

University of Wisconsin-Madison
History of Science 720:
Proseminar in Historiography and Methods
Fall 2021

Fridays 8:50-11:50 a.m.
In person: 5255 Mosse Humanities

Professor Lynn K. Nyhart (she/her)

lknyhart@wisc.edu

5117 Mosse Humanities Building

Office hours: Mondays 2:00-3:00 pm (virtual); Fridays after 1:20 pm by appointment (virtual/in person); other times by appointment as needed. Monday office hours will be held at:

<https://uwmadison.zoom.us/j/95905208276?pwd=U3BZYTE4TEI3NzVhOTdPLzk0OXdlZ09>

Meeting ID: 959 0520 8276

Passcode: 904214

This course provides an introduction for graduate students to the history of science, medicine, and technology (HSMT), or as stated in the official course guide, “Philosophies, methods, and sources in the history of science, and their relations to the current state of scholarship.” Required for students in the HSMT graduate program, it is open to others with graduate standing interested in the topics it covers. It fulfills the “Graduate 50%” course designation; there are no other prerequisites except graduate standing. The course gives a brief overview of the field’s major themes and issues, both historical and current, as well as introducing you to a range of methodological approaches that scholars have used to address their questions.

We are in the midst of an enormous sea-change in HSMT. When I began graduate school in 1980, social constructionism was stimulating an enormous wave of excitement, energizing new approaches to the history of SMT that have become the standard picture over the past 40 years. For about the past fifteen years, a new wave of interest in globalization and “decolonizing” HSMT has been gradually building, with increasing demands for more pluralist perspectives when creating new histories. Most recently, the rise of “post-truth,” authoritarianism, and George Floyd’s murder, coupled with the intensifying urgency of climate change and the Covid-19 pandemic, has led HSMT scholars in the U.S. and abroad, finally, to view our field (like most other academic areas) as in desperate need of centering diversity and social justice in our scholarship.

This year’s version of HistSci 720 seeks to balance HSMT’s more distant and more recent historiographic concerns with our present-day ones, exposing both continuities and changes in the approaches historians of science, technology, and medicine have taken to our field(s). In doing so, it will also offer practical analytical tools for understanding these trends and developing new intellectual directions.

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 methodological 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. Some weeks everyone will read all the same texts; other weeks, there will be some common readings and some “individual readings” to be divided up and reported on to each other. In addition, you are to read and review one book on your own, sharing this review with me and your classmates (see requirement C.3 below). Over the semester, we will practice several different reading techniques, as you’ll see from the course details.

B. Class Attendance and Participation (25% of your final grade). 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? Each week at the beginning of class, we will set the agenda for that seminar collectively: I will ask each of you what you most want to talk about, adding in my own items at the end. Come prepared to say what your top issue is for the week.

C. Writing:

1. “About Me” statement (required but ungraded): a 1-page reflection (approximately 250 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 upload your reflection to Canvas assignment “About me.” **Due by noon, September 9** (1 day before our first class).

2. **Weekly reading responses** (total = 30%). The primary aim of the reading responses is to get you thinking about what you’d like to talk about in advance of class; writing your reading responses will help us set the agenda for each meeting. Your responses may touch on issues such as: common themes or arguments across the readings; contrasts among them; the purpose or value of the readings and/or approaches; things that you didn’t understand; or questions (broad or specific) that you would like to discuss in class. You might also reflect on your experience practicing a certain kind of reading. There are some general questions for each week on the syllabus that you may use to guide your response, but

you are not required to answer them. They represent my broad agenda, but mine is not the only one.

You are required to turn in TEN responses. Weeks 1, 12, and 14 have no reading responses. Responses for weeks 4 (Journal Exploration—a slightly different kind of assignment, but folded in here), 6, 8, and 10 (the “Conversations”) are mandatory. From weeks 2, 3, 5, 7, 9, 11, and 13, you can skip one reading response without penalty to your grade.

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. Please post your reading responses to the Canvas discussion forum for the week **by noon on Thursday** to allow time for your classmates and me to read them. I will read these before the seminar but turn in your grade afterward.

