History 302 / Anthropology 302A

Technopolitics: Materiality, Power, Theory

Fall 2019
Thursdays 12-2:50pm
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This graduate seminar provides a lively introduction to some of the major themes and issues in the field of Science and Technology Studies (STS). How do technologies and material assemblages perform power? How are their designs and uses shaped by social, cultural, and political dynamics? How do they shape those dynamics? The course draws on an interdisciplinary body of literature in humanities and social science, mixing theoretical material with more empirically oriented studies. We will read a mix of classics and new scholarship.

Course requirements

Talking & listening

This is a discussion seminar. Its success depends on the commitment and involvement of all members. Therefore, you are expected to arrive thoroughly prepared to participate actively in all discussions. Participation is not just about talking – it's also about listening and noticing. This is particularly important with a multi-disciplinary group: we must speak in ways that others can understand, hear unfamiliar concepts and engage with them seriously, and avoid the temptation to show off esoteric knowledge with fashionable jargon or name-dropping.

It's especially important to give others the space to talk. If you're one of those people who always has something to say, try holding back sometimes. If you're someone whose heart races every time they raise their hand to contribute, take heart: that was me, 30 years ago. We want to hear you, even if the thought isn't well-formed. Everyone, regardless of self-identification, should endeavor to notice and correct any unfortunate gender (or other) dynamics that may emerge. I cannot stress this latter bit enough: it's up to everyone to work on this. If class dynamics are troubling you in any way, please talk to me about it, and we'll work together to address the issues.

Attendance is mandatory. Absences should occur only in case of dire need and should be cleared in advance if at all possible. Please make every effort to arrive on time and ready to go by the official start time.

Alas, recent experience – in a graduate seminar, no less – compels me to specify the following, even though for most of you this will be stunningly obvious. You are expected to be mentally present during class time. Communication devices/modes should be off. Only use your laptop to refer to the readings. We can all tell when you're using it for other purposes: it's not only rude, but also distracting. I will call you out if I get the sense that you're off in the fourth dimension.

Reading

As is typical of grad seminars, most of your work involves reading academic books and articles. Reading all the material is essential. Before you plunge in, I *strongly* recommend reading Paul N. Edwards, "How to Read a Book," available on Canvas or in the "Pedagogical Essays" of the author's website: http://pne.people.si.umich.edu/essays.html. Even the most accomplished and experienced students, postdocs, and faculty find this guide useful for getting through large amounts of reading in limited amounts of time.

PhD students in the humanities and social sciences are taught to critique. That's an important skill. But you should not conflate critique with criticism. Critique represents serious engagement, while criticism all too often involves demolition. Make every effort to engage with readings *on their own terms*. What did the author intend? Who is *their* audience? What value can you find in their arguments? Is the evidence they present persuasive -- does it support these arguments? Would additional (or different) evidence have produced a different argument? Once you've thought about all this in good faith — and only then — you can ask: how might this piece be different if it were written today, or if someone else had written it? Do you think the author posed good questions? If not, how else might you frame a project on this topic?

Most readings are on Canvas, except the following books which are available for purchase through the Stanford bookstore. Note that the Oldenziel volume is also available as an eBook through the library, but the scan is of poor quality, so you may prefer a print copy. Assuming other patrons cooperated with recall notices, you should find these assigned books – as well as the books in the "suggested readings" category – on reserve in the library.

- Ruth Oldenziel, *Making Technology Masculine: Men, Women, and Modern Machines in America, 1870-1945* (Amsterdam University Press, 1999).
- Eyal Weizman, *Forensic Architecture: Violence at the Threshold of Detectability* (Zone Books, 2017).
- Jennifer Gabrys, *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet* (University of Minnesota Press, 2016).
- Ruha Benjamin, ed., *Captivating Technology: Race, Carceral Technoscience, and Liberatory Imagination in Everyday Life* (Duke University Press, 2019).
- Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History, and Us* (Verso, 2016).

Leading class discussion – starting week 3

Twice during the quarter – sometimes in partnership with another student – you will lead class discussion. Sometimes the session will be broken up in 2 parts – in those instances, you'll sign up to lead one of the two parts.

