

**HistSci 286: Science above Politics? An Inconvenient History**  
**University of Wisconsin – Madison**  
**TR 9:30-10:45, 2125 Mosse Humanities Building (face-to-face!)**  
**Spring 2019**

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Office Hrs (5118 Mosse Humanities):  
TR 11-12 and by appointment

On Earth Day, April 22, 1970, an estimated one million scientists and their supporters participated in a worldwide “March for Science.” The march was organized by scientists deeply concerned about the Trump Administration’s hostility to climate science and to science more generally. But even in the earliest stages of its organization, the March for Science website noted that the proposed march had “generated a great deal of conversation around whether or not scientists should involve themselves in politics.” For indeed, marching is a form of political expression, and to many, science when politicized is either bad science or not science at all.

This course asks, What is the history behind this? How and when did science get to be seen as separate from, and “above,” politics? Under what circumstances have scientists participated explicitly in political action? What have been the effects of different political ideologies on the conduct of science?

**Prerequisites:** declared in Honors program; Open to non-honors students with consent of instructor.

**Course Designation:** Breadth – Humanities

**Level:** Elementary

**L&S Credit Type - C**

**Learning goals:** in successfully completing this course, students will:

- Identify leading stances on the relationship of science to politics since the seventeenth century
- Analyze arguments by scientists and historians about the relations of science to politics
- Find and summarize appropriate new primary sources from a targeted research archive
- Analytically situate a new primary source in relation to a set of identified historical arguments
- Reflect on their own positions concerning science and politics.

**Book for purchase:** Kelly Moore, *Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1945-1975* (Princeton: Princeton University Press, 2008). Also available at College Library Reserves.

All other readings will be posted on Canvas at least a week in advance of the class discussion.

## Course grading and important due dates (see additional assignment sheet for details):

All writings are to be submitted in Canvas **by 9 a.m.** on their due date, unless otherwise stated.

- 20% in-class participation (see class participation rubric)
- 10% 4x reading responses—short comments and/or queries on readings throughout the semester. Dates will be randomly assigned for classes without another assignment due, beginning with Jan. 29. Reading responses are **due by 2 pm the day before the relevant discussion.**
- Pass/fail only, but required: 1-pager (around 300 words) on your views right now about science's current and appropriate relation to politics. Due **Thurs. Jan. 24**
- 5% *Science for the People* assignment (500-600 words). Due **Tues. Feb. 19**
- 5% *Science and Freedom* assignment (500-600 words). Due **Thurs., March 7**
- 20% Paper on Gillispie and Crowther (1000-1250 words). Due **Thurs., March 14**
- 5% *Species Maker* primary source assignment (500-600 words). Due **March 28-April 9**
- 10% Reflection on Johnson, fiction, and history (600-800 words). Due **Thurs., April 11.**
- 25% Final paper (1500-2100 words).
  - Proposal due **Mon. April 22, 9 a.m.**
  - Draft due **Tues. April 30:** bring 2 hard copies to class.
  - Final paper due **May 6 by 5 pm.**

## Course Schedule:

### Introductions: The March for Science

T 1/22: Introduction: Thinking about science and politics

R 1/24: The March for Science

*1-pager: What are your views, now, on science's relation to politics? What are your commitments? What are your questions?* (submit to Canvas by 9 a.m.; bring a hard copy to class.)

Reading: please read the online stories below and chase down and read at least 3 links from each. Take notes!

<https://www.theatlantic.com/science/archive/2017/03/what-exactly-are-people-marching-for-when-they-march-for-science/518763/>

<https://www.americanscientist.org/blog/macroscope/news-flash-science-has-always-been-political>  
Adam Shapiro, Feb. 2017

### I. Science, Society, and the State: Some General Considerations

*Skills focus: how to read for argument and take notes; close reading; comparison/contrast*

T 1/29: Science and democracy

Mark Brown, *Science in Democracy: Expertise, Institutions, and Representation* (Cambridge, MIT Press, 2009) Introduction, pp. 1-19 (notes pp. 262-266)

R 1/31: The politics of the early emergence of apolitical science

*How does Gillispie (1960) account for the rise of apolitical science? With what cultural contexts does he associate it? How does Brown (2009) treat this same topic?*

Charles C. Gillispie, *The Edge of Objectivity* (Princeton: Princeton University Press, 1960), 1-16.

