti Lounge, Humanities Building

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Virtual Office hours: Tuesdays 3-5 pm and by appointment

This course provides an introduction for graduate students to the history of science, medicine, and technology (HSMT). It gives a brief overview the field's major themes and issues, both historical and current, as well as introducing you to the range of approaches scholars have used to address their questions.

Course Learning Outcomes:

Graduate students completing this course will:

- practice a variety of reading strategies
- gain familiarity with classic texts, topics, and approaches in History of Science, Medicine, and Technology (HSMT)
- become acquainted with current research issues in the field
- be able to articulate, critique, or elaborate a range of theories, research methods, and approaches to inquiry in HSMT (HSMT MA Learning Goal #1)
- Recognize and apply established principles of ethical and professional conduct, (HSMT MA Learning Goal #8), especially through appropriate citation practices.

Course Requirements:

A. Reading: Each week, we will read several articles, chapters, or a book in common. You are each responsible for reading and thinking about all of these. In addition, for most weeks through Nov. 11, there is a list of "supplementary readings." These include both additional articles or book chapters on the subject at hand and also whole books (or "the rest of the book" when we've read just a small portion of it). I expect you to read and report on at least one of these books – which one is your choice (see requirements B and C.3 below). We will practice several different approaches to reading over the semester, as you'll see from the course details.

B. Class Attendance and Participation (25% of your final grade, including oral contributions about the book you're reviewing independently). In a seminar that meets only once a week, there is little luxury for missing classes. I need to hear a good reason why you must miss a seminar session. Your mere presence, however, does not suffice: you need to come to the discussion prepared to add your thoughtful comments. This means giving yourself enough time to think about the readings as well as pass your eyes over them, and to think about how they play off one another. What do they have in common? Do they conflict? What different angles on similar issues, or similar angles on quite different topics, do they offer? What questions do these readings raise for how to do HSMT?

C. Writing:

1. **Due September 2** (first class; required but ungraded): a 1-page reflection (300-500 words) on what you find exciting or inspiring about HSMT. This is not intended to duplicate the “statement of purpose” you submitted in your graduate school application. Rather, it is supposed to tell me what about the field grabs you. Is there some idea that just blows you away? Some historical writing you know that you want to emulate? Something about teaching that you are passionate about? Tell me why this field matters to you. Please submit to Canvas assignment “About me.”

2. **Ten reading responses** (total = 30%) for different weeks with assigned readings (this means you get a few opportunities to pass on doing a reading response, which you can take whenever best suits your needs, except Oct. 7, which is required for everyone). The primary aim of the reading 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.

These reflections should be 300-500 words long and can be informal in nature, but should use full sentences with correct grammar and American-English spelling and punctuation. They may touch on issues such as: common themes or arguments in the readings; contrasts among 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. You might also reflect on your experience practicing a certain kind of reading. Please post your reading responses to the Canvas discussion forum for the week **by noon on Tuesday** to allow time for your classmates and me to read them.

3. **A book review** (10%) of 700-900 words on a “supplementary” book of your choice—the length of a typical *Isis* book review. I recommend you study a bunch of these reviews in advance for possible models. Your review should summarize the main arguments and sources of evidence of the book and very briefly discuss what you see as especially praiseworthy or problematic. Since most of the books you are choosing from have all been out for a while, it would be artificial to review it as if it were a fresh, new book, but I don’t expect you to do a big literature search to see what others have said or what its impact on the field has been. Rather, the point is to provide a summary of the argument and reflection on issues for your fellow grad students, so they can benefit from your reading. **Due in Canvas by the class meeting when the book is listed.** All book reviews must be completed by **Nov. 11**. If you wish to report on a book listed later in the semester, please nevertheless have the review submitted by Nov. 11.

