

HASTS Common Exam List

Version of Fall 2015 (9/16/15)

The Common Exam List serves as a reading list for Field 3 of the General Examinations required of students in MIT's Doctoral Program in History, Anthropology, and Science, Technology, and Society (HASTS). The List represents the interdisciplinary conversation that is HASTS and encompasses social, historical, and cultural perspectives on science and technology. Any faculty member within the HASTS Program may supervise this list.

Sources are listed within sections in chronological order of publication. In approaching edited volumes, read the Introduction and a couple of representative chapters in consultation with the faculty member with whom you are reading the list.

The Director of Graduate Studies (DGS) collects feedback and suggestions for additions and deletions on an ongoing basis. Changes are made to the published list every few years. The DGS works with a committee of students to revise the list, and HASTS faculty then certify it.

All students read modules 1-5, and then select at least 5 additional modules from among sections 6-14 or modify or add in comparable modules in consultation with faculty.

1. Philosophies of Science from Positivism to Antipositivism

A. J. Ayer, ed., *Logical Positivism* (New York: Free Press, 1959), esp. essays by Rudolf Carnap, Carl Hempel, and Otto Neurath.

W. V. O. Quine, "Two dogmas of empiricism," *Philosophical Review* 60 (1951): 20-43.

Karl Popper, "Science: Conjectures and refutations," in *Popper, Conjectures and Refutations: The Growth of Scientific Knowledge* (London: Routledge, 2002 [1963]), 43-86.

Ludwig Fleck, *Genesis and Development of a Scientific Fact*, trans. Fred Bradley and Thaddeus J. Trenn (Chicago: University of Chicago Press, 1979 [1935]).

Thomas Kuhn, *The Structure of Scientific Revolutions*, 50th Anniversary ed. with Introduction by Ian Hacking (Chicago: University of Chicago Press, 2012 [1962]).

Paul Feyerabend, *Against Method*, 4th ed. (New York: Verso, 2010 [1975]).

Ian Hacking, *Representing and Intervening: Introductory Topics in the Philosophy of Natural Science* (New York: Cambridge University Press, 1983).

Peter Galison, "The trading zone: Coordinating action and belief," in *Image and Logic: A Material Culture of Microphysics* (Chicago: University of Chicago Press, 1997), 781-844.

Nancy Cartwright, *The Dappled World: A Study of the Boundaries of Science* (Cambridge: Cambridge University Press, 1999), esp. "Introduction" and "Part 1: Where do laws of nature come from?," 1-74.

suggested contextual essay

Peter Galison, "Aufbau/Bauhaus: Logical positivism and architectural modernism," *Critical Inquiry* 16, no. 4 (1990): 709-752.

2. Sociologies of Scientific Institutions and Knowledge

Robert K. Merton, "The normative structure of science [1942]," in *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago: University of Chicago Press, 1973), 267-278.

Karl Mannheim, "Preliminary approach to the problem," and "The sociology of knowledge," in *Ideology and Utopia: An Introduction to the Sociology of Knowledge*, trans. Louis Wirth and Edward Shils (New York: Harcourt Brace, 1985 [1936]), 1-54 and 264-311.

Ludwig Wittgenstein, *Philosophical Investigations*, trans. G. E. M. Anscombe (New York: Prentice Hall, 1999 [1953]), § 65-72 [on language games].

Paul Forman, "Weimar culture, causality, and quantum theory, 1918-1927: Adaptation by German physicists and mathematicians to a hostile intellectual environment [1971]," in *Darwin to Einstein: Historical Studies on Science and Belief*, ed. Colin Chant and John Fauvel (New York: Longman, 1980), 267-302.

David Bloor, Chapters 1-4 in *Knowledge and Social Imagery*, 2nd ed. (Chicago: University of Chicago Press, 1991 [1976]), 3-83.

Harry Collins, *Changing Order: Replication and Induction in Scientific Practice*, 2nd ed. (Chicago: University of Chicago Press, 1992 [1985]).

Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*, paperback reissue, with a new introduction (Princeton: Princeton University Press, 2011 [1985]).

Karin Knorr-Cetina, *Epistemic Cultures: How the Sciences Make Knowledge* (Cambridge: Harvard University Press, 2003 [1999]).

Claude Rosental, *Weaving Self-Evidence: A Sociology of Logic* (Princeton: Princeton University Press, 2008).

suggested review essay

David Kaiser, "A Mannheim for all seasons: Bloor, Merton, and the roots of the Sociology of Scientific Knowledge," *Science in Context* 11, no. 1 (1998): 51-87.

3. Actor-Network Theory, Cyborgs, and Nonhuman Agency

Bruno Latour and Steve Woolgar, *Laboratory Life: The Construction of Scientific Facts*, 2nd ed. (Princeton: Princeton University Press, 1986 [1979]).

Michel Callon, "Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St. Briec Bay," in *Power, Action and Belief: A New Sociology of Knowledge*, ed. John Law (London: Routledge and Kegan Paul, 1986), 196-233.

Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge: Harvard University Press, 1987).

Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge: Harvard University Press, 1993).

Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), esp. "Cyborg manifesto," 149-181.

Donna Haraway, *Modest_Witness@Second_Millennium.FemaleMan@_Meets_OncoMouse™ : Feminism and Technoscience* (New York: Routledge, 1997), esp. "Modest_Witness@Second_Millennium," 21-48.

Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: Prickly Paradigm/University of Chicago Press, 2003).

Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999).

Karen Barad, "Agential realism: Feminist interventions in understanding scientific practices," in *The Science Studies Reader*, ed. Mario Biagioli (New York: Routledge, 1999), 1-11.

suggested review books

Henning Schmidgen, *Bruno Latour in Pieces* (New York: Fordham University Press, 2014).

Thryza Nichols Goodeve, *How Like a Leaf: An Interview with Donna Haraway* (New York: Routledge, 1999).

4. Science as Practice and Material Culture

Michael Polanyi, *The Tacit Dimension*, rev. ed. (Chicago: University of Chicago Press, 2009 [1966]).

Harry Collins, "What is tacit knowledge?" in *The Practice Turn in Contemporary Theory*, ed. Theodore R. Schatzki, Karin Knorr-Cetina, and Eike von Savigny (London: Routledge, 2001), 107-119.

Pierre Bourdieu, "Structures and the habitus," in *Outline of a Theory of Practice* (New York: Cambridge University Press, 1977), 72-95.

Susan Leigh Star and James Griesemer, "Institutional ecology, 'translations,' and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-1939," *Social Studies of Science* 19, no. 3 (1989): 387-420.

Sharon Traweek, *Beamtimes and Lifetimes: The World of High Energy Physicists* (Cambridge: Harvard University Press, 1988).

Robert Kohler, *Lords of the Fly: Drosophila Genetics and the Experimental Life* (Chicago: University of Chicago Press, 1994).

Andrew Pickering, *The Mangle of Practice: Time, Agency, and Science* (Chicago: University of Chicago Press, 1995).

Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Stanford: Stanford University Press, 1997).

Peter Galison, *Einstein's Clocks, Poincaré's Maps: Empires of Time* (New York: W. W. Norton, 2003).

Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers* (Durham, NC: Duke University Press, 2006).

Annemarie Mol, *The Logic of Care: Health and the Problem of Patient Choice*. (London: Routledge, 2008).

suggested review essay

Timothy Lenoir, "Practice, reason, context: The dialogue between theory and experiment," in *Instituting Science: The Cultural Production of Scientific Disciplines* (Stanford: Stanford University Press, 1997), 22-44.

5. Technological Determinism vs. Social Constructions of Technology

Lewis Mumford, *Technics and Civilization*, with a New Foreword by Langdon Winner (Chicago: University of Chicago Press, 2010 [1934]).

