

### **Field III: PUBLIC SCIENCE**

#### **Field Description**

This field explores the interactions of science and the public sphere. Scientific theories have been shaped by the social and cultural contexts in which they developed. But once articulated by scientists, accepted by the scientific community, and embedded in technological inventions, they are communicated to the public and begin to shape social and cultural realities.

These readings draw upon the rich interdisciplinary scholarship in scientific education, science policy, and the legal and ethical dimensions of scientific and technological issues. They also address topics relating to science, technology and various forms of elite and popular culture, including art, literature, the internet, and museum display.

#### **The Core Reading List (for all students)**

Cook, Harold. 2007. *Matters of Exchange: Commerce, Medicine and Science in the Dutch Golden Age*. New Haven: Yale University.

Cooter, Roger, and Stephen Pumfrey. 1994. "Separate Spheres and Public Places: Reflections of the History of Science Popularization and Science in Popular Culture." *History of Science* 32: 237-67.

Daston, Lorraine, and Peter Galison. 2007. *Objectivity*. New York: Zone Books.

Findlen, Paula. 1994. *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy*. Berkeley: University of California.

Hacking, Ian. 1999. *The Social Construction of What?* Cambridge: Harvard University.

Haraway, Donna. 1989. *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. New York: Routledge.

Jasanoff, Sheila. 1990. *The Fifth Branch: Science Advisers as Policymakers*. Cambridge: Harvard University.

Latour, Bruno. 1993. *We Have Never Been Modern*. Translated by Catherine Porter. Cambridge: Harvard University.

Lightman, Bernard. 2007. *Victorian Popularizers of Science*. Chicago: University of Chicago.

Porter, Theodore. 1995. *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*. Princeton: Princeton University.

Scott, James C. 1998. *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University.

- Shapin, Steven. 2008. *The Scientific Life: A Moral History of a Late Modern Vocation*. Chicago: University of Chicago.
- Terrall, Mary. 1995. "Emilie du Chatelet and the Gendering of Science." *History of Science* 33: 283-310.
- Weber, Max. 1946. "Science as a Vocation (1919)." In *From Max Weber: Essays in Sociology*, edited, translated and introduced by Hans Heinrich Gerth, and Charles Wright Mills, 129-56. New York: Oxford University.
- Wynne, Brian. 1992. "Misunderstood Misunderstanding: Social Identities and Public Uptake of Science." *Public Understanding of Science* 1: 281-304.

### **The Recommended Reading List**

#### *ELITE, POPULAR SCIENCE AND SCIENCE EDUCATION*

- Blades, David. 2006. "Levinas and an Ethics for Science Education." *Educational Philosophy and Theory* 38(5): 647-64
- Code, Lorraine. 2006. "Images of Expertise: Women Science and the Politics of Representation." In *Figuring It Out: Science, Gender, and Visual Culture*, edited by Ann Shteir, and Bernard Lightman, 289-314. Dartmouth: University Press of New England.
- Ede, Sian. 2005. *Art & Science*. London and New York: I.B. Tauris.
- Edwards, David. 2008. *Artscience: Creativity in the Post-Google Generation*. Cambridge and London: Harvard University.
- Jardine, Nicholas. 1997. "The Mantle of Müller and the Ghost of Goethe: Interactions Between the Sciences and Their Histories." In *History and the Disciplines: The Reclassification of Knowledge in Early Modern Europe*, edited by Donald R. Kelley, 297-317. Rochester: Rochester University.
- LaFollette, Marcel Chotkowski. 2008. *Science on the Air: Popularizers and Personalities on Radio and Early Television*. Chicago: University of Chicago.
- Lenoir, Timothy. 1997. *Instituting Science: The Cultural Production of Scientific Disciplines*. Stanford: Stanford University.
- Mitman, Gregg. 1999. *Reel Nature: America's Romance with Wildlife on Film*. Cambridge and London: Harvard University.
- Roth, Wolff-Michael, and Angela Calabrese Barton. 2004. *Rethinking Scientific Literacy*. London: Routledge.

Secord, James A. 2000. *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation*. Chicago: University of Chicago.

#### LEGAL AND ETHICAL

Douglas, Heather E. 2009. *Science, Policy, and the Value Free Ideal*. Pittsburgh: University of Pittsburgh.

Dreyfus, Hubert L. (2001) 2009. *On the Internet (Thinking in Action)*. Second edition, New York and London: Routledge.

Epstein, Steven. 2007. *Inclusion: The Politics of Difference in Medical Research*. Chicago: University of Chicago.

Johns, Adrian. 2010. *Piracy: The Intellectual Property Wars from Gutenberg to Gates*. Chicago: University of Chicago. (Selections).

