

## History 297: The History of the Scientist

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This course is a graduate seminar, designed for Ph.D. students in history, but open to students from other departments with appropriate background and sufficient interest (and instructor permission). It is a two-quarter course, whose primary purpose is to guide participants in the preparation of research papers of a scope and quality that would merit publication in a good academic journal. (In practice, this should be about 30 pages plus endnotes). You will receive a grade for both quarters together at the end of the second quarter. During the first quarter we will meet for three hours each week to discuss scholarship and develop perspectives on the topic. Our meeting schedule during the second quarter will perhaps be more irregular, but participants will have at least two opportunities to present their research, first while it is still in progress, and a second time when (I hope) you have a nearly complete draft. I am asking you during the first quarter to read and discuss my own new book on Karl Pearson, which may be regarded as the first research presentation by a course participant.

You need not have a research topic in mind at the start of the course, but it is very important for you to begin immediately to define one. By week 5 you should have at least a tentative project in mind, and during the last few weeks of the course we will try to use your interests as a guide to our reading together. I recommend that you come talk to me about your interests during the first two weeks of the term (or even, if you like, before it starts). In practice, the course topic is not very limiting, and would allow a wide range of projects in history of science, including aspects of technology, medicine, and social science.

What does it mean to write a history of the scientist? The word “scientist” (in English) was coined about 1833 by William Whewell as an encompassing label for investigators of nature, and a kind of rearguard action against specialization. But the work did not come into common use until the end of the nineteenth century, by which time it seemed to many to imply, sadly, that science was becoming a mere job category rather than a higher calling. In other languages there are other terms with other resonances. We will want to be alert to these terminological questions, but above all to the cultural and material realities they reflect. We are interested especially in the practice of science as an identity and a social role. Among the questions we will consider, in no particular order:

When and how did science become a career rather than an avocation? How (in various times and places) did scientists, savants, *Naturforschern*, natural philosophers, men of science, etc. earn a living, and in what ways was their standing as truth-tellers affirmed or compromised by their relations to mammon?

Was it more consistent with the character of the scientist to pursue pure knowledge or useful knowledge? What relations have we seen between the scientist and the engineer?

Should respectable scientists dirty their hands in workshops and laboratories? Or, on the other hand, can a scientist be content to reason theoretically or mathematically without putting knowledge to the test of nature?

To what extent did credibility as a scientist depend on social class, or on acceptance by social elites? What practices of inclusion and exclusion were practiced by scientists, and how did this shape the public standing of science?

When and to what extent did the scientific role come to depend on a certain kind of education or a specific degree? What scientific roles did this leave to others who make claims about the natural world (autodidacts, artisans, theologians, economists ...)?

What scientific roles were open to women, and how has this changed over the centuries? Was there something fundamentally masculine about science or the scientific role?

What human models did the character of the scientist draw from? Among the possibilities: gentlemen, courtiers, ascetics, prophets, craftsmen, teachers, explorers, statesmen, magicians ....

Should the scientist, ideally, be active in society, or somehow set apart from society? Must scientists withdraw from some activities or topics, say politics or religion, in order to preserve their authority with respect to others? What can we say about the credibility and standing of, for example, social scientists?

How has the credibility of science, its objectivity, depended on the scientific persona?

Should the scientist be curious and open, a big child, or a technical specialist with a recondite training and a clearly bounded field of investigation in the laboratory? Is science a method, applicable universally, or a collection of specialties?

Did science mean renunciation and self-denial, the subjugation of self to an impersonal method, or the refusal to give opinions where scientific certainty is not available? Or should the scientist possess an active intellect and a bold willingness to express an informed judgment in the face of uncertainty?

## Topics and Readings

Note that I have not ordered any books for the course at the UCLA bookstore. You may already own some of these books, and of course you can order them online. I will also try to make copies of the books available for you to consult in the history of science seminar room (5288 Bunche).

Week 1: Introduction to topic.

Week 2. Sources of the scientific identity. Readings from:

Mario Biagioli, [\*Galileo Courtier\*](#)

Steven Shapin, [\*The Social History of Truth\*](#)

Week 3: Scientific roles and Enlightenment ideals. Reports on:

Mary Terrall, *The Man Who Flattened the Earth*

Mary Terrall, "Emilie du Châtelet and the Gendering of Science," *History of Science*. 33 (1995), 283-310

Keith Baker, *Condorcet: From Natural Philosophy to Social Mathematics*

Charles Gillispie, *Science and Polity in France* (2 vols.) [Reading 1](#) [Reading 2](#)

Jean-Pierre Poirier, *Lavoisier: Chemist, Biologist, Economist*

Larry Stewart, *The Rise of Public Science*

Lisbet Koerner, *Linnaeus: Nature and Nation*

Week 4: Victorian science. Readings from

Crosbie Smith and M. Norton Wise, *Energy and Empire: A Biographical Study of Lord Kelvin*

James Secord, [\*Victorian Sensation\*](#)

Adrian Desmond, *Huxley: From Devil's Disciple to Evolution's High Priest*

Paul White, *Thomas Huxley: Making the "Man of Science."*

Week 5: Twentieth-century dilemmas.

Cathryn Carson, "New Models for Science in Politics: Heisenberg in West Germany," *Historical Studies in the Physical and Biological Sciences*, 30, 1994, 115-171

Cathryn Carson, "Objectivity and the Scientist: Heisenberg Rethinks," *Science in Context*, 16 (2003), 243-269

Charles Thorpe and Steven Shapin, "Who Was J. Robert Oppenheimer: Charisma and Complex Organization," *Social Studies of Science*, 30 (2000), 545-590.

Weeks 6 and 7: Report by Ted Porter. Reading:

Theodore Porter, *Karl Pearson: The Scientific Life in a Statistical Age*

Weeks 8-10: to be determined (readings and discussion topics according to student research interests)