

## History of Science 98: Junior Tutorial

Fall 2017

Class meetings: Wednesdays 12 noon to 1 pm

Science Center 469

Course head: Dr. Nadine Weidman

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Office: Science Center 363

Office hours: Thursdays 10 am to 1 pm and by appointment

Tutors:

Colleen Lanier Christensen ([colleenlanier@fas.harvard.edu](mailto:colleenlanier@fas.harvard.edu))

Miriam Rich ([mrich@fas.harvard.edu](mailto:mrich@fas.harvard.edu))

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Julia Reed ([juliamtr@gmail.com](mailto:juliamtr@gmail.com))

Section Times: TBA. Sections will meet two hours weekly.

The course website is available in Canvas.

*Aims of the course.* The purpose of junior tutorial is to enable and equip students to write a substantial original research paper in the history of science, technology, or medicine, of about 25 pages. To do this, the course operates on three levels:

- On the first (which we will do mostly in the whole-class meetings), we will become familiar with a range of different and productive *approaches* that historians of science have taken to their subject matter. These include: dealing with the problem of presentism; using controversy among historical figures as a way into the past; focusing on history of material culture; taking a “bottom up” or social history approach; using gender as an analytical lens; writing biography; and doing interviews and oral history. We will also consider the many different types of primary sources (textual, pictorial, material) that historians use to reconstruct and interpret the past.
- On the second level (which we will do mostly in the section meetings), we will address the *practical* problems that historians face. These include: using the library; finding sources, whether online, on the shelves, or in the archives; telling the difference between primary and secondary sources; assessing the worth of a source; and constructing a scholarly apparatus (that is, doing footnotes and bibliography in proper format).
- Finally, on the third level (which we will do both in class and in section), we will discuss how to develop an *original historical research question of our own*, collect and analyze the relevant primary and secondary sources, and use the sources to present and support an argument in answer to the question.

Required readings: these have been kept to a minimum in order to allow you time to work on your research paper.

- Butterfield, Herbert. *The Whig Interpretation of History*. NY: Norton, 1960/1931. (Available for purchase at the Harvard Coop.)
- All the other required readings are articles and book chapters, which will be posted on the HS 98 Canvas course website.
- It is recommended that you purchase a copy of Kate Turabian's *Manual for Writers of Research Papers, Theses, and Dissertations*, Eighth Edition (University of Chicago Press, 2013). (Earlier editions are also acceptable.)

### Course Schedule:

**Wednesday Aug. 30** is considered a Monday in the Harvard calendar, so there is **no class meeting**. Dr. Weidman will hold office hours on Thursday Aug 31 from 10 am to 1 pm in SC 363; please feel free to stop by with any questions.

**Before the first class**, please write us a one page letter of introduction, telling us what aspects of history of science, technology, or medicine you have found most interesting so far; what topics you might be interested in studying further; what other subjects in your college career have intrigued you; as well as anything else about yourself that you would like the instructor and the teaching staff to know. Please submit this letter to the dropbox on the Canvas course website.

**1. Sept. 6.** Thinking historically: the problem of presentism. What is the historian's relationship to the past? How can we avoid "present-centeredness" (and what's wrong with it, anyway?) while also making our histories relevant to the present day?

*Reading:* Butterfield, *Whig Interpretation* (1931) and Oreskes, "Why I am a Presentist" (2013)

- *No section this week.*
- On Friday Sept 8 at 10:30 am, the archivist at the Countway Library, Jack Eckert, will give us a special orientation to the archives. This is highly recommended; another session will likely also be held on Friday Oct 6.
- On your own, take a guided tour of Widener Library and attend a Zotero information session.

**2. Sept. 13.** Using controversies as focal points for historical research. How can we use episodes of debate as a way into the past?

*Reading:* Shapin and Schaffer, "Understanding Experiment," chapter 1 in *Leviathan and the Air Pump* (1985), pp. 3-21.

- *Section:* primary and secondary sources, and how to tell the difference. Preparation for the first writing exercise: locating secondary sources.

**3. Sept. 20.** "Following the fly": focusing on material culture and scientific practices—as opposed to history of ideas.

*Reading:* Kohler, "The Nature of Experimental Life," chapter 1 in *Lords of the Fly* (1994), pp. 1-15.

- *Section:* Identifying and analyzing primary sources.

- 4. Sept. 27.** Social history of science: examining popular science and popular sources.  
*Reading:* Secord, “Science in the Pub: Artisan Botanists in Early 19<sup>th</sup> century Lancashire” (1994).
- *Section:* Using archives.
  - *During the last week of September and first week of October:* meet individually with Dr. Weidman to discuss your research project.
- 5. Oct 4.** Analyzing images as primary sources.  
*Reading:* Wieser, “Buried Layers: On the Origins, Rise, and Fall of Stratification Theories” (2017) and Myers, “Every Picture Tells a Story: Illustrations in EO Wilson’s Sociobiology” (1988)
- *Section:* analyzing images.
- 6. Oct 11.** Biography as method and scientists’ unpublished correspondence as a primary source.  
*Reading:* Browne, “ ‘I Could Have Retched All Night’: Charles Darwin and His Body,” (1998).
- *No section this week.* Meet individually with your tutor to discuss your research proposal.
- 7. Oct. 18.** Gender as a category of historical analysis. “Gender” need not mean only “women.” It can also include men. It also has symbolic meanings—and analyzing these meanings can be a productive way into the past.  
*Reading:* Scott, “Gender: A Useful Category of Historical Analysis,” (1986).
- *Section:* How to lay out the introduction to your historical research paper.
- 8. Oct. 25.** Session with current seniors: “what I wish I’d known”
- *Section:* Historiography: situating yourself with respect to the existing literature.
- 9. Nov. 1.** Oral history: strategies for conducting interviews.  
*Reading:* Nevins, “Oral History: Why and How it was Born,” (pp. 29-38) and Lance, “Oral History Project Design” (pp. 135-142) in Dunaway and Baum, *Oral History: An Interdisciplinary Anthology* (1984)
- *Section:* Practice interview of a classmate.
- 10. Nov 8.** No class meeting.
- *No section this week.*
  - Optional individual meetings with your tutor and Dr. Weidman.
- 11. Nov. 15.** No class meeting.
- *Section:* Presentation of research projects.

