
GEOG 514: POLITICS OF NATURE
2021 Theme: Nature, Technoscience, Justice
Spring 2021, Thursdays 8:40AM-11:40AM

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Schedule OH: <https://marston-office-hours.youcanbook.me>
LMS (Canvas): <https://rutgers.instructure.com/courses/112519>

The aim of this course is to imagine the contents and limits of a politically engaged “technoscientific geography.” Broadly speaking, critical human geographers and science studies scholars have not been in substantive conversation with one another, despite sharing many of the same empirical interests. Most notably, both disciplinary traditions share a set of concerns with the politics of nature and questions of environmental justice. Using these themes as an anchor, this course explores scholarship located along the cutting edge of disciplines that range from geography and anthropology to ethnic studies, media studies, and science and technology studies (STS). The goal is for seminar participants to understand foundational debates regarding the technopolitics of nature and Geography and STS’s particular analytical and theoretical traditions of engaging with them. In the first part of the semester, we will explore how the topics of science and technology have been handled within a variety of theoretical traditions, including but not limited to political economy, feminist theory, and foundational STS texts. As we move along, we will read more recent STS monographs that deal directly environmental justice concerns such as waste, toxicity, infrastructure.

This course is reading intensive, so you can expect to read the equivalent of a book and about three articles every week. Recognizing that not everyone comes to graduate school with the same kind of preparation, please feel welcome to visit me in office hours at any point in the semester if you wish to discuss the readings further. Intellectuals are just people who have had more opportunities to read and discuss scholarly work, and this should be a supportive environment for practicing those skills.

Finally, this course has been designed to tie into the Rutgers Geography Department’s 2021 Magrann Conference, tentatively titled “Intimate Toxicities: Technoscience, Material Natures, & Environmental Justice” (May 6-7, 2021). Many of the authors in this syllabus will be invited to present their recent work at this conference, and students enrolled in this seminar will be invited to participate as moderators and/or discussants. You might also help create content for a public-facing website in the months leading up to the conference and, if there is broad interest, we might consider collaborating on a publication that speaks to the themes of this course and the conference.

COURSE FORMAT, REQUIREMENTS, MECHANICS

Readings

In each week of the course agenda below, there is a list of required and optional (“further”) readings. The required readings are, well, required. Please read them thoughtfully and generously, as they are designed to anchor our class discussions. **Almost all of the required books for this course are available online, either on Canvas (under modules) or through the Rutgers library. You can find the articles online through the Rutgers library search function.** The optional readings are there for you to read on your own time if you find the topic particularly interesting or confusing, or if you would just like to know more. Most of them are also available online, but I have not uploaded them to Canvas.

Presentations

Each week one student will present their reactions to the readings and offer points for discussion. Presentations may incorporate a variety of media, but this is not required. Presentations should be about 10-15 minutes long and should end with questions that stimulate conversation. You will probably end up doing 2-3 of these over the course of the semester, depending on the number of students enrolled.

Reading reflections

Reading reflections (approx. 400-500 words) will be required each week by those students who are **not** presenting. They should be posted on the corresponding Canvas discussion board by Wednesday at 5:00 PM. Reading reflections need not be very formal, and I will not be grading their content – they are more for you to practice synthesizing your thoughts. Everyone should read one another’s reflections on Canvas before class on Thursday.

Participation in Class Discussion

This is a seminar, which means that everyone needs to participate to ensure mutual learning. Since we will be meeting virtually this semester, it is all the more crucial that you make use of our limited time by verbally conveying your thoughts, references, questions, etc. To help stimulate conversation, please come to class with at least two prepared questions about the readings. We will write these questions into the chat and discuss them each in turn.

Final Paper

At the end of the semester, you will submit a paper that engages the themes of the course. I do not feel strongly about the format of this paper; it should be useful to you, given where you are at in your graduate studies. You are welcome to write a typical term paper (15-20 pages double spaced) that draws exclusively on course readings, but you could also write a literature review for your dissertation or an NSF proposal or whatever it is that you’re already working on - as long as it overlaps with course themes. If you are unsure whether your planned final paper/project is sufficiently related to the course, please speak with me in office hours and we can figure it out.

