

## Colloquium in the History of Technology & Nature | 510:535

Fall 2017

Mon. 9:50 AM-12:50 PM

Van Dyck 011

Prof. Jamie Pietruska

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Van Dyck 311

Office hours: Mon. 9-9:45 AM; Wed. 12-1, 2:30-4 PM (or by appointment)

### **Course Description**

This STEH graduate colloquium will examine the historical intersections of nature and technology and trace the historiographical emergence of an area of inquiry recently identified as “envirotech.” The entangled histories of nature and technology have been examined across multiple disciplines and fields, especially environmental history and the history of technology, but also STS, sociology, and geography, among others. We will read widely across time and place, with an emphasis on recent monographs and articles that adopt global, comparative, transnational, and US-in-the-world perspectives. This course is designed for graduate students in History who are preparing for a major or minor field in STEH, as well as students concentrating in US, European, Global/Comparative, and other fields whose interests relate broadly to industrialization and its ecological consequences, capitalism and the commodification of nature, agriculture, empire, energy, discourses of modernization, networks of technoscientific and commercial exchange, knowledge production, and embodied experiences of technologies. (Our reading list is not comprehensive but rather designed to introduce a range of approaches and topics that students may pursue in more depth in their qualifying exam lists and/or their own research.)

The course will focus on these major questions: How have the concepts of *technology* and *nature* changed over time, particularly in the 19<sup>th</sup> and 20<sup>th</sup> centuries? How have the historical interactions of technology and nature unfolded differently across time and place? How have technologies historically reshaped non-human nature, and how has the natural world resisted and redirected technological change? How and why have scholars shifted away from a binary opposition between technology and nature toward a hybrid framework of envirotech? How do national, comparative, and global frameworks shape narratives of ecological and technological change? How is the history of envirotech narrated differently at different scales, from the macro-level of the infrastructural to the meso-level of the institutional to the micro-level of the individual organism? How have histories of race, class, and gender intersected with histories of technology and nature?

The course is divided into four thematic units (on energy, agriculture, knowledge production, and bodies), and specific topics will include energy infrastructures; nuclear power and toxicity; industrialization and public health; industrial agriculture and discourses of modernization; climate modeling; technologies of war and empire;

timekeeping; seismology and citizen science; pharmaceutical production; mobilities and innovation; and race, gender, sexuality, and technologies of the quotidian.

### **Course Requirements & Policies**

Coursework consists of weekly readings, short weekly response papers of 500 words (to be posted to our course Sakai blog by 7 PM each Sunday), thoughtful and sustained engagement in our class discussions, a short book review (5 pages), and a final historiographical essay (12-15 pages). In addition, students will take turns introducing the readings and starting the discussion each week. I will provide more detail about each assignment as the course gets underway.

The success of our intellectual community will depend on your attendance (and on-time arrival) at every class meeting, careful reading of all assignments, intellectual engagement, and collegial participation in our scholarly conversations. Please note that computers and tablets may be used for note taking only and that mobile phones may not be used during class. Email is the best way to reach me, and I answer emails within 24 hours.

### **Required Books**

Required books are available for purchase at the Rutgers Bookstore and online, as well as on course reserve at the Alexander Library. Additional readings will be posted on Sakai.

Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford University Press, 2015 [2013]).

Paperback ISBN: 9780190233105

Deborah R. Coen, *The Earthquake Observers: Disaster Science from Lisbon to Richter* (University of Chicago Press, 2014 [2012]). Paperback ISBN: 9780226212050

Nick Cullather, *The Hungry World: America's Cold War Battle against Poverty in Asia* (Harvard University Press, 2013 [2010]). Paperback ISBN: 9780674725812

Paul Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (MIT Press, 2013 [2010]). Paperback ISBN: 9780262518635

Courtney Fullilove, *The Profit of the Earth: The Global Seeds of American Agriculture* (University of Chicago Press, 2017). Hardcover ISBN: 9780226454863