Brown, *Science in Democracy*, ch. 2: 43-63 (notes pp. 269-273)

T 2/5: Science and the state in Britain

*What does Crowther mean by “statesman of science”?*

J. G. Crowther, *Francis Bacon: The First Statesman of Science* (London: Cresset, 1960), 1-47.

J. G. Crowther, *Statesmen of Science* (Chester Springs, PA: Dufour, 1966), Foreword, 1-9.

R 2/7: Science and the state across the French Revolution

*Charles C. Gillispie was a leading historian of French science and the state in the 18<sup>th</sup> and early 19<sup>th</sup> centuries from the late 1950s until his death in 2015. What continuities of his presentation of science in the French Revolution do you see in these two pieces, published 24 years apart? What differences?*

Charles Coulston Gillispie, “Science in the French Revolution,” *PNAS* 45(5) (1959): 677-684

C. C. Gillispie, “The Neesima Lectures II: The Flourishing of French Science, 1770-1830” [1983], reprinted in idem, *Essays and Reviews in the History of Science. Transactions of the American Philosophical Society* 96(5) (2006): 211-222

## **II. Science for the People, 1960s-80s**

*Skills goals: connecting historians’ accounts to primary source readings; locating and selecting primary sources from a limited archive.*

T 2/12: Science for the people: Introduction

Kelly Moore, *Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1945-1975* (Princeton: Princeton University Press, 2008) (book for purchase or on reserve at College Library), pp. 130-177

R 2/14: Doing “science for the people”

Moore, *Disrupting Science*, 177-189

Daniel Chard, “ch. 3, Militarism” [selection] in *Science for the People: Documents from America’s Movement of Radical Scientists*, edited by Sigrid Schmalzer, Daniel Chard, and Alyssa Botelho (Amherst, MA: University of Massachusetts Press, 2018), 63-75.

Science for the People (Madison, Wisconsin Collective), mimeograph, 1971-2

FBI Background check into SftP Madison, leadership, and school records, 3/14/1973, at:

[http://science-for-the-people.org/resources/fbi/fbi\\_madison-sftp-collective\\_1973-mar-14.pdf](http://science-for-the-people.org/resources/fbi/fbi_madison-sftp-collective_1973-mar-14.pdf)

T 2/19: *Science for the People* (the magazine): individual research reports

R 2/21: Radical science: A British perspective

Gary Werskey, "The Marxist Critique of Capitalist Science: A History in Three Movements?" *Science as Culture* 16 (2007): 397-461, excerpts: 397-422, 429-433, 449-458 (notes).

Jane Gregory, "James Gerald Crowther (1899-1983)" *Oxford Dictionary of National Biography online*: <https://doi.org/10.1093/ref:odnb/94975>.

### III. Science in WWII and the Cold War

*Skills goals: connecting historians' accounts to primary source readings; locating and selecting primary sources from a limited archive.*

T 2/26: Science and freedom 1

Robert K. Merton, "The Normative Structure of Science (1942)," in idem, *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1973), 266-278.

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

R 2/28 Science and freedom 2

Audra Wolfe, *Freedom's Laboratory: The Cold War Struggle for the Soul of Science* (Baltimore: Johns Hopkins University Press, 2018), Ch. 4, "Science and Freedom," 74-90, 238-242 (notes)

Michael Polanyi, "The Republic of Science: Its Political and Economic Theory," *Minerva* 1(1) (1962): 54-73

T 3/5: The Rise of the military-industrial complex

Moore, *Disrupting Science*, chapters 2 and 3, 21-95.

R 3/7: *Science and Freedom* (the periodical) or *Bulletin of the Atomic Scientists*: research results.

In-class self-evaluation of class participation

T 3/12: Science, Liberalism, and Neutrality

Moore, *Disrupting Science*, chapter 4, 96-129

R 3/14: Revisiting the history of early modern science

*How does the history we have read of the 1930s-60s shed new light on Crowther's and Gillispie's interpretations of the early relationship between science and politics? What looks different when we view them as historical actors in their time?*

Papers due on Crowther and Gillispie in Canvas by 9 a.m.