Martin Heidegger, *The Question Concerning Technology, and Other Essays*, trans. William Lovitt (New York: Harper and Row, 1977 [1954]).

Lynn White, Jr., Chapter 1 in *Medieval Technology and Social Change* (New York: Oxford University Press, 1962), 1-38.

M. Roe Smith, *Harpers Ferry Armory and the New Technology: The Challenge of Change* (Ithaca: Cornell University Press, 1977).

Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic, 1983).

Wiebe Bijker, Thomas P. Hughes, and Trevor Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge: MIT Press, 1987).

Donald MacKenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance* (Cambridge: MIT Press, 1990).

M. Roe Smith, "Technological Determinism in American Culture," in *Does Technology Drive History? The Dilemma of Technological Determinism*, ed. M. Roe Smith and Leo Marx (Cambridge: MIT Press, 1994), 1-35.

Francesca Bray, *Technology and Gender: Fabrics of Power in Late Imperial China* (Berkeley: University of California Press, 1997).

Rayvon Fouché, "Say it loud, I'm black and I'm proud: African Americans, American artifactual culture, and black vernacular technological creativity," *American Quarterly* 58, no. 3 (2006): 639-661.

Nelly Oudshoorn and Trevor Pinch, eds., *How Users Matter: The Co-Construction of Users and Technologies* (Cambridge: MIT Press, 2003).

Ruth Oldenziel, *Making Technology Masculine: Men, Women, and Modern Machines in America, 1870-1945* (Amsterdam University Press, 2004).

David Edgerton, *The Shock of the Old: Technology and Global History Since 1900* (Oxford: Oxford University Press, 2007).

suggested review sources

Langdon Winner, "Upon opening the black box and finding it empty: Social constructivism and the philosophy of technology," *Science, Technology & Human Values* 18, no. 3 (1993): 362-378.

Linda L. Layne, Sharra L. Vostral and Kate Boyer, eds. *Feminist Technology*. (Urbana: University of Illinois Press, 2010).

6. Gender, Science, and Feminist STS

Carolyn Merchant, *The Death of Nature: Women, Ecology and the Scientific Revolution* (New York: Harper and Row, 1980).

Evelyn Fox Keller, *Reflections on Science and Gender* (New Haven: Yale University Press, 1985).

Emily Martin, *The Woman in the Body: A Cultural Analysis of Reproduction*, rev. ed. (Boston: Beacon, 2001 [1987]).

Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991).

Londa Schiebinger, *Nature's Body: Gender in the Making of Modern Science* (Boston: Beacon, 1993).

Dorothy Roberts, *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty* (New York: Pantheon, 1997).

Anne Fausto-Sterling, *Sexing the Body: Gender Politics and the Construction of Sexuality* (New York: Basic Books, 2000).

Angela N. H. Creager, Elizabeth Lunbeck, and Londa Schiebinger, eds., *Feminism in Twentieth-Century Science, Technology, and Medicine* (Chicago: University of Chicago Press, 2001).

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

Catharina Landström, "Queering feminist technology studies," *Feminist Theory* 8 (April 2007): 7–26.

Sandra Harding, *Sciences from Below: Feminisms, Postcolonialities, and Modernities* (Durham, NC: Duke University Press, 2008).

Sophia Roosth and Astrid Schrader, eds., "Feminist Theory Out of Science: Introduction," *differences: A Journal of Feminist Cultural Studies* 23 (Fall 2012).

7. Scientific Selves; Technology and Identity

Max Weber, "Science as a Vocation [1918]," in *Max Weber: Essays in Sociology*. ed. and trans. H. H. Gerth and C. Wright Mills (New York: Oxford University Press, 1946), 129-156.

Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago: University of Chicago Press, 1993).

Hugh Gusterson, *Nuclear Rites: A Weapons Laboratory at the End of the Cold War* (Berkeley: University of California Press, 1996).

