

HIS 620: “Seeing Science and Technology on the Move, 1500–Present”
Professors Daniela Bleichmar and Vanessa Schwartz
Fall 2011, Tuesdays, 2–5pm
Huntington Library, Seaver 3 Classroom



This team-taught research seminar will explore the role of visual and material culture in creating and circulating science and technology, particularly in trans-regional and global contexts, from ca. 1500 to the present. During the first half of the course, we will discuss shared readings relating to visibility, science and technology, and mobility. We will also address research methods and questions. In the second half of the semester, students will conduct original research using the world-class collection in the history of science and technology at the Huntington Library as well as other relevant local archival collections such as those at the Getty or the Herrick Library, under the guidance of both professors. Topics such as the fabrication of portable objects; visual, scientific, and technical knowledge transfer across space; transportation; technologies of communication; and motion studies are all possible avenues of inquiry. Students will be expected to produce a seminar paper of article length based in original research. The seminar is interdisciplinary and comparative, and welcomes doctoral students in the humanities and interpretive social sciences working in any period. The seminar is approved for credit for students in art history and the Visual Studies Graduate Certificate, and will also count toward a new graduate certificate in Science, Technology, and Society.

Readings

Please purchase the following books from your bookseller of choice (they have not been ordered from the University Bookstore):

1. Galileo Galilei, *Sidereus Nuncius, or, The Sidereal Messenger* [1610], ed. Albert Van Helden (University of Chicago Press, 1989)
2. Denis Cosgrove, *Apollo's Eye. A Cartographic Genealogy of the Earth in the Western Imagination* (Johns Hopkins University Press, 2001)
3. John Gillis, *Islands of the Mind: How the Human Imagination Created the Atlantic World* (New York: Palgrave Macmillan, 2004)

All other readings are available as PDF files on Blackboard.

Discussion Boards

Each Monday night by 9pm please post on the discussion board on Blackboard a reflection on the week's readings or the research paper progress assignment, as appropriate. Please read all of your classmates' posts before seminar.

Schedule of Readings and Research

Week 1 (08/23): Visual and Material Embodiments of Science and Technology

- a) Listen to selected episodes from the BBC Series, "A History of the World in 100 Objects" (<http://www.bbc.co.uk/ahistoryoftheworld/programme>). Choose 10–15 objects from the last five sections of the series—[The First Global Economy \(1450 - 1600 AD\)](#), [Tolerance and Intolerance \(1550 - 1700 AD\)](#), [Exploration, Exploitation and Enlightenment \(1680 - 1820 AD\)](#), [Mass Production, Mass Persuasion \(1780 - 1914 AD\)](#), and [The World of Our Making \(1914 - 2010 AD\)](#) (total listening time: 2hrs 30mins to 3hrs 45 mins). Select at least one object from each of the sections.
- b) Read: *ISIS*, vol. 97, no. 1 (March 2006): Focus section on "Science and Visual Culture":
 1. Norton Wise, "Making Visible," 75–82
 2. Pamela H. Smith, "Art, Science, and Visual Culture in Early Modern Europe," 83–100
 3. Iwan Rhys Morus, "Seeing and Believing Science," 101–110
 4. Jennifer Tucker, "The Historian, the Picture, and the Archive," 111–120
 5. Hannah Landecker, "Microcinematography and the History of Science and Film," 121–132

Week 2 (08/30): Mobility and Globalism

1. Tim Cresswell, *On the Move: Mobility in the Modern Western World* (Routledge, 2006), 1–25: "The Production of Mobilities: An Interpretive Framework"
2. Michael Geyer and Charles Bright, "World History in a Global Age," *American Historical Review*, vol. 100, no. 4 (October 1995): 1034–1060

3. Barry Flood, David Joselit, Alexander Nagel, Alessandra Russo, Eugene Wang, Christopher Wood, and Mimi Yiengpruksawan, "Roundtable: The Global before Globalization," *October* 133 (Summer 2010): 3–19
4. Stephen Greenblatt (ed.), *Cultural Mobility: A Manifesto* (Cambridge University Press, 2010): "Cultural Mobility: An Introduction" and "A Mobility Studies Manifesto," 1–23 and 250–253
5. Bruno Latour, "Drawing Things Together," in *Representation in Scientific Practice*, ed. M. Lynch and S. Woolgar (Cambridge, Mass.: MIT Press, 1990), 19–68

PAPER PROGRESS: Post on Blackboard a one- to two-paragraph statement of research interests and ideas. Everyone reads everyone's statements.

Week 3 (09/06): Instruments and Tools: Working with Sources

1. Visit the *Beautiful Science* exhibit at the Huntington Library and write a response on the role of visual and material culture (post on BB discussion board). What does mobility have to do with it?
2. Galileo Galilei, *Sidereus Nuncius, or, The Sidereal Messenger* [1610], ed. Albert Van Helden (University of Chicago Press, 1989)
3. *Science is Fiction: 23 Films by Jean Painlevé*, selections
4. Andy Masaki Bellows, Marina McDougall, and Brigitte Berg (eds.), *Science Is Fiction: The Films of Jean Painlevé* (MIT Press, 2001): "Feet in the Water" and "The Scientific Film," 131–139 and 161–169
5. Visit with Dan Lewis and examination of the Burndy Collection

PAPER PROGRESS: Thinking about research materials and why anyone should care (in-class discussion).

