

Economic Science Studies

Instructor: [E. Roy Weintraub](#), Professor of Economics

Office SocSci 07D; Phone: 660 1838; email: erw@duke.edu

"Largely as a result of . . . more careful historical and sociological studies of what scientists actually do . . . [there has been] a major upset in the received wisdom (roughly consonant with scientists own self-understanding of their endeavor) that had prevailed among historians, philosophers, and sociologists of science prior to the 1960s. The principal point that emerges from three decades of careful historical and sociological analysis is that, on every level, choices are made -- of what it is that we want to know, of how we ought to proceed, of what counts as knowledge -- and these choices are social even as they are cognitive and experimental. As Steven Shapin provocatively puts it, 'There is as much society inside science as outside.'" (Evelyn Fox Keller "Science and its Critics," *Academe*, September-October 1995, 11).

Background

The need to understand the nature, meaning, and impact of scientific, medical and technological change has never been greater. In recent years, science studies (short for historical or philosophical or sociological or anthropological studies of science, medicine, and technology) has been transformed by the urgency of these concerns. Benefiting from interaction with the humanities and social sciences, science studies has come to understand its role as one not merely of recounting a string of scientific discoveries, but of understanding and communicating the social, cultural and ethical dimensions of science -- of how science is generated from and reincorporated into a wider social and cultural context, of how scientific activity inevitably gives rise to complex moral and policy issues. It is this new role that today is making science studies a bridge between many disciplines and audiences -- experts and the educated public; the university, industry, and policy-makers -- by providing a ground for intellectual exchange across traditional disciplinary and professional boundaries. Science studies today range from research into the nature of scientific creativity to the culture of laboratory work; from the history of how charitable foundations have promoted specific economic theories to the nature of scientific controversies to the diffusion of innovative scientific and biomedical technologies. Not only does science studies provide critical insights into the development of modern science and science-based technologies, it has the capacity for connecting various realms of scholarship and expanding into a broad, multi-disciplinary enterprise. Within the academic community, teaching and research give students a better appreciation of science as a human activity, and can serve as the catalyst for interaction between all of the academic disciplines over the nature and impact of the scientific enterprise.

If one believes that economics is a science, studying the practice we call "economics" (as opposed to studying economics) is studying the philosophy, history, and sociology of economic science. Consequently the tools and conceptual frameworks that we employ to study any science can be employed in studying "economics." The objective of this course is to employ science studies to understand modern economic science. The course will utilize the science studies materials to understand/unpack/analyze/interpret work in economics.

Students will purchase the *Science Studies Reader*, edited by Mario Baglioli. Additionally, photocopies of other material (articles and book excerpts) will be on [e-reserve at Perkins Library](#), and on the Course Documents page in the course's Blackboard site. Readings listed for each class must be read **before** that class.

Readings for the course will focus on key texts and crucial issues in contemporary history, sociology, and philosophy of science--or, as the assemblage is sometimes called, science studies. Class discussions will engage this literature directly.

Each week there will be two primary required readings and at least one secondary reading. (Background reading is noted for you to draw materials for your final paper.) Students will prepare a 1-2 page "response" to each of the primary readings, and will turn these in at the end of *each* seminar. The weekly seminar will consist of a discussion of the primary readings, and will be based on the "responses".

Additionally all students will prepare, as a final exercise, an "Introduction" to their own set of "response" papers, giving those papers an overarching form and interpretation in order to answer the question: "How do these Science Studies materials inflect our understanding of what economists do, and how they do it?" This final exercise will be due at the time of the registrar-scheduled final examination.

Grades will be based on the following: 40% for the weekly "response" papers; 30% for general seminar participation; 30% for the final exercise. **It is not "ok" to miss a seminar, ever: this means that an absence is graded as a zero. It is not "ok" to be unprepared for a seminar, ever: this means that failure to turn in the reading response at the end of each seminar is graded as a zero. I will attempt to keep you informed about your grades during the semester through Blackboard.**

Boldface materials are on reserve at Perkins. CAPITALIZED materials are in the Baglioli reader.

Week 1: Introduction: (Primary Reading: BAGIOLI's "Introduction: Science Studies and Its Disciplinary Predicament")

Week 2: Thinking about science in the interwar years — The emergence of "The Received View". (Primary Readings: excerpts from [Karl Popper](#)'s *Conjectures and Refutations* and *Logic of Scientific Knowledge*.) [Suggested: (handout) Imre Lakatos's "The Role of Crucial Experiments in Science" *Studies in the History and Philosophy of Science* 4 (1974) 4; Background: Lakatos's *Proofs and Refutations*; Ian Hacking's *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science*, paperback.]