Steven Shapin, *The Scientific Life: A Moral History of a Late Modern Vocation* (Chicago: University of Chicago Press, 2008).

Lucy Suchman, *Human-Machine Reconfigurations: Plans and Situated Actions*, 2nd ed. (New York: Cambridge University Press, 2007 [1987]).

Diana Forsythe, *Studying Those Who Study Us: An Anthropologist in the World of Artificial Intelligence* (Stanford: Stanford University Press, 2001).

Sherry Turkle, *The Second Self: Computers and the Human Spirit*, 20th anniversary ed. (Cambridge: MIT Press, 2005 [1984]).

Tom Boellstorff, *Coming of Age in Second Life: An Anthropologist Explores the virtually Human* (Princeton: Princeton University Press, 2008).

Rebecca Herzig, *Suffering for Science: Reason and Sacrifice in Modern America* (New Brunswick, NJ: Rutgers University Press, 2005).

Natasha Dow Schüll, *Addiction by Design: Machine Gambling in Las Vegas* (Princeton: Princeton University Press, 2012).

suggested review essay

Lorraine Daston and Otto Sibum, "Scientific personae and their histories," *Science in Context* 16, no. 1-2 (2003): 1-8.

8. Environment, Animals, Agriculture, and “The Natural”

Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 1964).

Gillian Beer, *Darwin’s Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction*, rev. ed. (New York: Cambridge University Press, 2009 [1983]).

William Cronon, *Nature’s Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991).

Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995).

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

Harriet Ritvo, *The Platypus and the Mermaid, and Other Figments of the Classifying Imagination* (Cambridge: Harvard University Press, 1998).

Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150-1750* (New York: Zone, 1998).

Kim Fortun, *Advocacy after Bhopal: Environmentalism, Disaster, New Global Orders* (Chicago: University of Chicago Press, 2001).

Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in American Agriculture* (New Haven: Yale University Press, 2003).

Christine Walley, *Rough Waters: Nature and Development in an East African Marine Park* (Princeton: Princeton University Press, 2004).

Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. (Berkeley: University of California Press, 2006).

Stefan Helmreich, *Alien Ocean: Anthropological Voyages in Microbial Seas* (Berkeley: University of California Press, 2009).

Heather Paxson, *The Life of Cheese: Crafting Food and Value in America* (Berkeley: University of California Press, 2013).

suggested review essays

Harriet Ritvo, “Animal planet,” *Environmental History* 9, no. 2 (2004): 204-220.

Fabien Locher and Grégory Quenet, trans. William Bishop, “Environmental history: The origins, stakes, and perspectives of a new site for research,” *Revue d’histoire moderne et contemporaine* 56, no. 4 (2009): http:// Cairn-int.info/article-E_RHMC_564_0007--environmental-history.htm

S. Eben Kirksey and Stefan Helmreich, “The emergence of multispecies ethnography,” *Cultural Anthropology* 25, no. 4 (2010): 545-576.

9. Law, Authority, and Property in Science and Technology

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

Ted Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton: Princeton University Press, 1995).

Steven Epstein, *Impure Science: AIDS, Activism, and the Politics of Knowledge* (Berkeley: University of California Press, 1996).

Thomas Gieryn, *Cultural Boundaries of Science: Credibility on the Line* (Chicago: University of Chicago Press, 1999).

Geoffrey Bowker and Susan Leigh Star, *Sorting Things Out: Classification and its Consequences* (Cambridge: MIT Press, 2000).

Stephen Hilgartner, *Science on Stage: Expert Advice as Public Drama* (Stanford: Stanford University Press, 2000).

Mario Biagioli and Peter Galison, eds. *Scientific Authorship: Credit and Intellectual Property in Science* (New York: Routledge, 2003).

Sheila Jasanoff, *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton: Princeton University Press, 2005).

Christopher Kelty, *Two Bits: The Cultural Significance of Free Software* (Durham, NC: Duke University Press, 2008).