Assessment

Students will be assessed according to the following scheme:

- Classroom participation – 25%
- Reading reflections – 25%
- Presentations – 20%
- Final paper – 30%

Virtual Life

- **Zoom:** We'll be using Zoom (embedded in Canvas) for class discussions and office hours. My understanding is that you do not need a zoom account as long as you are joining through Canvas. However, if you prefer, you can set up your Rutgers Zoom account by following instructions here: <https://it.rutgers.edu/zoom/>. If you have any technical issues with it, let me know and/or get in touch directly with Rutgers OIT (Office of Information Technology) at help@oit.rutgers.edu or 833-OIT-HELP.
- **Canvas:** We will use the “modules” feature on Canvas to organize readings, discussion boards, and places to upload midterm and final papers. You can see how this works by visiting the Canvas page at <https://rutgers.instructure.com/courses/73801>.
- **Classroom:** All upcoming class meetings are scheduled under the Zoom tab on Canvas. To the extent possible, please keep your camera on, though you may turn it off if your connection is slow or if you need to step away for a minute. Please turn your microphone off when you are not talking. I am very aware that being at home makes seminar participation challenging, and I am open to adaptations that work for you. Children and pets are welcome on camera, virtual backgrounds are great, and anything else you need should be fine.
- **Office Hours:** I will hold office hours on Thursdays from 3:00-5:00pm in my personal zoom room (ID number 957 740 1736). Please make an appointment in advance at <https://marston-office-hours.youcanbook.me>.

CLASSROOM POLICIES AND SUPPORT

Safe Space: I am committed to creating a safe space for everyone to discuss, debate and grapple with the complex and potentially sensitive ideas and issues presented in this class. I expect you to respect each other and the diversity of opinions in the (virtual) classroom. Disruptive behavior, offensive comments, and personal attacks will not be tolerated.

Attendance: Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website to indicate the date and reason for your absence: <https://sims.rutgers.edu/ssra/>. An email is automatically sent to me. If you are absent more than twice without a documented excuse, it will be reflected in your grade.

Academic Honesty: Students are expected to understand and act in accordance with the Rutgers Academic Integrity Policy: <http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers/>. Violations include: cheating, fabrication, plagiarism, denying others access to information or material, having someone else complete your course work, and facilitating violations of academic integrity by others. Below are some resources to explore about academic integrity, but please also ask me if you have any doubts.

- Resources for Students: <http://academicintegrity.rutgers.edu/resources-for-students/>
- General Academic Integrity Link: <http://academicintegrity.rutgers.edu/>
- The Camden Plagiarism Tutorial (Interactive): <http://library.camden.rutgers.edu/EducationalModules/Plagiarism/>

- Consult Don't Plagiarize: Document Your Research! For tips about how to take notes so that you don't plagiarize by accident. http://www.libraries.rutgers.edu/avoid_plagiarism

Library/Learning Support: Online Learning Tools from Rutgers University Libraries include Rutgers RIOT, Searchpath and RefWorks – you can find them at <http://www.libraries.rutgers.edu/tutorials>. You may also consider visiting the Learning Centers (<https://rlc.rutgers.edu/>) or Academic Advising for SAS students: <https://sasundergrad.rutgers.edu/advising/advising>

Intellectual Property Rights: Lectures and materials utilized in this course, including but not limited to videocasts, podcasts, visual presentations, assessments, and assignments, are protected by United States copyright laws as well as Rutgers University policy. As the instructor of this course, I possess sole copyright ownership. You are permitted to take notes for personal use or to provide to a classmate also currently enrolled in this course. Under no other circumstances is distribution of recorded or written materials associated with this course permitted to any internet site or similar information-sharing platform without my express written consent. Doing so is a violation of the university's Academic Integrity Policy. Similarly, these copyright protections extend to original papers you produce for this course. In the event that I seek to share your work further, I will first obtain your written consent to do so.