1) Do a little research on the author(s). What's their disciplinary background? What else have they published? Look for information that illuminates the arguments you read, and that helps to situate them relative to other literature. You should look at reviews of some of the suggested readings to help you with this task, or use Edwards's techniques to browse through a few of them. Prepare a **brief** presentation that contextualizes the required reading.

2) Prepare a 1-page handout as an aid to class discussion (in conjunction with your presentation partner if applicable). This handout should list what you consider to be the three or four most significant analytical points for the session (or the part of the session you're in charge of). Accompany each point by a discussion question. **Write the handout in outline or bulleted form, rather than continuous prose. 12-pt font. Do not exceed 1 side of 1 page. Please bring enough paper copies of the handout to distribute to all class members.**

At the beginning of that class session or section, you will spend no more than 15 minutes (total, max, will be timed) presenting background (5-7 min) and elaborating on the discussion questions (8-10 min). **These presentations MUST be delivered without reading from a text** (a skill you should all be practicing). All presenters should participate equally.

At the end of this presentation, you (and your partner if applicable) will lead discussion for at least 30 minutes. This is an active process: don't just say "what do you think?" and then wait for replies! You should have several strategies planned so that you can adapt to the flow of the discussion as it evolves. You may cold-call your classmates if they aren't cooperating with your leadership.

Writing

Weekly responses. Starting with our second meeting, you must post a weekly reading response. **These are due on Canvas by 5 pm the day before class.** Specific prompts are posted after each week's reading list. You'll notice that most of these aren't standard "respond to the reading" assignments. Instead, they constitute invitations to experiment with genre. In all cases, the product should be polished, well-crafted, and free of typos. The craft of writing takes a lifetime to master. I, for one, am still working on my prose. The stronger your writing, the more persuasive your argument. My favorite sentence in the English language comes from E. B. White: *Omit needless words*. Take that to heart! Chase down passive constructions, proliferating prepositional phrases, and other forms of verbal throat-clearing. Edit ruthlessly. This takes time, so you should leave yourself time to edit and revise. Use the Hume center as needed. Be sure to respect word limits. These are all important academic skills; they only come naturally after a **lot** of practice.

Final project. The final project will be a review essay of 5-6 books (or the equivalent in articles) of around 3000-4000 (max) words (not including references). You may select a group of texts from the Suggested Reading portion of each week, or assemble your own coherent group. **If you choose the latter option, you must clear your selection with me no later than November 11.**

Proposals consisting of an overview paragraph and annotated list of readings (~75 words per reading) are due **November 18.** Please email these proposals directly to me as a Word attachment.

Final papers are due **December 13**. Again, email these directly to me as Word attachments… but ALSO post on Canvas in the designated spot. You are strongly encouraged to read each other's final papers, particularly if you plan to make STS a central field in your work.

Honor Code, Fundamental Standard, and Learning Needs:

All students are responsible for fully understanding and following the Honor Code. Students must also abide by the Fundamental Standard. If you have any questions about plagiarism and the honor code, you should speak directly with me and/or visit: https://communitystandards.stanford.edu.

Students eligible for accommodations should register with the Office of Accessible Education (563 Salvatierra Walk, https://oae.stanford.edu). You must inform me during the first week of class of any accommodations you require. Rest assured that I have a lot of experience – both personal and professional – addressing accommodation requests. I will help to the fullest extent possible, and will respect your confidentiality.

Class schedule

9/26 Week 1: Introduction

Langdon Winner, "Do Artifacts Have Politics?," *Daedalus* 109, no. 1 (1980): 121–136.

10/3 Week 2: Social Construction of Technology

We will split the class into two groups, with half reading Option A and the other half reading Option B.

Option A group:

Thomas P. Hughes, *Networks of Power: Electrification in Western* Society*, 1880–1930* (Baltimore: Johns Hopkins University Press, 1983).

Option B group:

David Noble, *Forces of Production: A Social History of Industrial Automation* (New Brunswick, NJ: Transaction Publishers, 2011).