4. **Reflections on reading academically** (5%), 750-1000 words. What have you learned about reading strategies and styles? What do you find yourself good at? What did you improve on over the semester? **Due in Canvas by noon, Tuesday Dec. 8.**

5. **Final review essay** (30%). This will be a historiographical essay that reflects on a particular historical question, topic area, 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, technology, and/or medicine (perhaps relating to your research interests) that we did not cover in class. Keep in mind that this is not intended to be a research paper; extensive primary source work should not be necessary. It may incorporate the book you reviewed individually—you will be treating it differently here. Note that this essay review combines the skills of book reviewing and comparison/contrast you’ll already have practiced in this course through the book review and reading responses. Models: The journal *Historical*

Studies in the Natural Sciences has longer, thematic reviews that provide good models. Your paper should be about 4200-4500 words long.

A standard way to write such a review would be:

Introduction (a couple of paragraphs on the general topic you're exploring and why it's important/interesting).

I. Overview of the works you are studying: what do they cover? What do they say about their topic? What is THEIR agenda? To what historiographic conversations do they seek to contribute? This is the same information you would provide in an individual review.

II. Putting the works in conversation with one another. What makes them different from one another? What is their common ground? Do these show historiographic change over time? Do they analyze the same or similar events/topics from different perspectives? (Can you imagine a thought experiment of applying the methods/approaches/insights of one to the topic of another?)

III. How do these works speak to YOUR agenda/interests? (Could be a conclusion.)

Due dates: (1) **first 3 weeks of October**: come talk to me about your proposed topic area and possible books.

(2) **Oct. 23, by 5 pm in Canvas**: one-paragraph proposal about interest area and books (why these books? How do they work together?), with books listed in Chicago Bibliography style.

(3) **"First-final" draft due in Canvas by 5 pm Friday, Dec. 4**. I will return it with comments and a provisional grade by Dec. 10. If you are satisfied with the grade, you can leave it as is; if not, your **"final-final" version is due Dec. 16**.

Books: College Library is no longer placing physical books on reserve. The first two books on the list below are not available online at UW-Madison, and as of early August, ILL is not yet providing physical copies of books, so I suggest you buy these and/or share copies, if you are comfortable doing that (consider ordering them through a local bookstore such as A Room of One's Own Books). The rest are available as electronic books through the UW library system, but you might find it more convenient (and easier on the eyes!) to buy them. All other items—book sections or articles are uploaded or linked to our Canvas course.

Books to consider purchasing:

T. S. Kuhn, *The Structure of Scientific Revolutions*, 4th edition (Chicago: University of Chicago Press, 2012) – 3rd edition is okay but you must then also find the intro by Ian Hacking. Earlier editions lack Kuhn's updates.

Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (Cambridge, UK: Cambridge University Press, 1998, 2nd edition 2005)

Tiago Saraiva, *Fascist Pigs: Technoscientific Organisms and the History of Fascism* (Cambridge, MA: MIT Press, 2016)

Rana Hogarth, *Medicalizing Blackness Making Racial Difference in the Atlantic World, 1780-1840* (University of North Carolina Press, 2017).

Britt Rusert, *Fugitive Science: Empiricism and Freedom in Early African American Culture*. (New York: New York University Press)

Nicole Elizabeth Barnes, *Intimate Communities: Wartime Healthcare and the Birth of Modern China, 1937-1945* (University of California Press, 2018)

I am committed to accessibility and fairness for all students. If you have any conflicts due to religious holidays or need disability accommodations, please let me know within the first two weeks of the course so we can work out accommodations.

Note: This 3-credit course has 3 hours of group meetings per week (each 50 minute segment of seminar counts as one hour according to UW-Madison's credit hour policy). The course also carries the expectation that you will spend an average of at least 2 hours outside of class for every hour in the classroom. In other words, in addition to class time, plan to allot an average of at least 6 hours per week for reading, writing, and preparing for discussions for this class.

