

Sociology 350: Sociology of Science
Fall Semester 2006

M-W-F 2:10-3:00, Physics 121

This class is an introduction to the wide range of work on science as a social phenomenon. After a brief discussion of key themes in the philosophy of science, it looks at the various 'internal' aspects of science as an institution, including organizational forms, work practices, career systems, and types of discourse. It then turns to the 'external' issues of how science relates to the rest of society, for example the connection of science to gender inequality, the portrayal of science in the media, its relationship to technology, and the role of science in law and government. In addition to attending class and participating in discussions, students will be required to write three 6-8 page papers. There will also be a class outing to The Oregon Museum of Science and Industry.

Readings.

All readings are required. They are coded as follows;

(B) Book on reserve. The books we are going to read most of (Graham, Leidner, Jackall, Waldinger et. al., and Fantasi/Voss) are also available for purchase at the bookstore. Also, you could probably get them cheaper used online at Amazon.com

(C) Copy on reserve.

(J) Available in pdf format on JSTOR.

Week 1

Mon. Aug. 28

Introduction.

Wed. Aug. 30

Basic Philosophy of Science

• Samir Okasha "What is Science" & "Scientific Reasoning" Chs. 1-2 of *Philosophy of Science: A Very Short Introduction* (B) Q175 .O4555 39pp

Fri. Sept. 1

• Samir Okasha "Explanation in Science" & "Realism and Anti-Realism", Chs. 3-4 39pp

Week 2

Mon. Sept. 4

LABOR DAY

Wed. Sept. 6

Objectivity I: Independence and Truth?

• Joseph Ben-David "The Emergence of the Scientific Role", Ch.4 of *The Scientist's Role in Society* (B) BD220.R48 30pp

Fri. Sept. 8

• Robert K. Merton "Science and the Social Order" & "The Normative Structure of Science", Chs. 12-13 of *The Sociology of Science* (B) Q175.5 .M47 25pp

Week 3

Mon. Sept. 11

- Robert K. Merton "Behavior Patterns of Scientists" & "The Matthew Effect in Science" Chs. 15 & 20 39pp

Wed. Sept. 13

Accepting Theories and Constructing Facts

- Samir Okasha "Scientific Change and Scientific Revolutions" Ch. 5 19pp
- Andrew Pickering "The Hunting of the Quark" *Isis* 72.2 (J) 21pp

Fri. Sept. 15

- Harry Collins "Replicating the TEA Laser" & "Detecting Gravitational Radiation" Chs. 3-4 of *Changing Order* (B) Q175.5 53pp

Week 4

Mon. Sept. 18

- Bruno Latour & Steve Woolgar "The Construction of a Fact: The Case of TRF(H)" Ch. 3 of *Laboratory Life* (C) (B) QH315 .L315 40pp

Wed. Sept. 20

- K. Amann & Karin Knorr-Cetina "The Fixation of (Visual) Evidence" in Lynch & Woolgar *Representation in Scientific Practice* (C) (B) Q222 .R46 28pp

Fri. Sept. 22

- Ian Hacking "Why Ask What?" Ch. 1 of *The Social Construction of What?* (B) BD175 .H29 34pp

Week 5

Mon. Sept. 25

Careers and Experiences

- Sharon Traweek "Male Tales Told During a Life in Physics" & "Distinctions and the Ties that Bind" Chs. 3-4 of *Beamtimes and Lifetimes* (B) QC774.A2 T73 44pp

Wed. Sept. 27

- Harriet Zuckerman "The Prize-Winning Research" Ch. 6 of *Scientific Elite* (B) Q149.U5 41pp
- K. Brad Wray "Is Science Really a Young Man's Game?" *Social Studies of Science* 33:137-149 (C) 13pp

Fri. Sept. 29

- Lawrence Kubie "Some Unsolved Problems of the Scientific Career" (in Barber & Hirsch *The Sociology of Science* (B) HM38.B33) 29pp
- J. Scott Long & Mary Frank Fox "Scientific Careers: Universalism and Particularism" *Annual Review of Sociology* 1995 (J) 36pp

Week 6

Mon. Oct. 2

Articles and Peer Review

- Robert K. Merton & Harriet Zuckerman "Institutionalized Patterns of Evaluation in Science" Ch.21 37pp

Wed. Oct. 4

- Kistrun Gunarsdottir "Scientific Journal Publications: On the Role of Electronic Preprint Exchange in the Distribution of Scientific Literature" *Social Studies of Science* 35: 549-579 30pp

Fri. Oct. 6

- Bruno Latour "Literature" Ch.1 of *Science in Action* (C) (B) Q175.5 .L38 42pp

Week 7

Objectivity II: Ideology and Power?