Student Wellness Services:

- **Bias Incident Reporting and Support (DICE):** <https://diversity.rutgers.edu>
The Division of Diversity, Inclusion, and Community Engagement works to advance, promote and advocate for inclusiveness, diversity, and equity at Rutgers University. If you believe you are the victim of or a witness to an alleged bias incident, you may report the incident, in person or by phone, to the Dean of Students Office, Residence Life staff, or another member of the Student Affairs staff <https://diversity.rutgers.edu/resources/bias-and-crisis-support>. Individuals may also report an alleged bias incident online at: <http://studentaffairs.rutgers.edu/for-students/bias/bias-incident-reporting/>
- **Counseling, ADAP & Psychiatric Services (CAPS):** (848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ <http://health.rutgers.edu/medical-counseling-services/counseling/>. University is stressful, particularly when you are juggling many courses, jobs, and family responsibilities – and everything has been dramatically compounded by COVID-19. CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.
- **Crisis Intervention:** <http://health.rutgers.edu/medical-counseling-services/counseling/crisis-intervention/>
- **Report a Concern:** <http://health.rutgers.edu/do-something-to-help/>

- **Violence Prevention & Victim Assistance (VPVA):** (848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/. The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.
- **Disability Services:** (848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>. Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation. The documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.
- **Sexual harassment, sexual assault, dating or domestic violence, and/or stalking** may be reported using any of the following options:
 - Report to a Title IX Coordinator directly (a list of each campus's Title IX Coordinator is provided below). Such a report may be made at any time (including during non-business hours) via telephone or email, or by mail to the address listed for the Title IX Coordinator.
 - Report online, using the reporting form at <http://endsexualviolence.rutgers.edu/report-an-incident/>
 - Individuals may also report crimes of sexual violence to the Rutgers University Police Department.

COURSE OUTLINE

January 21: STS in Geography?

- Lave, R. (2012). Bridging political ecology and STS: A field analysis of the Rosgen Wars. *Annals of the Association of American Geographers*, 102(2), 366-382.
- McKittrick, K. (2021). *Dear Science and Other Stories*. Introduction. Durham: Duke University Press.

Supplementary Readings

- Daniel Lanza Rivers (2019) Cartographies of Feminist Science Studies. *Women's Studies*, 48:3, 177-185.
- Lave, R. (2012). *Fields and streams: Stream restoration, neoliberalism, and the future of environmental science*. University of Georgia Press.

January 28: Objectivity and its Others

- Shapin, S., & Schaffer, S. (1985). *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life*. Princeton University Press. Pages 1-154
- Daston, L., & P. Galison. (2007). *Objectivity*. Cambridge: Zone Books. Prologue & Chapter 1, pp. 9-53.
- Haraway, Donna. 1991. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." In *Simians, Cyborgs and Women: The Reinvention of Nature*, 183-201. New York: Routledge.
- Harding, S. (1992). Rethinking standpoint epistemology: What is "strong objectivity?" *The Centennial Review*, 36(3), 437-470.

Supplementary Readings

- Daston, L. (1992). Objectivity and the Escape from Perspective. *Social studies of science*, 22(4), 597-618.
- Hacking, Ian. (1983). *Representing and intervening: Introductory topics in the philosophy of natural science*. Cambridge University Press.
- Latour, B. (1987). *Science in Action: How to follow scientists and engineers through society*. Introduction (pp. 1-17). Cambridge: Harvard University Press.
- Latour, B. (1993). *We have never been modern*. Cambridge: Harvard University Press.
- Winner, L. (1993). "Upon Opening the Black Box and Finding It Empty: Social Constructivism and the Philosophy of Technology Science, Technology, & Human Values" (Vol. 18, pp. 362-378).
- Harding, S. (1995). "Strong objectivity": A response to the new objectivity question. *Synthese*, 104(3), 331-349.
- Harding, S. (2015). *Objectivity and diversity: Another logic of scientific research*. University of Chicago Press.

February 4: Technics & Temporalities

- Marx, K. (1847) "The Metaphysics of Political Economy." Chapter 2 of *The Poverty of Philosophy*, pp. 46-65.
- Heilbroner, R. L. (1967). Do machines make history? *Technology and culture*, 8(3), 335-345.
- Heidegger, M. (1977). "The question concerning technology." In *The Question Concerning Technology and Other Essays* (pp. 3-35). New York: Harper & Row.
- Winner, L. (2020[1986]) "Technologies as Forms of Life," "Do Artifacts Have Politics," and "Techne and Politeia," Part 1 of *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (pp. 3-60) Chicago: U of Chicago Press.
- Williams, Rosalind (1994) "The Political and Feminist Dimensions of Technological Determinism." In *Does Technology Drive History: The Dilemma of Technological Determinism*. Pp 217-235.
- Mbembe, A. (2019) "Viscerality." Chapter 4 of *Necropolitics* (pp. 93-116). Durham: Duke.