Course Overview:

I. Introducing the History of Science, Technology, and Medicine

- (1) Sept. 2: Reading Historiographically in the History of Science
- (2) Sept. 9: History of Science and Its Traditional Neighbors

II. Landmark Moments in the History of the History of Science

- (3) Sept. 16: HSTM: Apolitical or Political?
- (4) Sept. 23: T. S. Kuhn, *The Structure of Scientific Revolutions*
- (5) Sept. 30: Social Constructionism I: The 1970s-90s
Consult with me during the first 3 weeks of October about final paper
- (6) Oct. 7: Social Constructionism II: Systems of Knowledge Production
- (7) Oct. 14: Globalizing the History of Science, Medicine, and Technology

III. Systems of Power/Knowledge

- (8) Oct. 21: Fascist Nation, Empire, and STM: Tiago Saraiva's *Fascist Pigs*
Final Paper proposal due Oct. 23 by 5 pm in Canvas
- (9) Oct. 28: Postcolonial Politics, Governance, and STM
- (10) Nov. 4: Technoscientific Systems, Infrastructure and Maintenance
- (11) Nov. 11: Race as a Knowledge/Power System: Rana Hogarth, *Medicalizing Blackness*

IV. People Power

- (12) Nov. 18: Science beyond Boundaries: Britt Rusert, *Fugitive Science*
- (13) Nov. 25: Woman Power: Nicole Elizabeth Barnes, *Intimate Communities: Wartime Healthcare and the Birth of Modern China, 1937-1945*
- (14) Dec. 2: Community STM

"First-final" Paper due Friday, Dec. 4

- (15) Dec. 9: Wrap-Up

Reading Reflections Paper due by noon, Tuesday Dec. 8 in Canvas

"Final-final" paper due Dec. 16

I. Introducing the History of Science, Technology, and Medicine

Sept. 2: Reading Historiographically in the History of Science

At this session we will introduce ourselves and our interests in history of science, technology, and medicine. We will have a first taste at an historiographic overview, and we will talk about different types of reading.

Required Readings:

"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" at <http://qcpages.qc.cuny.edu/writing/history/critical/historiography.html> (For a structured example of an historiographic essay, please click on "How to write a historiographic essay" at the end of this post.)

Lynn Nyhart, "Historiography of the History of Science," in *A Companion to the History of Science*, edited by Bernard Lightman, 7–22. (Chichester, UK: Wiley Blackwell, 2016), pp. 7–22.

Karin Wulf, "Efficient Reading," at <http://karinwulf.com/efficient-reading/> and a reply: "Fish Guts, or, How to Read a Book, a Sentence, and a Page" at <http://karinwulf.com/fish-guts-or-how-to-read-a-book-a-sentence-and-a-page/>

Optional:

Mortimer Adler and Charles van Doren, *How to Read a Book*, last edition, 1972. (Orig. by Adler, 1940). Browsing through the analytical table of contents can tell you a lot. At Internet Archive: <https://archive.org/details/HowToReadABook1972/page/n3/mode/2up>
Paul Edwards, "How to Read a Book, v5.0." **pdf**

(2) Sept. 9: History of Science and its Traditional Neighbors

Reading Strategy: *In addition to reading for "content," here you should practice **reading for context**: in what sort of publication does this work appear? How is this reflected in the piece of writing itself? What presentation and narrative choices do you see the author making that might be shaped by its publication context? What can you learn (quickly) about the author online? To gain a better sense of this context, you might look online at the larger work itself, whether a journal issue or a handbook. (Some ways you can look up the work are via the library catalogue, the publisher's website, Google Books (preview) or amazon.com. Not all ways are likely to work equally well.)*

Staffan Müller-Wille, "History of Science and Medicine." *Oxford Handbook of the History of Medicine*, edited by Mark Jackson. (Oxford Handbooks Online, Sept. 2012.) DOI: 10.1093/oxfordhb/9780199546497.013.0026) **pdf**

Eric Schatzberg, *Technology: Critical History of a Concept* (Chicago: University of Chicago Press, 2018), chapters 11 and 12, pp. 174–213. **pdf**

John Pickstone, "Working Knowledges before and after ca. 1800: Practices and Disciplines in the History of Science, Technology, and Medicine," *Isis* 98: 489–516.

Laura Otis, "What's an Archive? A Literary Scholar's View of the History of Science," *HSS Newsletter*, October 2007, pp. 6–7.

Supplementary:

Victor L. Hilts. 1984. "History of Science at the University of Wisconsin." *Isis* 75 (March 1984): 63–94

John Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine*. Manchester University Press, 2000.