\*assignment of reports on primary sources related to *The Species Maker*

## SPRING BREAK

Note: I recommend getting started on Kristin Johnson's unpublished novel *The Species Maker*, which will be our core reading for a big chunk of time following spring break. It is worth reading for fun before we get serious about it.

## IV. Inculcating Scientific Values: The Politics of Science Education in America since 1900

### A. Evolution, Religion, and Politics: The Scopes Trial

*Skills goal: managing historical complexity; locating primary sources from a secondary source archive*

T 3/26: Textbook Politics: The Scopes Trial from a Science Textbook Perspective

Adam Shapiro, *Trying Biology: The Scopes Trial, Textbooks, and the Antievolution Movement in American Schools* (Chicago: University of Chicago Press, 2013), chapters 1, 4, and 5, pp. 1-13, 62-110.

R 3/28: Kristin Johnson, *The Species Maker*, Part 1: The Naturalists

The Species Maker – Supplementary Material at: <https://thespeciesmaker.wordpress.com/> : read tabs at “Home,” “Prologue,” (opening paragraph only), and “Points to Ponder.” For sources informing the novel, see tabs related to each part (they break down further chapter by chapter). There are some excellent photos in here too!

Student reports on primary sources related to Part 1

T 4/2: Johnson, *The Species Maker*, Part 2: The Ministers

Student reports on primary sources related to Part 2

R 4/4: Johnson, *The Species Maker*, Part 3: The Historians

Student reports on primary sources related to Part 3

T 4/9: Johnson, *The Species Maker*, Part 4: Trials and Tribulations

Student reports on primary sources related to Part 3

R 4/11: General Discussion of Johnson

Reflection on History vs. Fiction due: 2 pages

### B. The Politics of Science Curriculum Reform Since 1945

*Goal: to analyze science education to add a new dimension to our picture of science in the Cold War and since.*

T 4/16: The Biological Sciences Curriculum Study: Liberal Science?

*How do Rudolph and Wolfe situate the BSCS within the larger picture of Cold War science? What do they add to our understanding? How do their analyses differ?*

John L. Rudolph, *Scientists in the Classroom* (New York: Palgrave, 2002), ch. 6, “BSCS: Science and Social Progress,” 137-164  
Wolfe, *Freedom’s Laboratory*, ch. 7, “Developing Scientific Minds,” 135-156.

R 4/18: *Man: A Course of Study*: Navigating the politics of the late 1960s and early 1970s  
*How does Milam’s story fit into our larger picture of science in the 1970s? How does it enlarge it?*

Erika Milam, “Public Science of the Savage Mind: Contesting Cultural Anthropology in the Cold War Classroom,” *Journal of the History of the Behavioral Sciences* 49(3) (2013): 306-330

MACOS materials (in class)

T 4/23: Discussion of final paper proposals

R 4/25: Science education for “civic engagement” today  
*Bringing us back up to the present: how should we understand today’s science education movement in relation to the politics of science?*

John Rudolph and Shusaku Horibe, “What Do We Mean by Science Education for Civic Engagement?” *Journal of Research in Science Teaching* 53(6) (2016): 805-820

T 4/30: Workshop final papers. Bring two hard copies of your best draft to class. Make sure you have a pen or pencil, too!

R 5/2: Wrap-up: review your first reflection paper. Where do you stand now?

Final papers due **Monday May 6** by 5 pm.

## **Academic Guidelines and Expectations**

**Workload:** This 3-credit course has 3 hours of group meetings per week (each 75 minute lecture counts as 1.5 hours 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, preparing for discussions, and/or studying for quizzes and exams for this class.

**Access and Accommodation:** I will make every effort to honor requests for reasonable accommodations made by individuals with disabilities. If you think you qualify for accommodation, please contact the McBurney Disability Resource Center to establish your eligibility for services. Requests for accommodation can be responded to more effectively if I receive them as far in advance as possible, preferably at the beginning of the semester. Such requests are confidential.

**Religious Observance:** If religious holidays or observances conflict with your participation in this course, please come talk to me **well in advance** for us to work out alternative arrangements. If any other issues arise, either academic or personal, which might jeopardize your performance in the course, you must try to inform me after class or by the soonest available office hour, or by email ([lknyhart@wisc.edu](mailto:lknyhart@wisc.edu)).