Kevles, Daniel. 1985. *In the Name of Eugenics: Genetics and the Uses of Human Heredity*. New York: Alfred A. Knopf.

Merton, Robert K. 1996. "The Ethos of Science (1942)." In *On Social Structure and Science*, edited by Piotr Sztompka, 267-76. Chicago: University of Chicago.

Oreskes, Naomi, and Erik Conway. 2010. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. New York: Bloomsbury Press.

Proctor, Robert N. 1999. *The Nazi War on Cancer*. Princeton: Princeton University.

Rutherford, Alexandra. 2009. *Beyond the Box: B. F. Skinner's Technology of Behavior from Laboratory to Life, 1950s-1970s*. Toronto: University of Toronto.

Thompson, Charis. 2005. *Making Parents: The Ontological Choreography of Reproductive Technologies*. Cambridge: MIT.

#### GEOGRAPHIES OF KNOWLEDGE

Anderson, Katharine. 2005. *Predicting the Weather: Victorians and the Science of Meteorology*. Chicago: University of Chicago.

Bowker, Geoffrey C., and Susan Leigh Star. 1999. *Sorting Things Out: Classification and Its Consequences*. Cambridge: MIT.

- Bravo, Michael. 1999. "Ethnographic Navigation and the Geographical Gift." In *Geography and Enlightenment*, edited by David N. Livingstone, and Charles W. J. Withers, 199-223. Chicago: University of Chicago.
- Cruikshank, Julie. 2005. *Do Glaciers Listen?: Local Knowledge, Colonial Encounters, and Social Imagination*. Seattle: University of Washington.
- Edgerton, Samuel Y. 2009. *The Mirror, The Window and the Telescope: How Renaissance and Linear Perspective Changed our Vision of the Universe*. Ithaca: Cornell University.
- Gieryn, Thomas F. 1999. *Cultural Boundaries of Science: Credibility on the Line*. Chicago: University of Chicago.
- Grove, Richard. 2003. *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*. Cambridge: Cambridge University.
- Harley, J. Brian. 1988. "Maps, Knowledge, and Power." In *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, edited by Denis Cosgrove, and Stephen Daniels, 277-312. Cambridge: Cambridge University.
- Kemp, Martin. 2006. *Seen | Unseen: Art, Science, and Intuition from Leonardo to the Hubble Telescope*. Oxford: Oxford University.
- Raj, Kapil. 2007. *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650-1900*. New York: Palgrave Macmillan.
- Stafford, Barbara. 1993. "Voyeur or Observer: Enlightenment Thoughts on the Dilemmas of Display." *Configurations* 1(1): 95-128.
- Stepan, Nancy L. 2001. *Picturing Tropical Nature*. London: Reaktion Books.

#### CIVIL SOCIETY

- Carson, Cathryn. 2010. *Heisenberg in the Atomic Age: Science and the Public Sphere*. Washington: German Historical Institute; Cambridge and New York: Cambridge University. (Selections)
- Carson, John. 2007. *The Measure of Merit: Talents, Intelligence, and Inequality in the French and American Republics, 1750-1940*. Princeton: Princeton University.
- Clark, William. 2006. *Academic Charisma and the Origins of the Research University*. Chicago: University of Chicago.
- Coen, Deborah R. 2007. *Vienna in the Age of Uncertainty: Science, Liberalism, and Private Life*. Chicago: University of Chicago.

- Edwards, Paul. 1996. *The Closed World: Computers and the Politics of Discourse in Cold War America*. Cambridge: MIT.
- Foucault, Michel. (1975) 1977. *Discipline and Punish: The Birth of the Prison*. Translated by Alan Sheridan. London: Lane.
- Habermas, Jürgen. 1991. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Translated by Thomas Burger with Frederick Lawrence. Cambridge: MIT.
- Harding, Sandra. 2008. *Sciences from Below: Feminisms, Postcolonialities, and Modernities*. Durham: Duke University.
- Hecht, Gabrielle. 1998. *The Radiance of France: Nuclear Power and National Identity after World War II*. Cambridge: MIT.
- Igo, Sarah E. 2007. *The Averaged American: Surveys, Citizens, and the Making of a Mass Public*. Cambridge: Harvard University.
- Moore, Kelly. 2008. *Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1945-1975*. Princeton: Princeton University.
- Shapin, Steven, and Simon Schaffer. 1989. *Leviathan and the Air Pump: Hobbes, Boyle and the Experimental Life*. Princeton: Princeton University.
- Winner, Langdon. 1986. *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. Chicago: University of Chicago.