Nov 22—no class—Thanksgiving.

**12. Nov. 29.** Peer editing of drafts in class. Provide written comments to your peer on their draft before class time on Wed Nov 29. Please send a copy of your comments by email to your peer as well as to your tutor.

**Writing Assignments.** These consist of three exercises; a proposal for your research paper; and a research paper of 25 pages, preceded by several rough drafts. Please submit all writing assignments in doc or docx format (**not pdf**) by the due date to the dropbox on the Canvas course website.

Exercise 1: Summary of secondary sources. Due Sun Sept 17.

Using the History of Science, Technology, and Medicine (HSTM) database [under Databases in Hollis+], identify and locate *three secondary sources* on a topic in the history of science, technology, or medicine that interests you. Secondary sources are books or articles that present an historical analysis of some event in the past. These sources should be scholarly, and they should have been published within the last 20 years. List full bibliographic information for each source, along with call number. For each source, in about 1-2 paragraphs, sum up the author's main approach and argument, as well as any interesting or noteworthy features of the source. Do the sources seem different from each other? How?

Exercise 2: Observation/comparison of published primary sources. Due Sun. Sept 24.

Using the footnotes of one of your secondary sources (or a chapter thereof), identify and track down *two primary sources of different types*. (Primary sources are the subjects of an historian's analysis). Make sure these are sources you can actually get your hands on in Widener or another Harvard library. Write a two-page observation of each source, answering the following questions. Where and when was it published? Who was the author, and what seems to have been his/her purpose in writing? What is the author's main argument, and what are the assumptions of the argument? Whom does the author seem to be addressing? Note any other interesting or puzzling features of the source. Finally, compare the sources to each other: how are they similar to and different from each other?

Exercise 3: Analysis of unpublished and non-textual primary sources. Due Sun Oct 8.

- Part one: *visit an archive* and report on the experience (1 page). For this exercise, you must use an actual, physical archive, not an online archive. What is the collection, and what does it consist of? Whose papers are represented there? Look at one or two documents and describe what you found.
- Part two: analyze *a non-textual primary source*: an illustration, photograph, film, or object (from the Collection of Historical Scientific Instruments). In one page, make some observations about the image or object: what does it depict, or what is its purpose?

Research Proposal. Due Sun Oct 15. Two to three pages, double-spaced, plus bibliography of 1 page. The research proposal should consist of the following parts:

- Project statement. What is your topic (who/what/when/where are you researching)? What is the main historical question you are asking, or the main historical problem you want to solve? (Note that your historical *question* is different from and more specific than your general *topic*.)
- Historiographical context. What have other historians said about your topic and/or question, and where might your work fit in that conversation? Locate at least three secondary sources, and see what they have to say; an exhaustive review of the secondary literature is *not* expected. How have historians treated your topic/theme/question? How will you draw on their work? How might your work build on or differ from what has been done before?
- Primary sources. What are the key primary sources for your research? Where are they located?
- Structure. What is the tentative outline of your argument?
- Select bibliography of main primary and secondary sources, both those you have consulted so far and those you intend to consult. Use Chicago-style citation format.

Rough drafts. Different draft sections of the research paper are due on the dates indicated below.

- Introduction: due Sunday Oct 29.
- Historiography: due Sunday Nov 5.
- Primary source analysis: due Sunday Nov 12.
- Full rough draft: due Sunday Nov 19.
- Comments to peer on their draft: due Wednesday Nov. 29 before class. Please send a copy of your comments **by email** to your peer as well as to your tutor.

Final paper (25 pages) due Friday Dec. 15 at 5pm.

Course grading:

Three exercises (graded check plus, check, check minus): 10%

Research Proposal: 10%

Drafts (ungraded, but required)

Final research paper: 50%

Written peer feedback: 5%

Participation: 25%

Assignments submitted late will drop by 1/3 of a grade for each day they are submitted late. Short extensions (up to 48 hours) may be granted if requested one week in advance of the due date. Extensions due to emergencies will be granted with appropriate documentation.

Academic Integrity: We expect that the work that you submit for this course will be your own. Plagiarism (the academic equivalent of stealing) is a serious offense and will be treated accordingly. You must ensure that all sources you have used in your work are

properly quoted and cited. However, we also believe that discussion is essential to academic work, and you are encouraged to share ideas with your colleagues. If you received help with your research paper outside of the context of the course, we recommend an “acknowledgements” section in your paper to indicate this.