Everyone read:

Trevor Pinch and Wiebe Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," in *The Social Construction of Technological Systems*, eds. Wiebe Bijker, Thomas Hughes, and Trevor Pinch (Cambridge, MA: MIT Press, 1987), 17–50.

Weekly response: Find 3-5 academic reviews of the book you read, no more than 4 years past its publication. See what you can find out about the author. Now imagine the book is about to get published in a new edition, and you've been commissioned to write a preface. Write a few paragraphs exploring an aspect of the book's argument that has fresh or enduring relevance. (600-800 words)

In addition, come to class having identified 3-4 quotes from your book, and one from the common article, that capture aspects of the argument that you found significant, compelling, provocative, and/or problematic. Please type these out, including page numbers, and bring hard copies for everyone in your group + me (i.e., ~ 9 copies).

Suggested reading:

- Thomas Misa, *Leonardo to the Internet: Technology and Culture from the Renaissance to the Present*
- David E. Nye, *Technology Matters: Questions to Live With*
- Wiebe Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*
- Nelly Oudshoorn and Trevor Pinch, eds., *How Users Matter: The Co-Construction of Users and Technology*
- Susan J. Douglas, *Inventing American Broadcasting, 1899-1922*
- Claude Fischer, *America Calling: A Social History of the Telephone to 1940*
- Thomas P. Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm, 1870-1970*
- Merritt Roe Smith, *Harper's Ferry Armory and the New Technology: The Challenge of Change*

- Shoshanna Zuboff, *In the Age of the Smart Machine: The Future Of Work And Power*
- David Edgerton, *The Shock of the Old: Technology and Global History Since 1900*

Classics:

- Lewis Mumford, *Technics and Civilization* or *The Myth of the Machine*
- Jacques Ellul, *The Technological Society*
- Lynn White, *Medieval Technology and Social Change*
- Langdon Winner, *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought*

10/10 Week 3: Power and "Technology"

Part 1 presenter/leader(s):

Ruth Oldenziel, *Making Technology Masculine* (Amsterdam: Amsterdam University Press, 1999).

Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149–182.

Part 2 presenter/leader(s):

Kavita Philip, "What is a Technological Author? The Pirate Function and Intellectual Property," *Postcolonial Studies* 8, no. 2 (2005): 199–218.

Robyn D'Avignon, "Primitive Techniques: From 'Customary' to 'Artisanal' Mining in French West Africa," *The Journal of African History* 59, no. 2 (July 2018): 179–197.

Weekly response: What is Technology? (600-800 words)

Suggested reading:

- Ruth Schwartz Cowan, *More Work for Mother*: *The Ironies Of Household Technology From The Open Hearth To The Microwave*
- Judith McGaw, *Most Wonderful Machine: Mechanization and Social Change in Berkshire Paper Making, 1801-1885*
- Francesca Bray, *Technology, Gender and History in Imperial China: Great Transformations Reconsidered*
- Clapperton Chakanetsa Mavhunga, ed., *What do Science, Technology, and Innovation Mean from Africa?*
- Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*
- Marie Hicks, *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing*
- Janet Abbate, *Recoding Gender: Women's Changing Participation in Computing*
- Nathan Ensmenger, *The Computer Boys Take Over: Computers, Programmers, and the Politics of Technical Expertise*

- Donna Haraway, *Modest_Witness@Second_Millennium.FemaleMan_ Meets_Oncomouse: Feminism and Technoscience*
- Gary Lee Downey and Joseph Dumit, eds., *Cyborgs & Citadels: Anthropological Interventions in Emerging Sciences and Technologies*
- Philip Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science*

10/17 Week 4: Actor Network Theory

Part 1 presenter/leader(s):

Bruno Latour, "Give Me a Laboratory and I Will Raise the World," in *Science Observed: Perspectives on the Social Study of Science*, eds. Karin Knorr-Cetina and Michael Mulkay (London: Sage, 1983), 141–170.

Michel Callon, "Society in the Making: The Study of Technology as a Tool for Sociological Analysis," in *The Social Construction of Technological Systems*, eds. Wiebe Bijker, Thomas Hughes, and Trevor Pinch (Cambridge, MA: MIT Press, 1987), 83–106.