II. Landmark Moments in the History of the History of Science

(3) Sept. 16: HSTM: Apolitical or Political?

Under what circumstances have science and history been tied to the ideal of political "neutrality"? How might we understand this very ideal itself as political?

Reading Strategy: Please read texts especially for key terms. What do these authors mean by "Marxist critique," "normative structure," "scientific ethos," and "objectivity"? What made these powerful terms shaping the history of science in the first half of the twentieth century?

Gary Werskey, "The Marxist Critique of Capitalist Science: A History in Three Movements?" *Science as Culture* 16(4) (2007): 397–461, DOI: 10.1080/09505430701706749

Robert K. Merton, "The Normative Structure of Science [1942]" from Merton, *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1973), pp. 267–278. **pdf.**

David Hollinger, "The Defense of Democracy and Robert K. Merton's Formulation of the Scientific Ethos," in Hollinger, *Science, Jews, and Secular Culture: Studies in Mid-Twentieth Century American Intellectual History* (Princeton, NJ: Princeton University Press, 1996), pp. 80–96. **pdf.**

Mary Jo Nye, "Historical Sources of Science-as-Social-Practice: Michael Polanyi's Berlin," *Historical Studies in the Physical and Biological Sciences*, 37(2) (March 2007): 409–434.

Supplementary:

Peter Novick, *That Noble Dream: The AObjectivity Question@ and the American Historical Profession* (NY: Cambridge University Press, 1988).

J. G. Crowther, *Frances Bacon: The First Statesman of Science* (London: Cresset Press, 1960)

(4) Sept. 23: T. S. Kuhn, *The Structure of Scientific Revolutions*

What has made this book a foundational one? Why did it excite so many people from different disciplines, but especially history of science?

Reading Strategy: first "gut," then read through more closely for Kuhn's argument. Then read the other texts to get a sense of the book's varied impact.

Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th edition (Chicago: University of Chicago Press, 2012 [1962]), **all**, including Hacking's introduction and updates.

David A. Hollinger, "T. S. Kuhn's Theory of Science and Its Implications for History." *American Historical Review* 78 (1973): 370–393.

Michael Gordin and Erika Milam, "A Repository for More than Anecdote: Fifty Years of *The Structure of Scientific Revolutions*," *Historical Studies in the Natural Sciences*, 2012, 42(5): 476–478. Use this as a launching-point to browse the articles in the same issue, through p. 580. Available only online (via UW Library), one article at a time (!).

(5) Sept. 30: Social Constructionism I: The 1970s-90s

What is social about social constructionism? What is constructed? What was the point and why was it controversial?

Reading Strategy: Reading for structure. Golinski's book is a synthesis. How does he organize an enormous amount of information into chapters and sub-sections within his chapters?

Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (Chicago: University of Chicago Press, 1998). Introduction, Ch. 1-2, Coda, plus "New Preface (2005)": accessible via Google Preview on the U of Chicago website if you did not acquire the 2005 book. (Take notes!)

Steve Shapin and Simon Schaffer, "Introduction" to the 2011 edition of *Leviathan and the Air-Pump*. **Pdf.**

Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," @ *Feminist Studies*, 14(3) (1988): 575-99.

Supplementary:

Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, NJ: Princeton University Press, 1985/2011).

Bruno Latour and Steve Woolgar, *Laboratory Life: The Social Construction of Scientific Facts*. (Sage, 1979)

(6) Oct. 7: Social Construction II: Systems of Knowledge Production

This week we are using more Golinski as a launching-point, and then examining how some of the analytical categories and approaches he discusses have been pursued in new directions.

Reading Strategy: Summary, analysis, connection. Although I invite you to read all of the readings, for reading response purposes you will be splitting up these "new directions" to report on to one another. Your job here is to identify what are the prime historical **objects** and **modes** of analysis in these authors' presentations of the dynamics of knowledge production, and to connect them (via comparison/contrast) to at least one of the approaches or themes that Golinski has set out (either this week or previously).