Supplementary Readings

- Mumford, L. (1934). *Technics and Civilization*. London: Routledge & Kegan Paul Ltd. (Especially pp. 3-59.)
- Latour, B. (1999). "Technology Is Society Made Durable". In Law, J., ed., *Sociology of Monsters*.

February 11: Machines that Labor [Bodies + Tools]

- Marx, K. (1990[1867]). "Machinery and Modern Industry" Chapter 15 of *Capital, Volume 1*. London: Penguin Classics.
- Taylor. 1911. *The Principles of Scientific Management*. New York and London, Harper & brothers
- Willis, P. 1977. *Learning to Labor: How Working-Class Kids Get Working-Class Jobs*. Columbia University Press. Selections.
- Kirsch, S., & Mitchell, D. (2004). The nature of things: dead labor, nonhuman actors, and the persistence of Marxism. *Antipode*, 36(4), 687-705.
- Federici, S. (2004). "The Great Caliban: The Struggle Against the Rebel Body." *Caliban and the Witch*. New York: Autonomedia, pp. 133-162.

Supplementary Readings

- Tyner, J. A. (2014). Dead labor, homo sacer, and letting die in the labor market. *Human Geography*, 7(1), 35-48.
- McDowell, L. 2009. "Service Employment and the Commoditization of the Body." Chapter 1 of *Working Bodies: Interactive Service Employment and Workplace Identities* Malden: Blackwell.

February 18: Scientific & Colonial Orders

- Foucault, M. (2005[1970]). *The Order of Things*. New York: Routledge. Selections.
- Daston, L. (2019). *Against Nature*. Cambridge: MIT Press. Selections.
- Pratt, M. L. (1992). "Science, planetary consciousness, interiors." Chapter 2 of *Imperial eyes: Travel writing and transculturation* (pp. 15-37). New York: Routledge.
- Jasanoff, S. (2004) "Ordering knowledge, ordering society." Chapter 2 in *States of Knowledge: The Co-Production of Science and Social Order*. New York: Routledge, pp. 13-45
- Subramaniam, B., Foster, L., Harding, S., Roy, D., & TallBear, K. (2016). 14 Feminism, Postcolonialism, Technoscience. *The handbook of science and technology studies*, 407.

Supplementary Readings:

- Scott, J. C. (1998). "State Projects of Legibility and Simplification." Part 1 of *Seeing like a state: How certain schemes to improve the human condition have failed* (pp.9-83). New Haven: Yale University Press
- Adas, M. (1989). *Machines as the measure of men: science, technology, and ideologies of western dominance*. Ithaca, NY: Cornell University Press. Introduction & Part 1 (pp. 1-68)
- Headrick, D. R. (1979). The tools of imperialism: technology and the expansion of European colonial empires in the nineteenth century. *The Journal of Modern History*, 51(2), 231-263.
- Suman, Seth (2009) Putting knowledge in its place: science, colonialism, and the postcolonial. *Postcolonial Studies*, 12:4, 373-388
- James Fairhead and Melissa Leach. (1996) "Rethinking the Forest-Savanna Mosaic: Colonial Science and Its Relics in West Africa," in M. Leach and R. Mearns, eds., *The Lie of the Land* International African Institute.
- Lansing, S. 2006. *Perfect Order*. Princeton Press.

February 25: Entangled Matters

- Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Durham: Duke University Press. Selections
- Haraway, D. 1991 [1987]. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." Chapter 8 of *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge, pp. 149-182.
- Chen, M. Y. (2011). Toxic animacies, inanimate affections. *GLQ: A Journal of Lesbian and Gay Studies*, 17(2-3), 265-286.
- King, T. L. (2016). The labor of (re) reading plantation landscapes fungible (ly). *Antipode*, 48(4), 1022-1039.
- Zee, J. C. (2017). Holding patterns: Sand and political time at China's desert shores. *Cultural Anthropology*, 32(2), 215-241.