Jacob Darwin Hamblin, *Arming Mother Nature: The Birth of Catastrophic Environmentalism* (Oxford University Press, 2017 [2013]). Paperback ISBN: 9780190674151

Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (MIT Press, 2014 [2012]). Paperback ISBN: 9780262526869

Rebecca Herzig, *Plucked: A History of Hair Removal* (NYU Press, 2017 [2015]). Paperback ISBN: 978-147985281-9

Christopher F. Jones, *Routes of Power: Energy and Modern America* (Harvard University Press, 2016 [2014]). Paperback ISBN: 9780674970922

- Gabriela Soto Laveaga, *Jungle Laboratories: Mexican Peasants, National Projects, and the Making of the Pill* (Duke University Press, 2009). Paperback ISBN: 978-0-8223-4605-0
- Clapperton Chakanetsa Mavhunga, *Transient Workspaces: Technologies of Everyday Innovation in Zimbabwe* (MIT Press, 2014). Hardcover ISBN: 9780262027243
- Vanessa Ogle, *The Global Transformation of Time, 1870-1950* (Harvard University Press, 2015). Hardcover ISBN: 9780674286146
- Brett Walker, *Toxic Archipelago: A History of Industrial Disease in Japan* (Washington University Press, 2011 [2010]). Paperback ISBN: 9780295991382

### **Grading**

- 25% Response papers
- 25% Participation
- 10% Book review
- 40% Historiographical essay

### **Schedule**

#### **Week 1 (Sept. 11): Definitions and Debates**

##### **\*No response paper due**

- Leo Marx, "The Idea of Nature in America," *Daedalus* (Spring 2008): 8-21. [Sakai]
- Leo Marx, "Technology: The Emergence of a Hazardous Concept," *Technology and Culture* 51, no. 3 (2010): 561-77. [Sakai]
- John M. Staudenmaier, S. J., "Rationality, Agency, Contingency: Recent Trends in the History of Technology," *Reviews in American History* 30, no. 1 (2002): 168-81. [Sakai]
- Paul Sutter, "The World With Us: The State of American Environmental History," *Journal of American History* 100, no. 1 (2013): 94-119. [Sakai]
- Sara B. Pritchard, "Joining Environmental History with Science and Technology Studies: Promises, Challenges and Contributions," in *New Natures: Joining Environmental History with Science and Technology Studies*, ed. Dolly Jørgensen, Finn Arne Jørgensen, and Sara B. Pritchard (University of Pittsburgh Press, 2013), 1-17. [Sakai]
- Edmund P. Russell, "Can Organisms be Technology?" in Stephen Cutcliffe and Martin Reuss, eds., *The Illusory Boundary* (UVA Press, 2010), 249-262. [Sakai]

### **Unit 1: Energy and Infrastructures**

#### **Week 2 (Sept. 18): Nuclear Politics and Envirotechnical Disasters**

- Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford University Press, 2015 [2013]).
- Sara B. Pritchard, "An Envirotechnical Disaster: Nature, Technology, and Politics at Fukushima," *Environmental History* 17, no. 2 (April 2012): 219-43. [Sakai]

**Week 3 (Sept. 25): Technopolitics and Empire**

Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (MIT Press, 2014 [2012]).

Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II* (MIT Press, 2009), introduction. [Sakai]

Toby C. Jones, “Crude Ecology: Technology and the Politics of Dissent in Saudi Arabia,” in *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, ed. Gabrielle Hecht (MIT Press, 2011), 209-30. [Sakai]

**Week 4 (Oct. 2): Transportation Infrastructures**

Christopher F. Jones, *Routes of Power: Energy and Modern America* (Harvard University Press, 2016 [2014]).

