

**Colloquium in the History of Technology: Technoscience & Capitalism | 510:535**  
Spring 2020  
Tuesdays 2:50 PM-5:50 PM  
Van Dyck 308

Prof. Jamie Pietruska  
<[pietrusk@history.rutgers.edu](mailto:pietrusk@history.rutgers.edu)> | 848.932.8544  
Van Dyck 311

Office hours: Tu 11:30 AM-12:30 PM; Th 11:30 AM-12:30 PM, 2:45-3:45 PM; or by appt.

### **Course Description**

This STEH/Global graduate colloquium will examine the historical intersections of technoscience and capitalism and consider recent historiographical approaches to this topic. 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 MA and PhD students in History who are preparing for a major or minor field in STEH or Global/Comparative as well as students concentrating in other fields whose interests relate broadly to networks of technoscientific and commercial exchange, quantification and knowledge production in economic life, markets and their meanings, capitalism and the commodification of nature, industrialization and its ecological consequences, and the embodied experiences of technologies of the quotidian. 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 has the historical relationship between technoscience and capitalism changed from the 17<sup>th</sup> century to the present day, particularly in the 19<sup>th</sup> and 20<sup>th</sup> centuries? How have the historical entanglements of technoscience and capitalism unfolded differently across time and place? How have histories of race, class, gender, and sexuality intersected with histories of technoscience and capitalism? How do global, comparative, and national frameworks shape narratives of technoscientific and economic change? How is the history of technoscience and capitalism 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?

The course is divided into four thematic units (on epistemologies, environments, commodities and infrastructures, and bodies and lives), and specific topics will include temporality and timekeeping; life insurance and racialized risk; prediction and the commercialization of science; socialist cybernetics; nuclear power and toxicity; scientific agriculture; bioprospecting and pharmaceutical production; global networks of commodity exchange; slavery and quantification; bodily technologies of the quotidian; race, gender, sexuality, and algorithmic bias; and economic metaphors for daily life.

### **Course Requirements & Policies**

Coursework consists of weekly readings, short weekly response papers of 300-400 words (to be posted to our course Canvas site by 5 PM each Monday), thoughtful and sustained engagement in our class discussions, a short book review (4-5 pages), and a final historiographical review essay (12-15 pages). In addition, students will take turns introducing the readings and leading 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, consistent engagement, and collegial participation in our weekly 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 typically answer emails within one business day.

### **Required Books**

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

Sven Beckert, *Empire of Cotton: A Global History* (Vintage, 2015). Paperback ISBN: 9780375713965

Ruha Benjamin, *Race After Technology: Abolitionist Tools for the New Jim Code* (Polity, 2019). Paperback ISBN: 978-1509526406

Dan Bouk, *How Our Days Became Numbered: Risk and the Rise of the Statistical Individual* (University of Chicago Press, 2018 [2015]). Paperback ISBN: 9780226564869

Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford University Press, 2015 [2013]). Paperback ISBN: 9780190233105

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

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: 9781479852819

Mar Hicks, *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing* (MIT Press, 2017). Paperback ISBN: 978-0262535182

Gabriela Soto Laveaga, *Jungle Laboratories: Mexican Peasants, National Projects, and the Making of the Pill* (Duke University Press, 2009). Paperback ISBN: 9780822346050

Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (MIT Press, 2014 [2011]). Paperback ISBN: 9780262525961

Michelle Murphy, *The Economization of Life* (Duke University Press, 2017). Paperback ISBN: 780822363453

Vanessa Ogle, *The Global Transformation of Time, 1870-1950* (Harvard University Press, 2015). Hardcover ISBN: 9780674286146

Caitlin Rosenthal, *Accounting for Slavery: Masters and Management* (Harvard University Press, 2018). Hardcover ISBN: 9780674972094

### **Schedule**

**\*The professor reserves the right to adjust the schedule in case of inclement weather or other unforeseen events.**

**\*\*Please note that there is a set of short readings assigned for the first day of class (January 21).**

### **Week 1 (Jan. 21): Definitions and Debates**

**\*No response paper due**

Lukas Rieppel, Eugenia Lean, and William Deringer, "Introduction: The Entangled Histories of Science and Capitalism," *Osiris* 33 (2018): 1-24, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699170>