3. A book review (10%) of 700-900 words on a history of science, technology, or medicine book of your choice—the length of a typical book review in *Isis*, the flagship journal of the history of science. A list of books is provided separately; if you wish to review a book not on the list, please check with me in advance for permission.

Your review should mainly summarize the main arguments and sources of evidence of the book, and very briefly discuss what you see as especially praiseworthy or problematic. I recommend you study a bunch of *Isis* reviews (or other HSMT journal reviews) in advance for possible models.

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 **5 pm Mon. Nov. 1**.

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, Thursday, Dec. 9**.

5. Final review essay (30%), 3900-4200 words. This will be a historiographical essay that reflects on a particular historical question, topic area, or methodological approach, as reflected in three books, or possibly two to three books and a small collection of articles. 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, or a combination. 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. For more information on this assignment, see separate assignment page “First-final Essay” on Canvas.

Final Review Essay due dates:

(1) **Sept. 17 – October 15:** come talk to me about your proposed topic area and possible books.

(2) **Tuesday, October 19, by 5 pm in Canvas:** one-paragraph proposal about interest area and books (why these books? How do they work together?), with books listed below in Chicago Bibliography style.

(3) **“First-final” draft due in Canvas Monday, Dec, 6, by 5 pm.** I will aim to return all papers with comments and a **provisional grade by Dec. 10.** If you are satisfied with the grade, you can leave it as is; if not,

(4) your **“final-final” version is due Dec. 17 by 5 pm.**

Grading: All grades will be based on a 4-point scale, with a point-penumbra around the straight number grade so you know how high or low your grade is within the range. Note that the “A” range reaches down a little lower because there is no upper number below a 4.0. 4.0-3.67 = A; 3.26-3.65 = AB; ;3.25-2.76 = B; 2.75-2.26 = BC; 2.25-1.76 = C; 1.75-1.0 = D 0.99-0.0 = F

The first year of grad school can be a shock to those who were successful as undergrads—it is a big step up! Part of this course is about getting you acculturated to this higher level and quantity of reading, and practicing the tools and skills needed to achieve that. In practice, graduate students who are performing well will normally end up with an A or AB. But graduate school is really not about grades—it is about learning and acculturation. If you are turning in written work that is below the AB level, I will work with you to target specific areas for improvement. If you feel like you’re flailing about in class or not taking in the discussion well, please reach out to me; if I have concerns, I will also reach out to you.

Readings:

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

Pablo F. Gómez, *The Experiential Caribbean: Creating Knowledge and Healing in the Early Modern Atlantic.* (Durham: University of North Carolina Press, 2017)

Britt Rusert, *Fugitive Science: Empiricism and Freedom in Early African American Culture.* (New York: New York University Press, 2017)

All three books are available in electronic form in the UW-Madison library. If you prefer to read hard copies (easier on the eyes and better for note-taking), College Library promises to have physical copies of the books on 2-hour reserve (which is too short for a serious read of these serious books, but I think you can renew). You might also prefer to buy them. If you wish to purchase a new copy, please consider ordering them through a local independent bookstore such as A Room of One’s Own Books on the east side or Mystery to Me on Monroe Street, near the UW Stadium. **All other texts**—book sections or articles—are uploaded or linked to our [Canvas course](#) (#262512).

Accommodations: 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:

(1) Sept. 10: Introduction: Reading (Historiographically) in the History of STM

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

(2) Sept. 17: Perspectives on the History of Science as a Discipline

(3) Sept. 24: History of Science and (Some of) Its Neighbors

Consult with me between Sept. 17 and October 15 about final paper

(4) Oct. 1: Print and Online Resources in HSTM (meet in Memorial Library Special Collections)

II. Methodological Conversations and Historical Cases

(5) Oct. 8: Establishing Social Constructionism

(6) Oct. 15: Conversation 1: Technoscientific Systems: Material/Visual Culture, Practice, and Knowledge

Final Paper proposal due Oct. 19 by 5 pm in Canvas

(7) Oct. 22: Book 1: Tiago Saraiva, *Fascist Pigs*

(8) Oct. 29: Conversation 2: Globalizing/Diversifying HSTM: Imperial Power and “Mixing” Metaphors

Book Review due Monday, Nov. 1 by 5 pm in Canvas

(9) Nov. 5: Book 2: Pablo Gómez, *The Experiential Caribbean*

(10): Nov. 12: Conversation 3: Who Can Be a “Scientist”?