**Academic Integrity:** It is the University of Wisconsin's expectation (and mine) that you will know, understand, and abide by principles of **academic honesty and integrity**. Students may not copy sentences or ideas from others (including authors, websites, or other students) without giving credit to those sources; if someone else's words are so wonderful that you cannot substantially rephrase them, you must put them inside quotation marks, using the exact same words. If you omit the quotation marks or the credit, you are plagiarizing. Plagiarism is grounds for failure on the assignment plagiarized; repeated plagiarism is ground for failure in the course. If you use 3 or more words in a row from another source, they must be placed in quotation marks and footnoted. Otherwise, it is plagiarism. For more details on what plagiarism is and how to avoid it, consult a style manual, the Writing Lab, or the History Lab.

**Grading:** Assignments in this course are graded on a 4-point scale:

- A = 3.67-4.0
- AB = 3.34-3.66
- B = 2.76-3.33
- BC = 2.26-2.75
- C = 1.6-2.25
- D = 1-1.6
- F = below 1.0.

The number grade tells you if your paper is at the high, middle, or low end of the grade range for any given assignment. Final grades will be tabulated from these ranges.

**Appealing a Grade:** If you have questions about a grade, come speak to me. If the problem is not resolved, speak with the History of Science Undergraduate Advisor, Scott Burkhardt. He will attempt to resolve the issue informally and inform you of the Appeals Procedures if no resolution is reached informally.

**Extensions** are only granted if requested before the due date, and only in case of illness or other serious emergency. All extensions will have a definite new due date established. Papers received after the new due date will be subject to late paper penalties.

**Late paper policy:** any piece of writing that you hand in late without an extension will have the following penalties assessed: a quarter of a point for every working day late. For example, if the paper on its merits deserves a B (3.0), after one day it would receive a B/BC (2.75), after two days a BC (2.5), after three a BC/C (2.25), after four a C (2.0).

### **Grading Scale for Essays:**

- A: For outstanding essays only. Thesis and argument are clear, thought-provoking, and based on correctly understood facts; material used to support the argument synthesizes ideas from different parts of the course (readings, lectures, discussions from different weeks); relationships drawn between facts and ideas are sophisticated, subtle, and/or original. Writing is grammatically correct and succinct. The argument flows well from point to point, without any puffery or wasted words.
- AB: For very good essays that for some reason fall short of the criteria listed above. For example, the argument may be murky in one place; information may be presented that doesn't directly or clearly contribute to the argument; writing style may be awkward here and there, or flawed by one or two consistent (if minor) grammatical errors.
- B: For solid, workmanlike essays. The essay may pursue a straightforward but not especially deep or sophisticated argument; it is okay as far as it goes, but doesn't penetrate the material very far. It may have a flash of brilliance that is unfulfilled, counterbalanced by minor grammatical problems, a weakness in argumentation, and/or a significant misunderstanding of events or chronology.
- BC: The essay shows some of the basics of the ideal essay, but is weakened by a lack of serious think-work or writing problems. It may make superficial connections without offering sufficient evidence to make the connections plausible or persuasive, or it may have what is in principle a good argument supported by incorrect facts or chronology. Alternatively, it may provide a fairly solid argument with minor flaws, from which the reader is repeatedly distracted by awkward or ungrammatical prose.
- C: A grade signifying some serious problem in essay-writing. It may deliver facts without a recognizable thesis or argument; it may wander away from the point; or it may be a thoughtful attempt so weakened by writing problems (grammar, punctuation, word choice) that it is difficult for the reader to understand a crucial point you are trying to make.
- D: A marginal grade. There may be enough in here to show you have attended a few classes and/or done some of the reading, but the essay indicates no effort at synthesis or thinking on your own, or else shows a serious misunderstanding of the nature of the material and/or the assignment. Also used for essays that are just barely coherent.
- F: For unacceptable essays. An essay may be judged unacceptable if it contains plagiarism (see above); if it consists primarily in content inappropriate to the question or the material for this course; if it shows a complete misunderstanding of the course content; or if the writing fails to meet standard college-level requirements of basic communication in English.