Jessica Ratcliff, "The Great Data Divergence: Global History of Science within Global Economic History," in *Global Scientific Practice in an Age of Revolutions, 1750–1850*, ed. Patrick Manning and Daniel Rood (Pittsburgh, 2016), 237–54 [Canvas]

Harold J. Cook, "Sciences and Economies in the Scientific Revolution: Concepts, Materials, and Commensurable Fragments," *Osiris* 33 (2018): 25-44, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699171>

James Delbourgo, "The Knowing World: A New Global History of Science," *History of Science* 57, no. 3 (September 2019): 373–99, doi:[10.1177/0073275319831582](https://doi.org/10.1177/0073275319831582)

Kenneth Lipartito, "Reassembling the Economic: New Departures in Historical Materialism," *American Historical Review* 121, no. 1 (2016): 101-139, <https://doi-org.proxy.libraries.rutgers.edu/10.1093/ahr/121.1.101>

Jonathan Levy, "Capital as Process and the History of Capitalism," *Business History Review* 91 (2017): 483–510, <https://doi-org.proxy.libraries.rutgers.edu/10.1017/S0007680517001064>

## **PART 1: EPISTEMOLOGIES**

### **Week 2 (Jan. 28): 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, <https://www-jstor-org.proxy.libraries.rutgers.edu/stable/649749>

Emily Callaci, "On Acknowledgments," *American Historical Review* (February 2020): 1-6, <https://academic.oup.com/ahr/advance-article/doi/ahr/rhz938>

### **Week 3 (Feb. 4): Quantifying and Racializing Risk**

Dan Bouk, *How Our Days Became Numbered: Risk and the Rise of the Statistical Individual* (University of Chicago Press, 2018 [2015])

Shennette Garrett-Scott, "To Do a Work that Would Be Very Far Reaching: Minnie Geddings Cox, the Mississippi Life Insurance Company, and the Challenges of Black Women's Business Leadership in the Early Twentieth-Century United States," *Enterprise and Society* 17, no. 3 (2016): 473-514, <https://doi-org.proxy.libraries.rutgers.edu/10.1017/eso.2015.66>

### **Week 4 (Feb. 11): Calculating and Commercializing the Future**

**\*Discussion followed by workshop on publishing a scholarly article and writing for a popular audience**

William Deringer, "Compound Interest Corrected: The Imaginative Mathematics of the Financial Future in Early Modern England," *Osiris* 33 (2018): 109-129, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699236>

Jamie L. Pietruska, "'A Tornado is Coming!': Counterfeiting and Commercializing Weather Forecasts from the Gilded Age to the New Era," *Journal of American History* 105, no. 3 (2018): 538-62, <https://doi-org.proxy.libraries.rutgers.edu/10.1093/jahist/jay278>

Samuel Randalls, "Weather Profits: Weather Derivatives and the Commercialization of Meteorology," *Social Studies of Science* 40, no. 5 (2010): 705-30, <https://www-jstor-org.proxy.libraries.rutgers.edu/stable/25746360>

Michael Specter, "Climate by Numbers," *New Yorker*, November 3, 2013, <https://www.newyorker.com/magazine/2013/11/11/climate-by-numbers>

Caitlin Zaloom, "How to Read the Future: The Yield Curve, Affect, and Financial Prediction," *Public Culture* 21, no. 2 (2009): 245-68, <https://doi-org.proxy.libraries.rutgers.edu/10.1215/08992363-2008-028>

*Recommended:*

Michael Specter, "Why the Climate Corporation Sold Itself to Monsanto," *New Yorker*, November 3, 2013, <https://www.newyorker.com/tech/annals-of-technology/why-the-climate-corporation-sold-itself-to-monsanto>

Jamie L. Pietruska, "[Why President Trump's Sharpie weather map was likely a crime — and should be.](#)" Made by History, *Washington Post*, Sept. 6, 2019

### **Week 5 (Feb. 18): Planning and Calculating Socialist Futures**

Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (MIT Press, 2014 [2011])

Arunabh Ghosh, "Lies, Damned Lies, and (Bourgeois) Statistics: Ascertaining Social Fact in Midcentury China and the Soviet Union," *Osiris* 33 (2018): 149-168, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699237>