Supplementary Readings

- Chen, M. Y. (2012). *Animacies: Biopolitics, racial mattering, and queer affect*. Duke University Press.
- Papadopoulous, D. (2018). *Experimental practice: Technoscience, alterontologies, and more-than-social movements*. Duke University Press.
- De la Cadena, M. (2010). Indigenous cosmopolitics in the Andes: Conceptual reflections beyond "politics". *Cultural anthropology*, 25(2), 334-370.
- Collard, R. C. (2012). Cougar—human entanglements and the biopolitical un/making of safe space. *Environment and Planning D: Society and Space*, 30(1), 23-42.
- Puig de la Bellacasa, M. (2015). Making time for soil: Technoscientific futurity and the pace of care. *Social Studies of Science*, 45(5), 691-716.

March 4: Bodies in the System [Race & STS]

- Agard-Jones, V. (2013). Bodies in the System. *Small Axe: A Caribbean Journal of Criticism*, 17(3 (42)), 182-192.
- TallBear, K. (2007). Narratives of race and indigeneity in the Genographic Project. *The Journal of Law, Medicine & Ethics*, 35(3), 412-424.
- Fullwiley, D. (2015). Race, genes, power. *The British Journal of Sociology*, 66(1), 36-45.
- Duster, T. (2015). A post-genomic surprise. The molecular reinscription of race in science, law and medicine. *The British Journal of Sociology*, 66(1), 1-27.
- Benjamin, R. (2016). Catching our breath: critical race STS and the carceral imagination. *Engaging Science, Technology, and Society*, 2, 145-156.
- Kwate, N. O. A. (2020). The Corner Liquor Store: Rethinking Toxicity in the Black Metropolis. *Journal of Medical Humanities*, 1-17.

Supplementary Readings

- Stepan, N. (1982). *Idea of Race in Science: Great Britain, 1800-1960*. Springer.
- Johnson, Robert C. "Science, Technology, & Black Community Development." *The Black Scholar*. V15, N 2, P 34-42. March 1984.
- Merchant, C. (1989). *The death of nature: women, ecology, and the scientific revolution*. San Francisco: Harper & Row.
- Mol, A. (2002). *The body multiple: Ontology in medical practice*. Duke University Press.
- Plumwood, V. (2002). *Feminism and the Mastery of Nature*. Routledge.

- Briggs, L. (2002). *Reproducing empire: Race, sex, science, and US imperialism in Puerto Rico* (Vol. 11). Univ of California Press.
- Kilgore, D. (2003). *Astrofuturism: science, race, and visions of utopia in space*. University of Pennsylvania Press.
- TallBear, K. (2013). *Native American DNA: tribal belonging and the false promise of genetic science*. Minneapolis: University of Minnesota Press.
- Cipolla, C., Gupta, K., Rubin, D. A., & Willey, A. (Eds.). (2017). *Queer feminist science studies: A reader*. University of Washington Press.
- Benjamin, R. (2019). *The New Jim Code? Race, Carceral Technoscience, and Liberatory Imagination in Everyday Life*. Princeton University Press.

March 11: Discarded Artifacts & Wasted Places

- Liboiron, M. (2021). *Pollution is Colonialism*. Durham: Duke University Press. Introduction.
- Voyles, T. B. (2015). *Wastelanding: Legacies of uranium mining in Navajo country*. U of Minnesota Press. Selections.
- Moore, S. A. (2012). Garbage matters: Concepts in new geographies of waste. *Progress in Human Geography*, 36(6), 780-799.
- Dillon, L. (2014). Race, waste, and space: Brownfield redevelopment and environmental justice at the Hunters Point Shipyard. *Antipode*, 46(5), 1205-1221.
- Ureta, S. (2016). Caring for waste: Handling tailings in a Chilean copper mine. *Environment and Planning A*, 48(8), 1532-1548.
- Vasudevan, P. (2019). An intimate inventory of race and waste. *Antipode*.