Everyone read: Golinski, *Making Natural Knowledge*, chs. 3, 5

Primary Responsibility to be divided up:

Elizabeth Hennessy, "The Politics of a Natural Laboratory: Claiming Territory and Governing Life in the Galápagos Islands," *Social Studies of Science*, 2018, 48(4): 483-506. **Pdf**

Robert E. Kohler, "Moral Economy, Material Culture, and Community in Drosophila Genetics," in *The Science Studies Reader*, ed. Mario Biagioli (New York: Routledge, 1999), pp. 243-257. **pdf.**

Florence Hsia, "Mathematical Martyrs, Mandarin Missionaries, and Apostolic Academicians: Telling Institutional Lives," in Anne Goldgar and Robert Frost (eds.), *Institutional Culture in Early Modern Society* (Leiden: Brill, 2004), pp. 3-34. **pdf.**

Hallam Stevens, "Starting up Biology in China: Performances of Life at BGI," *Osiris* 2018, 33: 85-106. **Pdf.**

Supplementary Reading:

- Stephen Conn, *Museums and American Intellectual Life, 1876-1926* (Chicago: University of Chicago Press, 1998)
- Robert E. Kohler, *Lords of the Fly: Drosophila Genetics and the Experimental Life* (Chicago, 1994)
- Kohler, *All Creatures: Naturalists, Collectors, and Biodiversity, 1850-1950* (Princeton: Princeton University Press, 2006)
- Peter Galison, *How Experiments End* (Chicago: University of Chicago Press, 1987)
- Thomas Gieryn, *Truth-Spots: How Places Make People Believe*. (Chicago: University of Chicago Press, 2018).
- Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994).
- Rader, Karen. *Life on Display: Revolutionizing U.S. Museums of Science and Natural History in the Twentieth Century* (University of Chicago Press, 2015).
- Lorraine Daston and Peter Galison, *Objectivity* (Brooklyn, NY: Zone Books, 2007)

(7) Oct. 14: Globalizing the History of Science, Medicine, and Technology

*This week we have four shorter historiographic pieces, with a fair amount of overlap but also making some quite distinct points, and two historical articles. The aim of our seminar discussion will be to see how we might **put the historical articles in conversation with an issue or issues raised in the historiographic articles**. What might the former exemplify, develop, contradict, or expand upon in the latter? How does it bring historical flesh to the historiographic issues at hand? Feel free to try out answering these questions using one of the historical articles in your reading response.*

Historiographic writings:

- Kapil Raj, "Beyond Postcolonialism...and Postpositivism: Circulation and the Global History of Science." *Isis* 104 (2013): 337-347.
- Fan, Fa-ti, "The Global Turn in the History of Science," *East Asian Science, Technology and Society*, 6(2) (2012): 249-58.
- Helen Tilley, "Global Histories, Vernacular Science, and African Genealogies; or, Is the History of Science Ready for the World?" *Isis* 101 (2010): 110-119.
- Sujit Sivasundaram, "Sciences and the Global: On Methods, Questions, and Theory." *Isis* 101 (2010): 146-158.

Historical articles:

- Pablo Gómez, "The Circulation of Bodily Knowledge in the Seventeenth-century Black Spanish Caribbean," *Social History of Medicine* 26(3) (2013): 383-402.
- Daniel Stolz, "The Voyage of the *Samannud*: Pilgrimage, Cholera, and Empire on an Ottoman-Egyptian Steamship Journey in 1865-66," *International Journal of Turkish Studies*, 23(1&2) (2017): 1-18.

Supplementary Reading:

- Florence Hsia and Dagmar Schäfer, "History of Science, Technology, and Medicine: A Second Look at Joseph Needham," *Isis*, 110/1 (2019): 94-99.
- Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago: University of Chicago Press, 2011).

- Richard C. Keller, *Colonial Madness: Psychiatry in French North Africa* (University of Chicago Press, 2007).
- Pablo F. Gómez, *The Experiential Caribbean: Creating Knowledge and Healing in the Early Modern Atlantic*. (Durham: University of North Carolina Press, 2017)
- Fa-ti Fan, *British Naturalists in Qing China: Science, Empire, and Cultural Encounter* (Cambridge, MA: Harvard University Press, 2004)
- Raj, Kapil. 2007. *Relocating Modern Science: Circulation and Construction of Knowledge in South Asia and Europe, 1650–1900*. Basingstoke: Palgrave Macmillan.