Jim Johnson [Bruno Latour], "Mixing Humans and Nonhumans Together: The Sociology of a Door-Closer," *Social Problems* 35: 3 (June 1988): 298–310.

Bruno Latour, "The Berlin key, or how to do words with things," in *Matter, Materiality, and Modern Culture*, ed. P.M. Graves-Brown, (New York: Routledge, 1991), 10–21.

Madeleine Akrich, "The De-Scription of Technical Objects," in *Shaping Technology/Building Society*, eds. Wiebe Bijker and John Law (Cambridge, MA: MIT Press, 1992), 205–224.

Part 2 presenter/leader(s):

H. M. Collins and Steven Yearley, "Epistemological Chicken," in *Science as Practice and Culture*, ed. Andrew Pickering (Chicago: University of Chicago Press, 1992), 301–326.

Michel Callon and Bruno Latour, "Don't Throw the Baby Out with the Bath School! A Reply to Collins and Yearley," in *Science as Practice and Culture*, ed. Andrew Pickering (Chicago: University of Chicago Press, 1992), 343–368.

Weekly response: Choose an object and analyze it through an ANT lens. Refer to the readings in your analysis. Post on Canvas with a picture of the object; bring the object or its image to class. (800-1000 words)

Suggested reading:

- Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society*
- Bruno Latour, *We Have Never Been Modern*
- Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network Theory*
- Bruno Latour, *Gifford Lectures (2013)*
- Annemarie Mol, *The Body Multiple: Ontology in Medical Practice*
- John Law, *Aircraft Stories: Decentering the Object in Technoscience*
- John Law and John Hassard, eds., *Actor Network Theory and After*
- Maggie Mort, *Building the Trident Network: A Study of the Enrollment of People, Knowledge, and*
- *Machines*

10/24 Week 5: Technopolitics. Guest faculty: Prof. Paul N. Edwards (current director of Stanford's STS program)

Part 1 presenter/leader(s):

Donald Mackenzie, "Missile Accuracy: A Case Study in the Social Processes of Technological Change," in *The Social Construction of Technological Systems*, eds. Wiebe Bijker, Thomas Hughes, and Trevor Pinch (Cambridge, MA: MIT Press, 1987), 195–222.

Paul Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge, MA: MIT Press, 1996). Chapters 1 and 3.

Part 2 presenter/leader(s):

Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after WWII* (Cambridge, MA: MIT Press 1998/2009): Introduction and Chapter 2.

Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press: 2002). Chapter 1.

Gabrielle Hecht and Paul Edwards, "History and the Technopolitics of Identity: The Case of Apartheid South Africa," *Journal of Southern African Studies* 36:3 (September 2010): 619–639. https://doi.org/10.1080/03057070.2010.507568.

Weekly response: Compare & contrast the approaches to technopolitics (and predecessor approaches) displayed by the authors. How does the analytic leverage offered by various approaches differ? (800-1000 words)

Suggested reading:

- Ken Alder, *Engineering the Revolution: Arms and Enlightenment in France, 1763-1815*
- Sara Pritchard, *Confluence: The Nature of Technology and the Remaking of the Rhône*
- Toby Jones, *Desert Kingdom: How Oil and Water Forged Modern Saudi Arabia*
- Eden Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile*

- Sonja Schmid, *Producing Power: The Pre-Chernobyl History of the Soviet Nuclear Industry*
- Chandra Mukerji, *Impossible Engineering: Technology and Territoriality on the Canal du Midi*
- Keith Breckenridge, *The Biometric State: The Global Politics of Identification and Surveillance in South Africa, 1850 to the Present*
- Gabrielle Hecht, ed., *Entangled Geographies: Empire and Technopolitics in the Global Cold War*
- Andrew Barry, *Material Politics: Disputes Along the Pipeline*
- Andrew Barry, *Political Machines: Governing a Technological Society*
- Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil*
- Brian Wynne, *Rationality and Ritual: The Windscale Inquiry and Nuclear Decisions in Britain*
- Richard Sclove, *Democracy and Technology*
- Noortje Marres, *Material Participation: Technology, the Environment and Everyday Publics*
- Antina von Schnitzler, *Democracy's Infrastructure: Techno-Politics and Protest After Apartheid*

10/31 Week 6: Design Power

Part 1 presenter/leader(s):

Eyal Weizman, *Forensic Architecture: Violence at the Threshold of Detectability*, (New York: Zone Books, 2017). Selections TBA

Part 2 presenter/leader(s):

Ruha Benjamin, ed. *Captivating Technology: Race, Carceral Technoscience, and Liberatory Imagination in Everyday Life* (Durham: Duke University Press, 2019).