Supplementary Reading

- Seamster, L., & Purifoy, D. (2020). What is environmental racism for? Place-based harm and relational development. *Environmental Sociology*, 1-12.
- Gabrys, J. (2013). *Digital rubbish: A natural history of electronics*. University of Michigan Press.
- Dillon, L., & Sze, J. (2016). Police power and particulate matters: Environmental justice and the spatialities of in/securities in US cities. *English Language Notes*, 54(2), 13-23.
- Reddy, R. N. (2016). Reimagining e-waste circuits: Calculation, mobile policies, and the move to urban mining in Global South cities. *Urban Geography*, 37(1), 57-76.
- Arefin, M. R. (2019). Infrastructural Discontent in the Sanitary City: Waste, Revolt, and Repression in Cairo. *Antipode*, 51(4), 1057-1078.
- Powell, D.E. (2019). *Landscapes of Power: Politics of Energy in the Navajo Nation*. Durham: Duke University Press.
- Masco, J. (2006). *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*. Princeton University Press.

NO MEETING ON MARCH 18 (SPRING RECESS)

March 25: Chemical Relations

- Guthman, J. (2019). *Wilted: Pathogens, Chemicals, and the Fragile Future of the Strawberry Industry*. Berkeley: University of California Press.

- Murphy, M. (2017). Alterlife and decolonial chemical relations. *Cultural Anthropology*, 32(4), 494-503.
- Romero, A. M. (2016). Commercializing chemical warfare: citrus, cyanide, and an endless war. *Agriculture and human values*, 33(1), 3-26.
- Landecker, H. (2011). Food as exposure: Nutritional epigenetics and the new metabolism. *BioSocieties* 6, 167–194.
- Balayannis, A., & Garnett, E. (2020). Chemical Kinship. *Catalyst: Feminism, Theory, Technoscience*, 6(1).

Supplementary Readings

- Shapiro, N., & Kirksey, E. (2017). Chemo-ethnography: An introduction. *Cultural Anthropology*, 32(4), 481-493.
- Guthman, J., & Mansfield, B. (2013). The implications of environmental epigenetics: A new direction for geographic inquiry on health, space, and nature-society relations. *Progress in Human Geography*, 37(4), 486-504.
- Romero, A. M., Guthman, J., Galt, R. E., Huber, M., Mansfield, B., & Sawyer, S. (2017). Chemical geographies. *GeoHumanities*, 3(1), 158-177.
- Hecht, G. (2009). Africa and the nuclear world: labor, occupational health, and the transnational production of uranium. *Comparative Studies in Society and History*, 51(4), 896-926.
- Shadaan, R., & Murphy, M. (2020). EDC's as Industrial Chemicals and Settler Colonial Structures. *Catalyst: Feminism, Theory, Technoscience*, 6(1).
- Mansfield, B. (2017). Folded futurity: Epigenetic plasticity, temporality, and new thresholds of fetal life. *Science as Culture*, 26(3), 355-379.

April 1: Calculated Care

- Murphy, M. (2006). *Sick building syndrome and the problem of uncertainty: Environmental politics, technoscience, and women workers*. Durham: Duke University Press
- Cram, S. (2016). Living in dose: Nuclear work and the politics of permissible exposure. *Public Culture*, 28(3 (8)), 519-539.
- Shapiro, Nicholas. 2015. "Attuning to the Chemosphere: Domestic Formaldehyde, Bodily Reasoning, and the Chemical Sublime". *Cultural Anthropology* 30 (3):368-93.
- Martin, A., Myers, N., & Viseu, A. (2015). The politics of care in technoscience. *Social Studies of Science*, 45(5), 625-641.

Supplementary Readings

- Myers, N. (2015). *Rendering life molecular: Models, modelers, and excitable matter*. Duke University Press.
- Nelson, D. M. (2015). *Who Counts?: The Mathematics of Death and Life After Genocide*. Duke University Press.
- Toussignant, N. (2018). *Edges of Exposure: Toxicology and the Problem of Capacity in Postcolonial Senegal*. Durham: Duke.
- Cram, S. (2015). Becoming Jane: The making and unmaking of Hanford's nuclear body. *Environment and Planning D: Society and Space*, 33(5), 796-812.
- Murphy, M. (2012). *Seizing the means of reproduction: Entanglements of feminism, health, and technoscience*. Duke University Press.