Mon. Oct. 9

- Charles Alan Taylor "The Rhetorical Construction of Science and Creation Science," Ch. 5 of *Defining Science* (B) Q175 .T37 39pp

Wed. Oct. 11

- Michael Goldman "Imperial Science, Imperial Nature: Environmental Knowledge for the World (Bank)" Ch.2 of *Earthly Politics* (C) 22pp
- Robert Proctor "Nazi Medicine and the Politics of Knowledge" in Harding *The "Racial" Economy of Science* (B) Q175.55.R3 12pp

Fri. Oct. 13

- Epstein, Steven 1995 "The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials" *Science, Technology, & Human Values* 20.4 (J) 28pp

Week 8

BREAK!

Week 9

Mon. Oct. 23

Science and Gender

- Stephen G. Brush "Women in Science and Engineering" *American Scientist* V.79 Sept.-Oct. (C) 13pp
- Henry Etkowitz et. al. "Athena Unbound: Barriers to Women in Academic Science and Engineering" *Science and Public Policy* 9.3 (C) 22pp
- Mary Frank Fox "Gender, Family Characteristics, and Publication Productivity Among Scientists" *Social Studies of Science* 35:131-150 (C) 20pp

Wed. Oct. 25

- Anne Fausto-Sterling “Should There Be Only Two Sexes?” and “Sexing the Brain: How Biologists Make a Difference” Chs. 4 & 5 of *Sexing the Body* (C) 42pp

Fri. Oct. 27

- Emily Martin "The Egg and the Sperm" *Signs* 16.3 (J) 18pp
- van der Ploeg, Irma 1995 "Hermaphrodite Patients: In Vitro Fertilization and the Transformation of Male Infertility" *Science, Technology, & Human Values* 20.4 (J) 21pp

Week 10

Mon. Oct. 30

Science and the Media

- Marcel LaFollette “Scientific Stereotypes” & “Defining Science” Chs. 6-7 of *Making Science Our Own* (B) 23pp
- Dorothy Nelkin "The Scientific Mystique" & "Media Messages, Media Effects", Chs. 2 & 5 of *Selling Science* (B) Q225 .N35 32pp

Wed. Nov. 1

- Dorothy Nelkin "The Culture of Science Journalism" & "How Scientists Control the News" Chs. 6 & 9 39pp

Fri. Nov. 3

- Gillian Fuller "Cultivating Science" in Martin & Veel *Reading Science* (C) 26pp
- Harry Collins "Certainty and the Public Understanding of Science" *Social Studies of Science* 17.4 (J) 21pp

Week 11

Mon. Nov.6

Science, Commerce, and Technology

- Joan Fujimura “Constructing ‘Do-Able’ Problems in Cancer Research: Articulating Alignment,” *Social Studies of Science* 17.2: 257-293 (J) 37pp

Wed. Nov. 8

- Jason Owen-Smith “Dockets, Deals, and Sagas: Commensuration and the Rationalization of Experience in University Licensing” *Social Studies of Science* 35:69-97 (C) 28pp

Fri. Nov 10

- Bruno Latour “Machines”, Ch. 3 of *Science in Action* (C) (B) Q175.5 .L38 41pp

Week 12

Mon. Nov. 13

- Bijker, Wiebe "The Social Construction of Bakelite" in Bijker, Hughes, & Pinch *The Social Construction of Technological Systems* (B) T14.5.S6375 28pp
- John Bakke "Technologies and Interpretations: The Case of the Telephone" *Knowledge and Society* (B) BD175.R44 Vol.10 20pp

Wed. Nov. 15

- Jennifer R. Fishman "Manufacturing Desire: The Commodification of Female Sexual Dysfunction" *Social Studies of Science* 34:187-218 (C) 31pp

Fri. Nov. 17

- Donald McKenzie & Graham Spinardi "Tacit Knowledge, Weapons Design, and the Uninvention of Nuclear Weapons" *American Journal of Sociology*, 101.1 (J) 55pp

Week 13

Mon. Nov. 20

Science, Law, and Policy

- Sheila Jasanoff "The Law's Construction of Expertise" Ch3. of *Science at the Bar* (B) K487.S3 J37 27pp
- Margaret Berger "Expert Testimony: The Supreme Court's Rules" *Issues in Science and Technology* Summer 2000 (C) 7pp
- J. S. Oteri et. al. "Cross-Examination of Chemists in Drug Cases" in Barnes *Science in Context* (C) 10pp

Wed. Nov. 22

- Sheila Jasanoff "Legal Encounters With Genetic Engineering" and "Family Affairs" Chs. 7 & 8 44pp

Fri. Nov. 24

THANKSGIVING

Week 14

Mon. Nov. 27

- Sheila Jasanoff "Peer Review and Regulatory Science" & "Advisers as Adversaries", Chs.4 & 7 of *The Fifth Branch* (B) Q125 .J33 51pp

Wed. Nov. 29

- Dorothy Nelkin "The Political Impact of Technical Expertise" *Social Studies of Science* 5.1 (J) 16pp
- Arjo Klamer and Jennifer Meehan "The Crowding Out of Academic Economics: The case of NAFTA" pp.65-85 in *What do Economists Know?* (C) 20pp

Fri. Dec. 1

- Sheila Jasanoff "Republics of Science" Ch.11 of *Designs on Nature: Science and Democracy in Europe and the United States* (C) 25pp