III. Systems of Knowledge/Power

(8) Oct. 21: Fascist Nation, Empire, and STM

Reading Strategy: For the first time in a long time, you will be reading a single book! Here the exercise is to read with special attention to argument, structure, and evidence. What is Saraiva's argument? How does he organize it? What sorts of sources does he use? How does he marshal them as evidence for his argument?

Tiago Saraiva, *Fascist Pigs: Technoscientific Organisms and the History of Fascism* (Cambridge, MA: MIT Press, 2016). All.

Supplementary Reading:

- Robert N. Proctor, *Racial Hygiene: Medicine under the Nazis* (Cambridge, MA: Harvard U. Press, 1988)
- Robert N. Proctor, *The Nazi War on Cancer* (Princeton: Princeton U. Press, 1999)
- Massimo Moraglio, *Driving Modernity: Technology, Experts, Politics, and Fascist Motorways, 1922–1943*. Translated by Erin O'Loughlin. Edited by Gijs Mom, Mimi Sheller, and Georgine Clarsen (New York: Berghahn Books, 2017).
- Aaron Stephen Moore, *Constructing East Asia: Technology, Ideology, and Empire in Japan's Wartime Era, 1931–1945* (Stanford, CA: Stanford University Press, 2013)

(9) Oct. 28: Postcolonial Politics, Governance, and STM

How do these authors represent the relationship of the state to STM? How do they understand relations of space to governance and power?

Reading Strategy: Double-reading: reading an article for its own argument/perspective, and putting it into conversation with other approaches within the same theme.

Sheila Jasanoff, "Biotechnology and Empire: The Global Power of Seeds and Science," *Osiris* 21: *Global Power Knowledge: Science and Technology in International Affairs* (2006), pp. 273-292.

Keller, Richard C. "Geographies of Power, Legacies of Mistrust: Colonial Medicine in the Global Present." *Historical Geography* 34 (2006): 26-48.

Daniel Williford, "Seismic Politics: Risk and Reconstruction after the 1960 Earthquake in Agadir, Morocco," *Technology and Culture* (2017), 58: 982-1016.

Supplementary Reading:

- Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (Durham: Duke University Press, 2006).
- Michitake Aso, *Rubber and the Making of Vietnam: An Ecological History, 1897-1975* (Chapel Hill: U. of North Carolina Press, 2018)
- Noémi Tousignant. *Edges of Exposure: Toxicology and the Problem of Capacity in*

Postcolonial Senegal. (Durham, N.C.: Duke University Press, 2018).

(10) Nov. 4: Technoscientific Systems, Infrastructure and Maintenance

Much of the history of STM is focused on change. But the modern world has systems, often hidden, that need to be maintained. Infrastructure and maintenance have become hot topics recently, as historians have explored how technologies, organisms, and even bodily parts need maintenance if they are to remain useful to science and the world. How does our view of STM change if we focus more on sustaining systems than on making new ones?

Reading Strategy: Double-reading (see above).

Andrew L. Russell and Lee Vinsel, “After Innovation, Turn to Maintenance.” *Technology and Culture* 59(1) (Jan 2018): 1-25.

Joanna Radin, “Unfolding Epidemiological Stories: How the WHO Made Frozen Blood into a Flexible Resource for the Future,” *Studies in History and Philosophy of Biological and Biomedical Sciences* 47 (2014): 62-73.

Rebecca Slayton and Brian Clarke, “Trusting Infrastructure: The Emergence of Computer Security Incident Response, 1989-2005,” *Technology and Culture* 61(1) (Jan. 2020): 173-206.

Nelson, Nicole C. “Model Homes for Model Organisms: Intersections of Animal Welfare and Behavioral Neuroscience around the Environment of the Laboratory Mouse.” *BioSocieties* 11(1) (2016):46–66.

Supplementary:

Devin Kennedy, “The Machine in the Market: Computers and the Infrastructure of Price at the New York Stock Exchange, 1965–1975.” *Social Studies of Science* 47, no. 6 (December 1, 2017): 888–917.