Philip Mirowski, *Science-Mart: Privatizing American Science* (Cambridge: Harvard University Press, 2011).

Helen Fay Nissenbaum, *Privacy in Context: Technology, Policy, and the Integrity of Social Life* (Stanford: Stanford Law Books, 2010).

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Susan Silbey with Patricia Ewick, "The architecture of authority: The place of law in the space of science," in *The Place of Law*, ed. Austin Sarat, Lawrence Douglas, and Martha Umphrey (Ann Arbor: University of Michigan Press, 2003), 75-108.

10. Politics, Expertise, Planning, Security

Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986).

Paul Forman, "National Security as basis for physical research in the United States, 1940-1960," *Historical Studies in the Physical Sciences* 18 (1987): 149-229.

Ulrich Beck, *Risk Society: Towards a New Modernity*, trans. Mark Ritter (London: Sage, 1992).

Andrew Abbott, *The System of Professions: An Essay on the Division of Expert Labor* (Chicago: University of Chicago Press, 1988).

Diane Vaughan, *The Challenger Launch Decision: Risky Technology, Culture, and Deviance at NASA* (Chicago: University of Chicago Press, 1996).

Brian Wynne, "May the sheep safely graze? A reflexive view of the expert-lay knowledge divide," in *Risk, Environment and Modernity: Towards a New Ecology*, ed. S. Lash, B. Szerszynski, and B. Wynne (London: Sage, 1996), 44-83.

Paul Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge: MIT Press, 1996).

Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II*, 2nd ed. (Cambridge: MIT Press, 2009 [1998]).

Jessica Wang, *American Science in an Age of Anxiety: Scientists, Anticommunism, and the Cold War* (Chapel Hill: University of North Carolina Press, 1999).

Jennifer S. Light, *From Warfare to Welfare: Defense Intellectuals and Urban Problems in Cold War America* (Baltimore, MD: Johns Hopkins University Press, 2003).

Lynn Eden, *Whole World on Fire: Organizations, Knowledge, and Nuclear Weapons Devastation* (Ithaca: Cornell University Press, 2004).

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

(London: Bloomsbury, 2010).

11. Media and Mediation: Representation, Visualization, Sensing

Walter Benjamin, "The work of art in the age of mechanical reproduction [1936]," in *Illuminations: Essays and Reflections*, trans. Harry Zohn (New York: Harcourt Brace, 1968), 217-252.

Ernst Gombrich, *Art and Illusion: A Study in the Psychology of Pictorial Representation* (Princeton: Princeton University Press, 1969 [1960]).

Bruno Latour, "Drawing Things Together," in *Representation in Scientific Practice*, ed. Michael Lynch and Steve Woolgar (Cambridge: MIT Press, 1990), 19-68.

Martin Rudwick, *Scenes from Deep Time: Early Pictorial Representations of the Prehistoric World* (Chicago: University of Chicago Press, 1992).

Joseph Dumit, *Picturing Personhood: Brain Scans and Biomedical Identity* (Princeton: Princeton University Press, 2004).

Emily Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933* (Cambridge: MIT Press, 2002).

David Kaiser, *Drawing Theories Apart: The Dispersion of Feynman Diagrams in Postwar Physics* (Chicago: University of Chicago Press, 2005).

Lisa Gitelman, *Always Already New: Media, History and the Data of Culture* (Cambridge: MIT Press, 2006).

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

Diana Donald and Jane Munro, eds., *Endless Forms: Charles Darwin, Natural Science, and the Visual Arts* (New Haven: Yale University Press, 2009).

Sherry Turkle, ed., *Simulation and Its Discontents* (Cambridge: MIT Press, 2009).

Hanna Rose Shell, *Hide and Seek: Camouflage, Photography and the Media of Reconnaissance* (New York: Zone Books, 2012).

José Van Dijck, *The Culture of Connectivity: A Critical History of Social Media*. (Oxford: Oxford University Press, 2012).

