

Introduction to Science and Technology Studies (STS)

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Science and Technology Studies (STS) is a field with a foothold in a variety of disciplines and methodologies centered on the issues of technology, science, and the social and technological nexus of humans and objects. It explores the complex interaction between science, technology and society. STS researchers study how social, political, cultural, and material conditions shape scientific work and how science, in turn, shapes society. On the one hand, STS researchers explore the process through which scientists, and their allies, make facts. On the other hand, STS scholars examine how the facts and artifacts produced by scientists affect our life: how scientific knowledge changes our self-perception and how it affects social relations. Investigations along these lines call for a radical rethinking of the concept of “social construction” that is relevant for researchers in diverse fields.

This seminar will offer an overview of seminal texts and approaches in the field of STS, introducing students key topics and methods. The course is taught in English but the students have the option of submitting the written assignments in Russian unless otherwise specified.

Assignments and Grading

Attendance, Participation: 10%

Attendance and participation are mandatory. Each student must notify the instructor of illness or fieldtrips, and will be responsible for appropriate make-up work if granted permission to miss class.

Weekly response papers: 10%

- Students will be required to submit weekly brief reaction papers to the readings, 300-500 words, to be submitted to the instructor no later than **Mondays at noon!**

Assignment #1 Workshop: 10%

- During one week this semester, Stephanie Dick (Harvard Society of Fellows, and University of Pennsylvania) will teach a mini-course. The dates of the mini-course are still in the process of becoming determined, but participation, attendance, and completion of all workshop assignments will be **mandatory**.

Assignment #2 Book review: 30%

- The students will select a contemporary STS book, from a list offered by the instructor, and will write a 1000-1500 word book review. The assignment can be submitted in Russian or English.

**Due Friday, May 12th at noon. All late submissions will be subject to penalty, which equals 1/3 letter grade per 24 hours (for example, if your assignment*

receives a B+ but you submitted it two days late, the most you can get for it is B-, etc.)

Assignment #3 Final exam: 40%

The students will receive an open book take-home exam consisting of essay questions.

Feb 6. Week 1. Introduction

Course overview. In-class reading and discussion.

Feb 13. Week 2. The Classics

Merton, Robert K. The ethos of science (1942), The reward system of science (1957), and The Matthew Effect, II (1988). In *On Social Structure and Science* ed. P. Szotomka. Chicago: University of Chicago Press, 1996. pp. 267-276, 286-304, 318-336

Karl Popper. *The Logic of Scientific Discovery*. Excerpts

Bourdieu, Pierre. 1975. "The specificity of the scientific field and the social conditions of the progress of reason." *Social Science Information*, 14: 19-47 (also available in Biagioli's book).

Feb 20 Week 3. The Paradigmatic Paradigm

Kuhn, Thomas, *The Structure of Scientific Revolutions*, 1962, pp. TBA

Feb 27 Week 3. The Social Construction of Scientific Knowledge (SSK) – The Edinburgh and Bath Schools

Bloor, David. 1976. The Strong Programme in the sociology of knowledge. In *Knowledge and Social Imagery*, 2nd ed. Chicago: University of Chicago Press, 1991. pp. 3-23.

Bloor, David. 1978. Polyhedra and the Abominations of Leviticus. *The British Journal for the History of Science*. Vol. 11, No. 3 (Nov., 1978), pp. 245-272.

H. M. Collins. The TEA Set: Tacit Knowledge and Scientific Networks. In *The Science Studies Reader*, edited by Mario Biagioli. London: Routledge, 95-109.

Mar 6 Week 4. SSK, cont.

Steven Shapin. The House of Experiment in Seventeenth-Century England. In *the Science Studies Reader*, edited by Mario Biagioli. New York: Routledge, pp.479-504.

Mario Biagioli (1990) "Galileo the Emblem Maker, *Isis* 81: 230-58.

Mar 13 Week 5. Hybrid Modernity

Bruno Latour, *We Have Never Been Modern*, excerpts.