Susan E. Lederer, *Flesh and Blood: Organ Transplantation and Blood Transfusion in 20th Century America* (Oxford: Oxford University Press, 2008)

Hannah Landecker, *Culturing Life: How Cells Became Technologies* (Cambridge, MA: Harvard University Press, 2010).

Bruno Strasser, *Collecting Experiments: Making Big Data Biology* (Chicago: University of Chicago Press, 2019)

David Edgerton, *The Shock of the Old: Technology and Global History since 1900* (London: Profile Books, 2011).

(11) Nov. 11: Race as a Knowledge/Power System

How were science and medicine deployed in the emergence of systemic racism?

Reading Strategy: Reading for argument, evidence, and structure.

Rana Hogarth, *Medicalizing Blackness Making Racial Difference in the Atlantic World, 1780-1840* (University of North Carolina Press, 2017). All.

Supplementary:

Michael F. Robinson, *The Lost White Tribe: Explorers, Scientists, and the Theory that Changed a Continent* (New York: Oxford University Press, 2016)

Keith Wailoo and Stephen Pemberton, *The Troubled Dream of Genetic Medicine: Ethnicity and Innovation in Tay-Sachs, Cystic Fibrosis, and Sickle Cell Disease* (Baltimore: Johns Hopkins University Press, 2006)

Jenny Reardon, *Race to the Finish: Identity and Governance in an Age of Genomics*

(Princeton: Princeton University Press, 2005).

IV. People Power

(12) Nov. 18: Science beyond Boundaries

How does our understanding of the process of scientific and technical knowledge-making change when we look beyond the “usual suspects”—professional scientists? How does this invite us to think differently about the purview (and purpose) of HSTM?

Reading Strategy: Reading for argument, evidence, and structure.

Britt Rusert, *Fugitive Science: Empiricism and Freedom in Early African American Culture*. (New York): New York University Press. All.

Supplementary Reading:

Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004)

Banu Subramaniam, *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity* (2014)

Clapperton Chakanetsa Mavhunga. *The Mobile Workshop: The Tsetse Fly and African Knowledge Production*. (Cambridge, Mass./London: MIT Press, 2018).

(13) Nov. 25: Woman Power

How have women made a difference in the history of STM? In its historiography? (See supplementary readings.)

Nicole Elizabeth Barnes, *Intimate Communities: Wartime Healthcare and the Birth of Modern China, 1937-1945* (University of California Press, 2018)

Supplementary:

Laura Micheletti Puaca, *Searching for Scientific Womanpower: Technocratic Feminism and the Politics of National Security, 1940-1980 (Gender and American Culture)* (University of North Carolina Press, 2014) (Winner, 2017 Margaret Rossiter Award of the History of Science Society)

Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983)

Donna Haraway, *Primate Visions* (1988)

Evelyn Fox Keller, *A Feeling for the Organism: The Life and Work of Barbara McClintock* (New York: Henry Holt, 1983).

(14) Dec. 2: Community STM

Strasser, Bruno J, Jérôme Baudry, Dana Mahr, Gabriela Sanchez, and Elise Tancoigne.

““Citizen Science”? Rethinking Science and Public Participation.” *Science and Technology Studies*, 32/2 (2019): 52-76

Fa-ti Fan and Shun-Ling Chen, “Citizen, Science, and Citizen Science,” *East Asian Science, Technology, and Society: An International Journal* 13 (2019): 181-193

Judith Houck, “With a Flashlight and a Speculum: Envisioning a Feminist Revolution” ch. ms. **pdf**.

Will Slocombe, “Playing Games with Technology: Fictions of Science in the *Civilization* Series.” *Osiris* 34 (2019): 158-174.

Supplementary:

Sigrid Schmalzer, *The People’s Peking Man: Popular Science and Human Identity in Twentieth-Century China*. (Chicago: University of Chicago Press, 2008).

Bernard V. Lightman, *Victorian Popularizers of Science: Designing Nature for New Audiences*. (Chicago: University of Chicago Press, 2007).

(15) Dec. 9: Wrap-up.