Ashley Carse, “Nature as Infrastructure: Making and Managing the Panama Canal Watershed,” *Social Studies of Science* 42, no. 4 (2012): 539–563. [Sakai]

Christopher Wells, *Car Country: An Environmental History* (University of Washington Press, 2013), prologue & chap. 4. [Sakai]

**Unit 2: Agriculture and Commodifying Nature****Week 5 (Oct. 9): Networks of Exchange**

Courtney Fullilove, *The Profit of the Earth: The Global Seeds of American Agriculture* (University of Chicago Press, 2017).

William Cronon, *Nature’s Metropolis: Chicago and the Great West* (W. W. Norton, 1991), chap. 3 (“Pricing the Future: Grain”). [Sakai]

Leida Fernández Prieto, “Islands of Knowledge: Science and Agriculture in the History of Latin America and the Caribbean,” *Isis* 104, no. 4 (2013): 788-97. [Sakai]

**Week 6 (Oct. 16): Ideologies of Progress and Development****\*Book review due (no response paper due)**

Nick Cullather, *The Hungry World: America’s Cold War Battle against Poverty in Asia* (Harvard University Press, 2013 [2010]).

Deborah Fitzgerald, *Every Farm a Factory: The Industrial Ideal in American Agriculture* (Yale, 2010), introduction and chap. 1. [Sakai]

Jenny Leigh Smith, *Works in Progress: Plans and Realities on Soviet Farms, 1930-1963* (Yale University Press, 2014), introduction and chap. 1. [Sakai]

**Unit 3: Knowledge Production and Technoscientific Expertise****Week 7 (Oct. 23): Predicting and Engineering Disaster**

Deborah R. Coen, *The Earthquake Observers: Disaster Science from Lisbon to Richter* (University of Chicago Press, 2014 [2012]).

Fa-Ti Fan, “‘Collective Monitoring, Collective Defense’: Science, Earthquakes, and Politics in Communist China,” *Science in Context* 25, no. 1 (2012): 127-54. [Sakai]

Jacob Darwin Hamblin, *Arming Mother Nature: The Birth of Catastrophic Environmentalism* (Oxford University Press, 2017 [2013]).

**Week 8 (Oct. 30): Temporalities of Capitalism and Globalization**

Vanessa Ogle, *The Global Transformation of Time, 1870-1950* (Harvard University Press, 2015).

E.P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past and Present* 38 (December 1967): 56-97. [Sakai]

Alexis McCrossen, *Marking Modern Times: A History of Clocks, Watches, and Other Timekeepers in American Life* (University of Chicago Press, 2013), introduction. [Sakai]

**Week 9 (Nov. 6): Epistemologies of Weather and Climate**

Paul Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (MIT Press, 2013 [2010]).

Samuel Randalls, "Weather Profits: Weather Derivatives and the Commercialization of Meteorology," *Social Studies of Science* 40, no. 5 (2010): 705-30. [Sakai]

**Unit 4: Bodies, Labor, and Technologies of the Quotidian****Week 10 (Nov. 13): Mobilities**

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

**Week 11 (Nov. 20): Industrial Toxicity**

Brett Walker, *Toxic Archipelago: A History of Industrial Disease in Japan* (Washington University Press, 2011 [2010]).

**Week 12 (Nov. 27)**

**\*No class (reading week)**

**Week 13 (Dec. 4): Sexuality, Race, and Technoscience**

Rebecca Herzig, *Plucked: A History of Hair Removal* (NYU Press, 2017 [2015]).

Carolyn de la Peña, "The History of Technology, the Resistance of Archives, and the Whiteness of Race," *Technology & Culture* 51, no. 4 (2010): 919-37. [Sakai]

**Week 14 (Dec. 11): Bioprospecting and Biomedicine**

Gabriela Soto Laveaga, *Jungle Laboratories: Mexican Peasants, National Projects, and the Making of the Pill* (Duke University Press, 2009).

**\*Final paper due on or before Wednesday, Dec. 20 (to be submitted in hard copy to my mailbox in Van Dyck)**