Week 3: Issues in science, and thinking about science, at the mid-point of the twentieth century. (Primary Readings: David A. Hollinger's "Free Enterprise and Free Inquiry: The Emergence of Laissez-Faire Communitarianism in the Ideology of Science in the United States" (1990) JSTOR; David A. Hollinger's "Science as a Weapon in Kulturkampfe in the United States during and after World War II" (1995) JSTOR).

Week 4: Facts and Theories: (Primary Readings: HACKING's "Making Up People"; DAVIDSON's "Styles of Reasoning, Conceptual History, and the Emergence of Psychiatry"). [Suggested: LYNCH and LAW's "Pictures, Text, and Objects: The Literary Language Games of Bird-Watching".]

Week 5: Belief and Evidence: (Primary Readings: Barbara Herrnstein Smith's (draft) chapter one of *Natural*

Reflections; Chapter 3 of Barbara Herrnstein Smith's *Belief and Resistance*.) [Suggested: [Thomas Kuhn's *The Structure of Scientific Revolutions*](#). Background: Ludwik Fleck's *Genesis and Development of a Scientific Fact*, paperbacks.]

Week 6: Scientific Communities: (Primary Readings: KOHLER's "Moral Economy, Material Culture, and Community in *Drosophila* Genetics", COLLINS's "The TEA Set: Tacit Knowledge and Scientific Networks".) [Background: David **Bloor's** *Knowledge and Social Imagery*.]

Week 7: Science and Objectivity. (Primary Reading: **Porter's** "Objectivity as Standardization: The Rhetoric of Impersonality in Measurement, Statistics, and Cost-Benefit Analysis", PORTER's "Quantification and the Accounting Ideal in Science"). [Suggested: either DASTON's or **Daston's** "Objectivity and the Escape from Perspective". Background: excerpt from **Novick's** *That Noble Dream*, Porter's *Trust in Number: The Pursuit of Objectivity in Science and Public Life*.]

Week 8: Constructing Scientific Truth. (Primary Reading: MACKENZIE's "Nuclear Missile Testing and the Social Construction of Accuracy", SHAPIN's "The House of Experiment in Seventeenth-Century England".) [Suggested: (handout. Background: Shapin and Schaffers's *Leviathan and the Air-Pump*, especially Chapters 1-3, 8; Shapin's *A Social History of Truth*.]

Week 9: The Rhetoric of Science. (Primary Reading: **Bazerman's** "Making Reference: Empirical Contexts, Choices, and Constraints in the Literary Creation of the Compton Effect", BAGIOLI's "Aporias of Scientific Authorship: Credit and Responsibility In Contemporary Medicine".) [Background: Bazerman's *Shaping Written Knowledge*, Weintraub's *Stabilizing Dynamics*, McCloskey's *The Rhetoric of Economics*.]

Week 10: Gendered Science. (Primary Reading: **Tuana's** "The Weaker Seed: The Sexist Bias in Reproduction Theory"", TRAWEEK's "Pilgrim's Progress: Male Tales Told during a Life in Physics".) [Suggested: BARAD's "Agential Realism: Feminist Interventions in Understanding Scientific Practice". Background: Tuana's *Feminism and Science*, and Harding's *Whose Science? Whose Knowledge*]

Week 11: Actors and Networks. (Primary Reading: [LATOUR's](#) ""Give Me a Laboratory and I Will Raise the World" and CALLON's "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Briec Bay".) [Suggested: LATOUR'S "One More Turn After the Social Turn". Background: Bruno Latour's *Science in Action* and *The Pasteurization of France* and *Aramis: or The Love of Technology*, paperbacks].

Week 12: Science and Practice. (Primary Readings: PICKERING's "The Mangle of Practice: Agency and Emergence in the Sociology of Science", GALISON's "Trading Zone: Coordinating Action and Belief. [Suggested: **Pickering's** "Concepts and the Mangle of Practice: Constructing Quaternions". Background: ROUSE's "Understanding Scientific Practices: Cultural Studies of Science as a Philosophical Program"", BRAIN and WISE's "Muscles and Engines: Indicator Diagrams and Helmholtz's Graphical Methods".]

Week 13: Performativity. (Primary Readings (handouts): Donald McKenzie's "Is Economics Performative? Option Theory and the Construction of Derivatives Markets", Emmanuel Didier's "Do Statistics Perform the Economy?")

Week 14: Models. (Primary Readings (handouts): Mary Morgan's "The Curious Case of the Prisoner's Dilemma: Model Situation? Exemplary Narrative?" (handout), Mary Morgan's and Marcel Boumans's "Secrets Hidden by Two Dimensionality: The Economy as a Hydraulic Machine")