(11): Nov. 19: Book 3: Britt Rusert, *Fugitive Science*

(12): Nov. 26: THANKSGIVING BREAK-NO CLASS

(13): Dec. 3: The Conversation about Social Constructionism Today: Objectivity, Truth, and “Post-Truth.”

“First-Final” Paper Due Monday, Dec. 6

(14) Dec. 10: Wrap-Up

Reading Reflections Paper due by noon, Thursday, Dec. 9, in Canvas

“Final-final” paper due Dec. 17

Week-By-Week Readings and Assignments

(1) Sept. 10: Reading (Historiographically) in the History of STM

At this session we will introduce ourselves and our interests in history of science, technology, and medicine. We will work through the syllabus, have an opening discussion of historiography, and talk about different types of reading and writing in history/HSTM. To prepare for this first class, in addition to completing the “About Me” assignment, please reflect on what ideas you find familiar in the assigned readings, and what is new to you.

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 the above post.)

Paul Edwards, "How to Read a Book, v 5.0."

William Cronon, "A Place for Stories: Nature, History, and Narrative," *Journal of American History* 78:4 (1992): 1347-1376.

Supplementary (Optional):

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/>

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

(2) Sept. 17: Perspectives on the History of Science as a Discipline

***submit your top two choices for your single-book review by today**

*What is history of science for, and why has it been distinct from general history? **Who** is it for? How did the circumstances of its emergence shape what we think of as "the" history of "science"?*

Reading Strategy: *first, read for content. What are the major features of the history of science that emerge from these readings? Second, read for historiographic chronology. Note that the readings are listed below in chronological order of publication. What different aspects of this discipline do the different authors emphasize? How might this reflect the more recent history of the discipline itself?*

Required Readings:

Michael Aaron Dennis, "Historiography of Science: An American Perspective," in Krige, John, and Pestre, Dominique, eds. *Companion Encyclopedia of Science in the Twentieth Century* (London: Taylor & Francis Group, 2003), pp. 1-26. (Originally published as *Science in the Twentieth Century*, [Amsterdam: Harwood Academic, 1997])

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

Kapil Raj, "Thinking without the Scientific Revolution: Global Interactions and the Construction of Knowledge." *Journal of Early Modern History* 21 (2017): 445-458.
Lorraine Daston, "The History of Science and the History of Knowledge," *KNOW* 1(1) (2017):131-154.

Supplementary (Optional):

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
Florence Hsia and Dagmar Schäfer, "History of Science, Technology, and Medicine: A Second Look at Joseph Needham," *Isis*, 110/1 (2019): 94-99

Consult with me between Sept. 17 and October 15 about final paper

(3) Sept. 24: History of Science and (Some of) Its Disciplinary Neighbors

Why are the histories of science, technology, and medicine clustered together but distinct? How do they relate to one another?

Reading Strategy: *In addition to reading for "content," here you should practice **reading for publication context**: What can you learn (quickly) about the author online? In what sort of publication does this work appear? What does this suggest about the intended audience? What presentation and narrative choices do you see the author making that might be shaped by its publication context? To gain a better sense of this context, take a moment 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.) Everyone should read the required reading; the curious may also want to take a look at one or more of the supplementary readings.*

Required Readings:

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).
Eric Schatzberg, *Technology: Critical History of a Concept* (Chicago: University of Chicago Press, 2018), chapters 11 and 12, pp. 174-213.
John Pickstone, "Working Knowledges before and after ca. 1800: Practices and Disciplines in the History of Science, Technology, and Medicine," *Isis* 98 (2007): 489-516.

Supplementary (Optional):

Laura Otis, "What's an Archive? A Literary Scholar's View of the History of Science," *HSS Newsletter*, October 2007, pp. 6-7.
Mark Hersey and David Vetter, "Shared Ground: Between Environmental History and the History of Science," *History of Science* 57(4) (2019): 403-440
Victor L. Hilts, "History of Science at the University of Wisconsin," *Isis* 75 (1984): 63-94

(4) Oct. 1: Print and Online Resources in HSMT

For this class, we will meet in the Special Collections Seminar Room, Room 984 Memorial Library. Preparation for this meeting is the "Journal Exploration" assignment, listed separately. The class will be split into two parts, one on primary sources and research tools in HSMT (including viewing the current exhibit in Special Collections, "Science at UW-Madison: Sources for its History"), the other on the results of your journal explorations.