Catelijne Coopmans, Janet Vertesi, Michael Lynch and Steve Woolgar, eds., *Representation in Scientific Practice Revisited* (Cambridge: MIT Press, 2014).

suggested review essay

Regula Valérie Burri and Joseph Dumit, "Social studies of scientific imaging and visualization," in *The Handbook of Science and Technology Studies*, 3rd ed., ed. Edward J. Hackett, Olga Amsterdamska, Michael Lynch, and Judy Wajcman (Cambridge: MIT Press, 2008), 297-317.

12. Calculation, Networks, Feedback, Management

Norbert Wiener, *Cybernetics: Or Control and Communication in the Animal and the Machine* (Cambridge: MIT Press, 1948).

Alfred Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge: Belknap, 1977).

David Noble, *America by Design: Science, Technology, and the Rise of Corporate Capitalism* (New York: Oxford University Press, 1979).

Joanne Yates, *Control through Communication* (Baltimore: Johns Hopkins University Press, 1989).

David Nye, *Electrifying America: Social Meanings of a New Technology, 1880-1940* (Cambridge: MIT Press, 1990).

Thomas Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: Johns Hopkins University Press, 1993).

Manuel Castells, *The Rise of the Network Society* (New York: Blackwell, 1996).

David Mindell, *Between Human and Machine: Feedback, Control, and Computing before Cybernetics* (Baltimore: Johns Hopkins University Press, 2002).

Matthew L. Jones, *The Good Life in the Scientific Revolution: Descartes, Pascal, Leibniz, and the Cultivation of Virtue* (Chicago: University of Chicago Press, 2006).

Donald MacKenzie, *An Engine, Not a Camera: How Financial Models Shape Markets* (Cambridge: MIT Press, 2006).

Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (Cambridge: MIT Press, 2011).

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Lucy Suchman, "Feminist STS and sciences of the artificial," in *The Handbook of Science and Technology Studies*, 3rd ed., ed. Edward J. Hackett, Olga Amsterdamska, Michael Lynch, and Judy Wajcman (Cambridge: MIT Press, 2008), 139-164.

13. Biology, Biomedicine, and Biopolitics

Michel Foucault, *The History of Sexuality*, trans. Robert Hurley (New York: Pantheon, 1978), vol. 1.

Charles Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (Chicago: University of Chicago Press, 1962).

Paul Rabinow, "Artificiality and Enlightenment: From sociobiology to biosociality," in *Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Zone, 1992), 234-252.

Adriana Petryna, *Life Exposed: Biological Citizens after Chernobyl* (Princeton: Princeton University Press, 2002).

Margaret Lock, *Twice Dead: Organ Transplants and the Reinvention of Death* (Berkeley: University of California Press, 2002).

Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2002).

David S. Jones, "Virgin Soils Revisited," *William and Mary Quarterly* 60, no. 4 (2003): 703-742

Hannah Landecker, *Culturing Life: How Cells Became Technologies* (Cambridge: Harvard University Press, 2007).

Sarah Franklin, *Dolly Mixtures: The Remaking of Genealogy* (Durham, NC: Duke University Press, 2007).

Barbara A. Koenig, Sandra Soo-Jin Lee, and Sarah S. Richardson, eds. *Revisiting Race in a Genomic Age* (New Brunswick, NJ: Rutgers University Press, 2008).

Sherine Hamdy, *Our Bodies Belong to God: Organ Transplants, Islam, and the Struggle for Human Dignity in Egypt* (Berkeley: University of California Press, 2012).

Kaushik Sunder Rajan, ed. *Lively Capital: Biotechnologies, Ethics, and Governance in Global Markets* (Durham, NC: Duke University Press, 2012).

Jeremy Greene, *Generic: The Unbranding of Modern Medicine* (Baltimore: Johns Hopkins University Press, 2014).

suggested review essays

Michael M. J. Fischer, "Emergent forms of life: Anthropologies of late or post modernities," in *Emergent Forms of Life and the Anthropological Voice* (Durham, NC: Duke University Press, 2003), 37-58.