- Ruha Benjamin, "Introduction: Discriminatory Design, Liberating Imagination," 1–22.
- Ron Eglash, "Anti-Racist Technoscience: A Generative Tradition," 227–251.
- Nettrice R. Gaskins, "Techo-Vernacular Creativity and Innovation across the African Diaspora and Global South," 252–274.
- Lorna Roth, "Making Skin Visible through Liberatory Design," 275–307.

Weekly response: Imagine that you've organized a big university event featuring Weizman and Benjamin. It's up to you to introduce the themes of the panel and the two presenters. Write this introduction. (800-1000 words)

Suggested reading:

- Nicole Starosielski, *The Undersea Network*
- Natasha Schüll, *Addiction by Design: Machine Gambling in Las Vegas*
- Donald Mackenzie, *An Engine not a Camera: How Financial Models Shape Markets*
- S. Lochlann Jain, *Injury: The Politics of Product Design and Safety Law in the United States*
- Tiago Saraiva, *Fascist Pigs*: *Technoscientific Organisms and the History of Fascism*
- Lisa Nakamura, *Digitizing Race*: *Visual Cultures of the Internet*
- Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*
- Simone Browne, *Dark Matters: On the Surveillance of Blackness*
- Virginia Eubanks, *Automating Inequality: How High-Tech tools Profile, Police, and Punish the Poor*
- Ken Alder, *The Lie Detectors: The History of an American Obsession*

- Eyal Weizman, *Hollow Land: Israel's Architecture of Occupation*

11/07 Week 7: Seeing / Knowing / Sensing

Part 1 presenter/leader(s):

Paul Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*, (Cambridge, MA: MIT Press, 2010). Chapters 1 and 8.

Stefan Helmreich, "Intimate Sensing," in *Simulation and Its Discontents*, ed. Sherry Turkle (Cambridge, MA: MIT Press, 2009), 129–150.

Part 2 presenter/leader(s):

Jennifer Gabrys, *Program Earth: Environmental Sensing Technology and the Making of a Computational Planet* (Minneapolis, MN: University of Minnesota Press, 2016).

Weekly response: Write a peer-review report for a university press of Gabrys's book. Base your discussion of how it relates to existing literature on the readings for Part 1 and a quick perusal of the suggested readings. (800-1000 words)

Suggested reading:

- Michelle Murphy, *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers*
- Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out*: *Classification and Its Consequences*
- Joy Parr, *Sensing Change*: *Technologies, Environments, and the Everyday, 1953-2003*
- Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life*
- Rudolf Mrázek, *Engineers of Happy Land: Technology and Nationalism in a Colony*
- Stefan Helmreich, *Alien Ocean: Anthropological Voyages in Microbial Seas*
- Ken Alder, *The Measure of All Things: The Seven Year Odyssey and the Hidden Error that Transformed the World*

11/14 Week 8: Air

Presenters/leaders (at least 2 for the whole session):

Lynne Page Snyder, "'The Death-Dealing Smog over Donora, Pennsylvania': Industrial Air Pollution, Public Health Policy, and the Politics of Expertise, 1948-1949." *Environmental History Review* 18, no. 1 (Spring 1994): 117–39. https://doi.org/10.2307/3984747.

Tim Choy, *Ecologies of Comparison: An Ethnography of Endangerment in Hong Kong* (Durham: Duke University Press, 2011): 1–18, 139–168.

Peter Sloterdijk, "Airquakes," *Environment and Planning D: Society and Space* 27, no. 1 (February 2009): 41–57. https://doi.org/10.1068/dst1.