Thought question: In this age of online resources, why even bother examining hard copies of anything? What do we gain and lose by viewing our materials online?

If you are feeling like you need to find your feet with basics in graduate-level research and its relation to libraries, journals, and other resources, you might want to take the Library's micro-course [Graduate Research](#).

II. Methodological Conversations and Historical Cases

(5) Oct. 8: Establishing Social Constructionism

What is meant by the “social construction of science” and the “social construction of scientific knowledge”? What is social about it? What is constructed? How, when, and where did this approach develop? Golinski provides a retrospective overview of some basics, while the pieces by Latour and Haraway are two classics of the period.

Required Readings:

Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science*, 2nd edition, (Chicago: University of Chicago Press, 2005), New Preface, Preface, Introduction, and Ch. 1, pp. vii-xvi, 1-46.

Bruno Latour, “Give Me a Laboratory and I Will Raise the World,” in Karin D. Knorr-Cetina and Michael Mulkay (eds), *Science Observed* (London: Sage, 1983), pp. 141-170.

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

(6) Oct. 15: Conversation 1: Technoscientific Systems: Material/Visual Culture, Practice, and Knowledge

As the “practice turn” developed after the late 1980s, historians developed analyses around various concepts like “experimental systems,” “model organisms,” and “moral economies” to describe the complex social-technical-scientific systems by which scientific (or “technoscientific”) knowledge is made. This week we explore some of these systems, in theory and historical practice. Pay particular attention to the scales of analysis in these different readings.

Reading Strategy: *Summary, analysis, connection. Everyone will read the common readings. You should at least pass your eyes over all of the “individual readings” (minimally, their abstracts or introductions/conclusions). For reading response purposes you will be assigned one “individual reading” to report on to your classmates (some readings may have two reporters). Each individual reading can be connected to the common reading but adds its own dimensions. Your job in the reading response is twofold: to summarize your assigned individual reading for your peers, being sure to identify what are the main **objects of historical study** and **analytical approach(es)** in the text’s presentation of the dynamics of the sociotechnical system; and to connect that text (via comparison/contrast) to at least one of the approaches or themes set out in the common reading.*

Common Readings:

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.

Golinski, *Making Natural Knowledge* (1st ed.), Chapter 5, pp. 133-161.

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

Individual Readings:

Nathaniel Comfort, "The Prisoner as Model Organism: Malaria Research at the Statesville Penitentiary," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 40 (2009):190-203

Geoffrey Belknap, "Through the Looking Glass: Photography, Science and Imperial Motivations in John Thomson's Photographic Expeditions." *History of Science* 52(1) (2014): 73–97. <https://doi.org/10.1177/007327531405200104>.

Daniel Stolz, "Positioning the Watch Hand: 'Ulama' and the Practice of Mechanical Timekeeping in Cairo, 1737-1874," *International Journal of Middle East Studies* 47 (2015): 489-510.

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.

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(6) (2017): 888–917.

Robin E. Rider, "Equations as Unruly Objects," *Nuncius* 35 (2020): 471–505

Final Paper proposal due Tuesday, Oct. 19 by 5 pm in Canvas

(7) Oct. 22: Book 1: Tiago Saraiva, *Fascist Pigs*

In his book, Fascist Pigs: Technoscientific Organisms and the History of Fascism (Cambridge, MA: MIT Press, 2016), Saraiva places the concept of "technoscientific organisms" in the service of a broad political picture connecting them to fascist ideology and the building of nation and empire.

Reading Strategy: *Saraiva's argument is complex; consider adapting Paul Edwards' reading system. Your job this week—beyond reading the book and extracting its argument—is to analyze its structure, flow, and deployment of evidence.*

(8) Oct. 29: Conversation 2: Globalizing/Diversifying HSTM: "Mixing" Metaphors

In the 2000s and 2010s, calls to globalize the history of science came fast and thick, along with an abundance of ideas about the best ways to incorporate "non-Western" and "non-scientific" knowledge and knowledge systems into the history of science. This week we look at some of those calls in the form of shorter historiographic essays (the common readings) and historical cases, with more or less fully developed historiographic proposals (the individual readings).