Mar 20 Week 6. Actor-Network Theory (ANT)

Latour, Bruno, *Science in Action* (1987), excerpts.

Latour, B. 1998. "Give me a laboratory and I will raise the world." in *the Science Studies Reader*, edited by Mario Biagioli. New York: Routledge, pp. 258-275.

Mar 27 Week 7. Workshop

* *Exact dates to be determined.*

April 3 Other ANTs

Callon, Michel. 1986. Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St. Brieuc Bay, Mario Biagioli (ed.), *The Science Studies Reader*, 67-84.

John Law. 1986. On the methods of long-distance control: Vessels, navigation and the Portuguese route to India. In *Power, Action and Belief*. pp. 234-263.

Pickering, Andrew. 1993. The mangle of practice: Agency and emergence in the sociology of science. *American Journal of Sociology* 99: 559-589.

April 10 Week 8. Staging a Debate

Collins, H.M. and Steven Yearley, "Epistemological chicken," In *Science as Practice and Culture*, ed. A. Pickering. Chicago: University of Chicago Press, 1992, pp. 301-326.

Latour, Bruno, and Michel Callon, "Don't throw the baby out with the Bath School! A reply to Collins and Yearly," In *Science as Practice and Culture*, 1992, pp. 343-368.

Olga Amsterdamska (1990) 'Surely you are joking Monsieur Latour!', *Science, Technology & Human Values* 15(4): 495-504

April 17 Week 5. Scientific Practice

Knorr-Cetina, Karin. 1995. "Laboratory studies: The cultural approach to the study of science," In *Handbook of Science & Technology Studies*, ed. S. Jasanoff, D.E. Markle, J.C. Peterson, and T.J. Pinch. London: Sage. pp. 165-180.

Andrew Pickering, "From Science as Knowledge to Science as Practice," in Pickering, ed., *Science as Practice and Culture*, pp. 1-23.

Daston, Lorraine. 1992. Objectivity and the Escape from Perspective. In Mario Biagioli (ed.), *The Science Studies Reader*, 110-124.

April 24 Week 9. Social Construction of Technology (SCOTs)

Woolgar, Steve, "The turn to technology in Social Studies of Science," *Science, Technology & Human Values* 16, 1991, pp. 20-50.

Pinch, Trevor and W. Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," in Bijker, Pinch, Hughes, eds., *The Social Construction of Technological Systems*, MIT Press, 1987, pp. 17-50.

Winner, Langdon. 1993. Upon opening the black box and finding it empty: Social constructivism and the philosophy of technology. *Science Technology and Human Values* 18: 362-378.

May 15 Week 10. Feminist Science

Evelyn Fox Keller, "The Gender/Science System: Or, Is Sex to Gender as Nature is to Science?" (1987), in Mario Biagioli (ed.), *The Science Studies Reader*, (1999), pp. 234-242.

Karen Barad, "Ageing Realism: Feminist Interventions in Understanding Scientific Practices" (1998), in Mario Biagioli (ed.), *The Science Studies Reader*, pp. 1-12.

Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," in Haraway, *Simians, Cyborgs, and Women* (1991), pp. 183-203, also in Mario Biagioli (ed.), *The Science Studies Reader*, 172-189.

May 22 Week 11. The Body Reconsidered

Annemarie Mol & John Law, Embodied Action, Enacted Bodies. The Example of Hypoglycaemia, in: *Body & Society* Vol. 10 (2-3): 2004, 43-62.

AnneMarie Mol, "Who Knows What a Woman Is...", *Medicine Anthropology Theory* 2, no. 1: 57-75.

May 29 Week 12 Global Technoscience

Roger Hart (1999) 'On the Problem of Chinese Science', in Biagioli, *The Science Studies Reader*, pp. 189-201

Vincanne Adams (2002) 'Randomized Controlled Crime: Postcolonial Sciences in Alternative Medicine Research', *Social Studies of Science* 32: 659-90

Warwick Anderson (2002) 'Introduction: Special Issue on Postcolonial Technoscience', *Social Studies of Science* 32: 5-6 (October-December 2002): 643-658.