

WINTER QUARTER SCIENCE STUDIES SEMINAR

**Science and the State:
History, Philosophy and Sociology of Scientific Knowledge**

Class time Tuesdays, 12:45-3:45 *Place* HSS 3009

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The rise of the modern state and the rise of modern science shadow each other in the history of the West. The enormous apparatus of modern state forms has depended closely on the means of knowing the world that modern scientists (and their emulators) have provided. So too, modern science grew in scope and significance as a direct result of its ability to solve problems--social, environmental, political. The resources of modern states have provided crucial means for scientists to do “their” work, while the demands of states for knowledge helped to determine what sort of work that would be. While the tasks taken on by scientists and engineers may have been specific and local, the claims scientists made were far more encompassing. This belief in consistent and reliable techniques made science an attractive servant to bureaucrats and politicians keen on proving their own reliability and expertise in various political struggles. It also provided the state with tools it could experiment with in places far afield (e.g. colonial projects at the margins of Europe and beyond). Conversely, state patronage helped to forge the epistemic standards of the communities that received it.

In short, scientific practices are at the heart of modern state formation, just as modern states are crucial to the growth of scientific activities and the standards of scientific knowledge. The readings selected for this course look in various ways at the connections, similarities, relationships, and overlaps between making science and making states.

Requirements

Each student will be required to write and submit to class each week a one-two page summary of the assigned reading for that day. The purpose of the precis is to summarize the argument of the author (rather than to critique it).

In addition, each student will be required to complete a 15-20 page term paper on a subject of his or her choice related to the topic of the course. Each student should consult with one or both professors regarding the chosen topic before the fourth week of term. Papers will be due during finals week (exact time to be determined).

Syllabus

- Week 1 Abrams, “Notes on the difficulty of studying the state” (read in class)
- Week 2 Toulmin, *Cosmopolis: The Hidden Agenda of Modernity*
- Week 3 Mukerj, *Territorial Ambitions and the Garden of Versailles*
- Week 4 Alder, *Engineering the Revolution: Arms and Enlightenment in France*
- Week 5 Arnold, *Colonizing the Body. State Medicine and Epidemic Disease in Nineteenth-Century India*
- Week 6 Schweber, “The mutual embrace of science and the military.”
Forman, “Behind quantum electronics.”
Kevles, “Cold war and hot physics.”
- Week 7 Needell, “From military research to big science.”
Doel and Needell, “Science, scientists and the CIA.”
- Week 8 MacKenzie *Inventing Accuracy. A Historical Sociology of Nuclear Missile Guidance*
- Week 9 Bernstein, “American economics and the national security state.”
Mirowski, “When games grow deadly serious.”
Lampland, “Planning as science, planning as art.”
- Week 10 Herrick and Jamieson, “The social construction of acid rain.”
Jamieson, “Scientific uncertainty and the political process.”
Jasanoff, “Science, politics, and the renegotiation of expertise at EPA”
Oreskes, “Evaluation (not validation) of quantitative models.”