Reading Strategy: *As in Week 6: summary, analysis, connection. Everyone will read the common readings. You should at least pass your eyes over all of the "individual readings" (minimally, their abstracts or introductions/conclusions). For reading response purposes you will be assigned **one** "individual reading" to report on to your classmates (some readings may have two reporters). Each individual reading can be connected to the common reading but adds its own dimensions. Your job here is twofold: to summarize your assigned individual reading for your peers, being sure to identify what are the main **objects of historical study** and **modes of analysis** in the text's presentation of "globalizing" and/or "diversifying" the history of STM, and to connect this text (via comparison/contrast) to at least one of the approaches or themes set out in the common reading.*

Common Readings:

Review Daston 2017 (week 2)

Fa-ti Fan, "The Global Turn in the History of Science," *East Asian Science, Technology and Society*, 6(2) (2012): 249–58.

Sujit Sivasundaram, "Sciences and the Global: On Methods, Questions, and Theory." *Isis* 101 (2010): 146-158.

Laura Ann Twagira, "Introduction: Africanizing the History of Technology," *Technology and Culture* 61(2) Supplement (April 2020): S1-S19

Individual Readings:

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

David Edgerton, "Creole Technologies and Global Histories: Rethinking How Things Travel in Space and Time," *HOST: Journal of History of Science and Technology* 1 (2007): 75-112.

Abena Dove Osseo-Asare, "Bioprospecting and Resistance: Transforming Poisoned Arrows into Strophanthin Pills in Colonial Gold Coast, 1885–1922," *Social History of Medicine* 21 (2008): 269–290

Banu Subramaniam, "Aliens of the World Unite! A Meditation on Belonging in a Multispecies World." Chapter 6 of *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity* (Champagne-Urbana: University of Illinois Press, 2014), pp. 142-156.

Joanna Radin, "'Digital Natives': How Medical and Indigenous Histories Matter for Big Data," *Osiris* 32 (2017): 43–64

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

James Delbourgo, "The Knowing World: A New Global History of Science," *History of Science* 57(3) (2019): 373-399

James H. Mills and Lucas Richert, "Introduction: Breaking News: 'Weed Kills Coronavirus'" in Lucas Richert and James H. Mills, eds., *Cannabis: Global Histories* (MIT Press, 2021).

ADDITIONAL RESOURCE:

Routledge Handbook of Science and Empire (July 2021)

Book Review due Monday, Nov. 1, by 5 pm.

(9) Nov. 5: Book 2: Pablo Gómez, *The Experiential Caribbean*

Gómez's The Experiential Caribbean: Creating Knowledge and Healing in the Early Modern Atlantic (Durham: U. of North Carolina Press, 2017) is a multiple prize-winning example of a book-length argument that addresses the early modern history of (medical) knowledge in the Caribbean. How does this book develop the sorts of methodological tools that we have seen in the past few weeks? What new directions does it offer?

Reading Strategy: Read first for argument, structure, flow. How do the chapters work together to build the overall argument? What kinds of sources does Gómez use, and how does he "read against the grain" in his analysis?

(10): Nov. 12: Conversation 3: Who Can Be a “Scientist”?

What is meant by “popular science” and “citizen science”? What are the roles of these topics in the historiography of STM, and why are they problematic? How do these historical topics bear on the question of “Who can be a scientist?” and what that means?

Reading Strategy: As in Weeks 6 and 8: summary, analysis, connection. Everyone will read the common readings. You should at least pass your eyes over all of the “individual readings” (minimally, their abstracts or introductions). For reading response purposes you will be splitting up the “individual readings” to report on to one another; you will be assigned which **one** you report on (some readings may have two reporters). Each individual reading can be connected to the common reading but adds its own dimensions. Your job here is to summarize the reading’s main point, its main historical **objects of study** and **historiographic angle** on ‘who can be a scientist’ and what that means; and to connect the article (via comparison/contrast) to at least one of the approaches or themes set out in the common reading.