Jeff Grischow and Holger Weiss, "Pan-Africanism, Socialism and the Future: Development Planning in Ghana, 1951-1966," in *The Struggle for the Long-Term in Transnational Science and Politics: Forging the Future*, ed. Jenny Andersson and Eglė Rindzevičiūtė (Routledge), 218-240 [Canvas]

## **PART 2: ENVIRONMENTS**

### **Week 6 (Feb. 25): 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, <https://doi-org.proxy.libraries.rutgers.edu/10.1093/envhis/ems021>

### **Week 7 (Mar. 3): The Scales of Scientific Agriculture**

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

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, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/674945>

Emily Pawley, "Feeding Desire: Generative Environments, Meat Markets, and the Management of Sheep Intercourse in Great Britain, 1700-1750," *Osiris* 33 (2018): 47-62, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699233>

### **Week 8 (Mar. 10): Bioprospecting and Biomedicine**

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

Stefan Helmreich, "Blue-green Capital, Biotechnological Circulation and an Oceanic Imaginary: A Critique of Biopolitical Economy," *BioSocieties* 2, no. 3 (2007): 287-302, DOI: <https://doi-org.proxy.libraries.rutgers.edu/10.1017/S1745855207005753>

## **SPRING RECESS**

### **PART 3: COMMODITIES AND INFRASTRUCTURES**

#### **Week 9 (Mar. 24): Technopolitics and Empire**

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

**\*Book review due\***

#### **Week 10 (Mar. 31): Networks of Exchange**

Sven Beckert, *Empire of Cotton: A Global History* (Vintage, 2015)

Andrew Zimmerman, "A German Alabama in Africa: The Tuskegee Expedition to German Togo and the Transnational Origins of West African Cotton Growers," *American Historical Review* 110, no. 5 (2005): 1362-1398, <https://www-jstor-org.proxy.libraries.rutgers.edu/stable/10.1086/ahr.110.5.1362>

David Singerman, "Sugar Machines and the Fragile Infrastructure of Commodities in the Nineteenth Century," *Osiris* 33 (2018): 63-84, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699234>

### **PART 4: BODIES AND LIVES**

#### **Week 11 (Apr. 7): Slavery and Management**

Caitlin Rosenthal, *Accounting for Slavery: Masters and Management* (Harvard University Press, 2018)

Sowande' M. Mustakeem, "'I Never Have Such A Sickly Ship Before': Diet, Disease, and Mortality in 18th-Century Atlantic Slaving Voyages," *Journal of African American History* 93 (Fall 2008): 474-496, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/JAAHv93n4p474>

#### **Week 12 (Apr. 14): Bodily Practices and Markets**

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

Eugenia Lean, "Making the Chinese Copycat: Trademarks and Recipes in Early Twentieth-Century Global Science and Capitalism," *Osiris* 33 (2018): 271-293, <https://doi-org.proxy.libraries.rutgers.edu/10.1086/699920>

Kara W. Swanson, *Banking on the Body: The Market in Blood, Milk, and Sperm in Modern America* (Harvard University Press, 2014), introduction and chapter 5 ("Feminine Banks and the Milk of Human Kindness") [Canvas]

#### **Week 13 (Apr. 21): Computing and Algorithmic Bias**

Ruha Benjamin, *Race After Technology: Abolitionist Tools for the New Jim Code* (Polity, 2019), selected chapters TBA

Mar Hicks, *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing* (MIT Press, 2017), selected chapters TBA

Mar Hicks, "Hacking the Cis-tem," *IEEE Annals of the History of Computing* 41, no. 1 (March 2019): 20-33, DOI: [10.1109/MAHC.2019.2897667](https://doi.org/10.1109/MAHC.2019.2897667)

**Week 14 (Apr. 28): Valuing Life**

Michelle Murphy, *The Economization of Life* (Duke University Press, 2017)

Eli Cook, "The Pricing of Everyday Life," *Raritan: A Quarterly Review* 32, no. 3 (2013): 109-121 [Canvas]

**\*Final paper due in hard copy to my Van Dyck mailbox by Tuesday, May 12, 5:00 PM.\***