RELATED EVENT (OPTIONAL): Friday 09/09, Huntington Library, symposium on "Early Modern Science as a Visual Pursuit: The Case of the Royal Society." Speakers: Sachiko Kusakawa, Craig Hanson, Meghan Doherty, and Matthew Hunter

Week 4 (09/13): Visualizations of Space and Geography: Maps, Globes, Islands

1. Denis Cosgrove, *Apollo's Eye. A Cartographic Genealogy of the Earth in the Western Imagination* (Johns Hopkins University Press, 2001), 1–29, 79–102, 176–268
2. John Gillis, *Islands of the Mind: How the Human Imagination Created the Atlantic World* (New York: Palgrave Macmillan, 2004)

PAPER PROGRESS: Post on Blackboard a one- to two-paragraph research proposal, identifying the issue to be studied and explaining what you hope to find. It should also make a list of possible primary sources that you might use and name their location.

Week 5 (09/20): Portability: Things Going Places

1. John Plotz, *Portable Property: Victorian Culture on the Move* (Princeton University Press, 2008), "Introduction: The Global, the Local, and the Portable," 1–23
2. William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991), ch. 3, "Pricing the Future: Grain," 97–147; ch. 4, "The Wealth of Nature: Lumber," 148–206; ch. 5, "Annihilating Space: Meat," 207–262
3. Jennifer Roberts, "Copley's Cargo. Boy with a Squirrel and the Dilemma of Transit," *American Art*, vol. 21, no. 2 (Summer 2007): 20–41
4. Anke te Hessen, "Boxes in Nature," *Studies in History and Philosophy of Science*, vol. 31, no. 3 (2000): 381–403

PAPER PROGRESS: Submit a bibliography of secondary and primary sources. Write two paragraphs about what you have learned so far from the literature and what you are looking for in the primary sources. We will discuss your research strategy because now is the time to plunge into the sources.

REQUIRED EVENTS: Gregg Mitman, University of Wisconsin-Madison

- Thursday 09/22, 4pm, SOS 250, USC: "A Journey without Maps: Film and the Cartography of Subjectivity" (on documentary film, technology, and rubber in Africa).
- Friday 09/23, noon, Huntington Library, Munger Building, Seaver 1 Classroom: lunch workshop, "Documenting the World: Photography, Film, and the Scientific Record"

Transportation: Distance and Speed

- Barbara Maria Stafford, *Voyage Into Substance: Art, Science, Nature, and the Illustrated Travel Account, 1740–1840* (MIT Press, 1984), selections
- Hillel Schwartz, "Torque: The New Kinaesthetic of the Twentieth Century" in Jonathan Crary and Sanford Kwinter (eds.), *Zone 6: Incorporations* (Zone Books, 1992), 70–126
- Margaret Rosler, "Travel Stories," *Grey Room*, No. 8 (Summer, 2002): 108–137
- Andrew Lakoff, "Mental Illness and the Global Trade in DNA," *Theory and Society* 34 (2005): 63–92

Week 6 (09/27): Documents Week

PAPER PROGRESS: Each student posts a short primary source of some kind (textual, visual, material) by Sunday night. Texts should be 3 pages long or shorter. All students read/view all primary sources. Each student will then have five minutes to present the source and we will discuss each briefly.

Week 7 (10/04): No class meeting. Research/writing.

Post a progress report on Blackboard by Monday 10/03 at 8pm. This is not only a chance to articulate what you're up to with your research but also to bring up any

problems and questions that are coming up and to ask for suggestions and feedback from everyone. Read everyone's post and offer suggestions as appropriate.

Week 8 (10/11): No class meeting. Chunk writing

Post a progress report on Blackboard by Monday 10/10 at 8pm; read everyone's statement; be helpful.

Week 9 (10/18): No meeting. Submit and read chunks.

A chunk is ANY 5-7 page portion of your paper. It can be a segment that concentrates on a particular set of documents; the start of the paper; historiography or its conclusion.

Submit your chunk by Friday 10/21 at 5pm.

Week 10 (10/25): Discussion of chunks.

Each student has an "editor" who presents the chunk they read and what suggestions they have. VRS and DB will assign editors.

Week 11 (11/01): No class: Individual meetings.

Rough drafts due on BB on 11/02. Each student has a critic who is responsible for line-editing their paper. In addition, each student must read each paper and post a comment on the draft on BB and then everyone needs to read everyone's comments. Over the next two weeks we split the draft discussions into two groups. In seminar, each student will summarize the criticism they got and begin the discussion of their paper by explaining what they understand from the written response and seek elaboration and direction for revisions during the seminar.

Week 12 (11/08): Group one draft discussion

Week 13 (11/15): Group two draft discussion

Week 14 (11/22): No class meeting. Work on papers

Week 15 (11/29): Individual meetings

Paper Due at class dinner: Tuesday, December 6 at 5pm