Common Readings:

Andreas Daum, “Varieties of Popular Science and the Transformations of Public Knowledge: Some Historical Reflections,” *Isis* 100(2), (2009): 319-332.

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

Individual Readings:

Steven Shapin, “The Invisible Technician,” *American Scientist*, 1989, 77: 554-563

Anne Secord, “Artisan Botany,” in *Cultures of Natural History*, edited by Nicholas Jardine, James Secord, and Emma Spary. (Cambridge, UK: Cambridge University Press, 1996), 378-393, 487-489

Sean F. Johnston, “Vaunting the Independent Amateur: *Scientific American* and the Representation of Lay Scientists,” *Annals of Science*, 75:2 (2018): 97-119, DOI: 10.1080/00033790.2018.1460691

Dana Mahr and Sascha Dickel, “Citizen Science beyond Invited Participation: Nineteenth Century Amateur Naturalists, Epistemic Autonomy, and Big Data Approaches Avant La Lettre,” *History and Philosophy of the Life Sciences* 41(2019). 19 pages (online). DOI: 10.1007/s40656-019-0280-z

Hallam Stevens and Monamie Bhadra Haines, “TraceTogether: Pandemic Response, Democracy, and Technology,” *East Asian Science, Technology and Society: An International Journal*, 14 (2020): 523-532. DOI: 10.1215/18752160-8698301

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

(11): Nov. 19: Book 3: Britt Rusert, *Fugitive Science*

Continuing with the theme of “who can be a scientist?” we examine Britt Rusert’s 2017 book ***Fugitive Science: Empiricism and Freedom in Early African American Culture***. How does Rusert’s focus on race provide new perspectives on the question of what it might have meant historically to “do science” outside the ranks of professional scientists? What are the implications for the scope and methods of HSTM?

(12): Nov. 26: THANKSGIVING BREAK-NO CLASS

(13): Dec. 3: Social Constructionism’s Challenges Today: Objectivity, Truth, and “Post-Truth.”

In our era of “post-truth,” how can historians of science and STS scholars responsibly retain our commitment to the social construction of scientific knowledge? Where is the line between legitimate and illegitimate “scientific” (and historical) knowledge, and between the legitimate and illegitimate rhetorical uses of “science” in politically fraught issues?

Reading Strategy: read for argument and evidence; then gauge your own responses to the above questions in light of the readings. We begin with Lorraine Daston and Peter Galison’s classic 1992 article on scientific objectivity and Allen Megill’s 2007 chapter “Objectivity for Historians” before turning to more recent historical/STS assessments of scientific objectivity and truth in our current circumstances.

Common Readings:

Lorraine Daston and Peter Galison, “The Image of Objectivity,” *Representations* 40 (1992): 81-128.

Allan Megill, “Objectivity for Historians,” in *Historical Knowledge, Historical Error* (University of Chicago Press, 2007), pp.107-123.

Michael Lynch, “We Have Never Been Anti-Science: Reflections on Science Wars and Post-Truth,” *Engaging Science, Technology, and Society* 6 (2020): 49-57

Richard Staley, “Partisans and the Use of Knowledge versus Science,” *Berichte zur Wissenschaftsgeschichte* 42 (2019): 220-234.

Supplementary (optional background to Lynch 2020):

Steve Fuller, “Embrace the Inner Fox: Post-Truth as the STS Symmetry Principle Universalized,” *Social Epistemology Review & Reply Collective*. Available at: <https://socialepistemology.com/2016/12/25/embrace-the-inner-fox-post-truth-as-the-sts-symmetryprinciple-universalized-steve-fuller/>

Sergio Sismondo, “Post-truth?” *Social Studies of Science* 47(1) (2017): 3–6.

Steve Fuller, [“Is STS All Walk and No Talk?”](#) *EASST Review* 36(1) (April 2017)

Michael Lynch “STS, Symmetry and Post-Truth,” *Social Studies of Science* 47(4) (2017): 593-599.

“First-final” Paper Due Monday, Dec. 6

(14) Dec. 10: Wrap-Up

Reading Reflections Paper due by noon, Thursday, Dec. 9, in Canvas

“Final-final” paper due Dec. 17