Peter Adey, "Air/Atmospheres of the Megacity," *Theory, Culture & Society* 30, no. 7-8 (December 2013): 291–308. https://doi.org/10.1177/0263276413501541.

Nerea Calvillo, "Political Airs: From Monitoring to Attuned Sensing Air Pollution," *Social Studies of Science* 48, no. 3 (June 2018): 372–88. https://doi.org/10.1177/0306312718784656.

Explore this website: "The Weight of Numbers: Air Pollution and PM2.5," *Undark Magazine*, https://undark.org/breathtaking/.

Weekly response: Use the readings as inspiration to reflect on your encounters with air (600-800 words).

Suggested reading:

- Derek P. McCormack, *Atmospheric Things: On the Allure of Elemental Envelopment*
- Gregg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes*
- Alison Kenner, *Breathtaking: Asthma Care in a Time of Climate Change*
- Javier Auyero and Débora Alejandra Swistun, *Flammable: Environmental Suffering in an Argentine Shantytown*
- Kim Fortun, *Advocacy after Bhopal*: *Environmentalism, Disaster, New Global Orders*
- David Naguib Pellow, *Resisting Global Toxics: Transnational Movements for Environmental Justice*
- Judith Shapiro, *Mao's War against Nature: Politics and the Environment in Revolutionary China*
- Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*

11/21 Week 9: Catastrophic Times

Part 1 presenter/leader(s):

Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History, and Us* (New York: Verso 2016).

View:

- Donna Haraway, "Anthropocene, Capitalocene, Chthulucene: Staying with the Trouble," watch talk at https://vimeo.com/200992946.
- Anna Lowenhaupt Tsing, "A Feminist Approach to the Anthropocene: Earth Stalked by Man," watch talk at https://vimeo.com/149475243.

Part 2 presenter/leader(s):

Julia Adeney Thomas, "History and Biology in the Anthropocene: Problems of Scale, Problems of Value," *American Historical Review* 119, no. 5 (December 2014): 1587–1607. https://doi.org/10.1093/ahr/119.5.1587.

Zachary Caple and Gregory Cushman, "The Phosphorus Apparatus," *Technosphere Magazine*, November 16, 2016. https://technosphere-magazine.hkw.de/p/1-The-Phosphorus-Apparatus-czfdPRXcpUj4nxj8aQQ1GZ

Paul N. Edwards, "Control Earth," *Places Journal*, November 2016. https://placesjournal.org/article/control-earth/

Gabrielle Hecht, "Interscalar Vehicles for an African Anthropocene: On Waste, Temporality, and Violence," *Cultural Anthropology* 33, no. 1 (2018): 109–141. https://doi.org/10.14506/ca33.1.05.

Michelle Murphy, "Alterlife and Decolonial Chemical Relations." *Cultural Anthropology* 32, no. 4 (2017): 494–503. https://doi.org/10.14506/ca32.4.02.

Nicolas Shapiro, Nasser Zakariya, and Jody Roberts, "A Wary Alliance: From Enumerating the Environment to Inviting Apprehension," *Engaging Science, Technology, and Society* 3 (2017): 575–602. https://doi.org/10.17351/ests2017.133.

Weekly response: Write a blurb for the Bonneuil & Fressoz book (200 words) that could go in a book catalogue. Also: Identify a sentence or two (max) in the two videos each Part 2 reading that you think is particularly useful, provocative, or otherwise worthy of discussion. The Canvas site will be set up to gather these quotes.

Suggested reading:

- Scott Knowles, *The Disaster Experts: Mastering Risk in Modern America*
- J. R. McNeil and Peter Engelke, *The Great Acceleration: An Environmental History of the Anthropocene since 1945*
- Simon Lewis & Mark Maslin, *The Human Planet*: *How We Created the Anthropocene*
- Jason Kelly, Philip Scarpino, Helen Berry, James Syvitski, and Michel Meybeck, eds., *Rivers of the Anthropocene*
- Gareth Austin, ed*., Economic Development and Environmental History in the Anthropocene: Perspectives on Asia and Africa*
- Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*
- Clive Hamilton, Christophe Bonneuil, and François Gemenne, *The Anthropocene and the Global Environmental Crisis: Rethinking Modernity in a New Epoch*
- Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*.
- Jedediah Purdy, *After Nature: A Politics for the Anthropocene*
- Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*
- Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene*