Stefan Helmreich, "Species of biocapital," *Science as Culture* 17, no. 4 (2008): 463-478.

14. Postcolonialism, Power and Global Technoscience

Anne McCants, "Exotic goods, popular consumption, and the standard of living: Thinking about globalization in the early modern world," *Journal of World History* 18 (2007): 433-462.

Gyan Prakash, *Science and the Imagination of Modern India* (Princeton: Princeton University Press, 1999).

Helen Verran, *Science and an African Logic* (Chicago: University of Chicago Press, 2001).

Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002).

Warwick Anderson, *The Collectors of Lost Souls: Turning Kuru Scientists into Whitemen* (Baltimore: Johns Hopkins University Press, 2008).

Helen Tilley, *Africa as a Living Laboratory: Empire, Development and the Problem of Scientific Knowledge 1870-1950* (Chicago: University of Chicago Press, 2011).

Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (Cambridge: MIT Press, 2012).

Michael M. J. Fischer, "Science," in *A Companion to Moral Anthropology*, ed. Didier Fassin (Malden, MA: Wiley-Blackwell, 2012), 395-412.

Sean Hsiang-lin Lei, *Neither Donkey nor Horse: Medicine in the Struggle Over China's Modernity* (Chicago: University of Chicago Press, 2014).

Eden Medina, Ivan Da Costa Marques, and Christina Holmes, eds., *Beyond Imported Magic: Essays on Science, Technology, and Society in Latin America* (Cambridge: MIT Press, 2014).

Abena Dove Osseo-Asare, *Bitter Roots: The Search for Healing Plants in Africa* (Chicago: University of Chicago Press, 2014).

Clapperton Chakanetsa Mavhunga, *Transient Workspaces: Technologies of Everyday Innovation in Zimbabwe* (Cambridge: MIT Press, 2014).

suggested review essay

Warwick Anderson, "Postcolonial technoscience," *Social Studies of Science* 32, nos. 5-6 (2002): 643-658.

FURTHER RESOURCES

Readers and General Introductions

Sheila Jasanoff, Gerald E. Markle, James C. Petersen, and Trevor Pinch, eds., *The Handbook of Science and Technology Studies*, revised edition (Sage, 1995)

Mario Biagioli, ed., *The Science Studies Reader* (New York: Routledge, 1999).

Sergio Sismondo, *An Introduction to Science and Technology Studies* (Oxford: Blackwell, 2004)

Sal Restivo, ed. *Oxford Encyclopedia of Science, Technology, and Society*. (Oxford: Oxford University Press, 2005) David Hess, *Science Studies: An Advanced Introduction* (New York: New York University Press, 1997)

Wenda Bauchspies, Jennifer Croissant, and Sal Restivo, *Science, Technology, and Society: A Sociological Approach* (Wiley-Blackwell, 2005).

Edward J. Hackett, Olga Amsterdamska, Michael Lynch, and Judy Wajcman, eds., *The Handbook of Science and Technology Studies*, 3rd ed. (Cambridge: MIT Press, 2008).

Peter Galison, "Ten problems in history and philosophy of science," *Isis* 99 (2008): 111-124.

Michael M. J. Fischer, *Anthropological Futures* (Durham, NC: Duke University Press, 2009), esp. "Four Cultural Genealogies (or Haplotype Genealogical Tests) for a Recombinant Anthropology of Science and Technology."

Some Major Journals in the Field

Social Studies of Science: <http://sss.sagepub.com/>

Isis: <http://www.press.uchicago.edu/ucp/journals/journal/isis.html>

Science, Technology, and Human Values: <http://sth.sagepub.com/>

Technology and Culture: http://muse.jhu.edu/journals/technology_and_culture/

Science as Culture: www.tandfonline.com/toc/csac20/current

A more extensive list is here: <http://www.4sonline.org/resources/journals>