- Rob Nixon, *Slow Violence and the Environmentalism of the Poor*
- Elizabeth A. Povinelli, *Geontologies: A Requiem to Late Liberalism*
- Bruno Latour, *Facing Gaia: Eight Lectures on the New Climatic Regime*

12/5 Week 10: Maintenance, Care, & Repair

Presenters/leaders (at least 2 for the whole session):

Stephen Graham and Nigel Thrift. "Out of Order: Understanding Repair and Maintenance." *Theory, Culture & Society* 24, no. 3 (May 2007): 1–25. https://doi.org/10.1177/0263276407075954.

Steven J. Jackson, "Rethinking Repair," in *Media Technologies: Essays on Communication, Materiality and Society*, eds. Tarleton Gillespie, Pablo Boczkowski, and Kirsten Foot (Cambridge, MA: MIT Press, 2014), 221–239.

Maria Puig de la Bellacasa, "Matters of Care in Technoscience: Assembling Neglected Things," *Social Studies of Science* 41, no. 1 (February 2011): 85–106. https://doi.org/10.1177/0306312710380301.

Tim Edensor, "Entangled Agencies, Material Networks and Repair in a Building Assemblage: The Mutable Stone of St Ann's Church, Manchester," *Transactions of the Institute of British Geographers* 36, no. 2 (April 2011): 238–252. https://doi.org/10.1111/j.1475-5661.2010.00421.x.

Sebastian Ureta, "Caring for Waste: Handling Tailings in a Chilean Copper Mine." *Environment and Planning A: Economy and Space* 48, no. 8 (August 2016): 1532–1548. https://doi.org/10.1177/0308518X16645103.

Shannon Mattern, "Maintenance and Care," *Places Journal*, November 2018. https://doi.org/10.22269/181120.

Jacob Doherty, "Maintenance Space: The Political Authority of Garbage in Kampala, Uganda." *Current Anthropology* 60, no. 1 (February 2019): 24–46. https://doi.org/10.1086/701514.

Joshua Grace, "Mechanical Expression in a Broken World," in *Africa Every Day: Fun, Leisure, and Expressive Culture on the Continent*, eds. Oluwakemi M. Balogun, Lisa Gilman, Melissa Graboyes, and Habib Iddrisu (Athens, OH: Ohio University Press, 2019), 287–295.

Weekly response: Free-form! Anything goes, as long your response relates clearly to the readings and is of a scope and depth comparable to previous responses (excepting Week 9, which is deliberately shorter and easier).

Suggested reading:

- Maria Puig de la Bellacassa, *Matters of Care*: *Speculative Ethics in More Than Human Worlds*
- Gaston Gordillo, *Rubble: The Afterlife of Destruction*
- Stephen Cairns and Jane Jacobs, *Buildings Must Die: A Perverse View of Architecture*
- Ann Stoler, ed., *Imperial Debris: On Ruins and Ruination*

Additional resources

Field overviews:

The Handbook of Science and Technology Studies, Third Edition (Cambridge, MA: MIT Press). Note there are 4 editions, each quite different.

Daniel Kleinman and Kelly Moore, eds., *Handbook on Science, Technology and Society* (Abingdon, Oxon: Routledge, 2014).

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

Francesca Bray, "Gender and Technology," *Annual Review of Anthropology* 36 (2007): 37–53.

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MIT Press, Inside Technology, edited by Wiebe Bijker, W. Bernard Carlson, and Trevor
MIT Press, Infrastructures, edited by Geoffrey Bowker and Paul Edwards
Palgrave Macmillan, Making Europe, edited by Johan Schot and Philip Scranton.

Journals:

Catalyst: Feminism, Theory, and Technoscience
East Asian Science, Technology and Society
eSTS: Engaging Science, Technology, and Society
History and Technology
Science, Technology, and Human Values
Science & Technology Studies
Social Studies of Science
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Professional Societies:

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