NO MEETING ON APRIL 8 (AAG)

April 15: Technopolitics of Disaster

- Fortun, K. (2009). *Advocacy after Bhopal: Environmentalism, disaster, new global orders*. University of Chicago Press.
- Smith, N. (2006). There's no such thing as a natural disaster. *Understanding Katrina: perspectives from the social sciences*, 11.
- Vaughn, S. E. (2012). Reconstructing the citizen: Disaster, citizenship, and expertise in racial Guyana. *Critique of Anthropology*, 32(4), 359-387.
- Viteritti, A. (2020). An STS Perspective on Pandemic. *TECNOSCIENZA: Italian Journal of Science & Technology Studies*, 11(1), 69-78.

Supplementary Reading

- Pritchard, S. B. (2012). An envirotechnical disaster: Nature, technology, and politics at Fukushima. *Environmental History*, 17(2), 219-243.
- Fortun, K., Knowles, S. G., Choi, V., Jobin, P., Matsumoto, M., de la Torre, P., ... & Murillo, L. F. R. (2016). Researching Disaster from an STS Perspective.

April 22: Citizen Science // Activist STS

- Wylie, S. A. (2018). *Fractivism: Corporate bodies and chemical bonds*. Duke University Press.
- Wylie, S., Shapiro, N., & Liboiron, M. (2017). Making and doing politics through grassroots scientific research on the energy and petrochemical industries. *Engaging Science, Technology, and Society*, 3, 393-425.
- Liboiron, M., Tironi, M., & Calvillo, N. (2018). Toxic politics: Acting in a permanently polluted world. *Social Studies of Science*, 48(3), 331-349.
- Dillon, L., Lave, R., Mansfield, B., Wylie, S., Shapiro, N., Chan, A. S., & Murphy, M. (2019). Situating data in a Trumpian era: The environmental data and governance initiative. *Annals of the American Association of Geographers*, 109(2), 545-555.
- Hoover, E. (2020). Whose citizenship in "citizen science"?: Tribal identity, civic dislocation, and environmental health research. In *Toxic truths*. Manchester University Press.

Supplementary Readings

- Whatmore, S. J. (2009). Mapping knowledge controversies: science, democracy and the redistribution of expertise. *Progress in Human Geography*, 33(5), 587-598.
- Kimura, A. H., & Kinchy, A. (2019). *Science by the People: Participation, Power, and the Politics of Environmental Knowledge*. Rutgers University Press.
- Kinchy, A. (2012). *Seeds, science, and struggle: The global politics of transgenic crops*. MIT Press.
- Phadke, R. (2005). People's science in action: The politics of protest and knowledge brokering in India. *Society and Natural Resources*, 18(4), 363-375.
- Hoover, E. (2017). *The River Is In Us: Fighting Toxics in a Mohawk Community*. Minneapolis: U of Minnesota Press.

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- Parreñas, J. S. (2018). *Decolonizing extinction: The work of care in orangutan rehabilitation*. Durham: Duke University Press.
- Lennon, M. (2017). Decolonizing energy: Black Lives Matter and technoscientific expertise amid solar transitions. *Energy research & social science*, 30, 18-27.
- Whyte, K. (2018). Indigenous science (fiction) for the Anthropocene: Ancestral dystopias and fantasies of climate change crises. *Environment and Planning E: Nature and Space* 1(1-2), 224–242.
- Hamraie, A., & Fritsch, K. (2019). Crip technoscience manifesto. *Catalyst: Feminism, Theory, Technoscience*, 5(1), 1-33.

Supplementary Readings:

- Rose, D. B. (2011). *Wild dog dreaming: Love and extinction*. University of Virginia Press.
- Benjamin, R. (2016). Racial fictions, biological facts: Expanding the sociological imagination through speculative methods. *Catalyst: Feminism, Theory, Technoscience*, 2(2), 1-28.

FINAL PAPERS DUE: TBD

Note on Actor Network Theory (ANT). Most STS courses will spend at least one week discussing the contributions of ANT to science studies. In the absence of such a week, you are welcome (but not obliged) to explore the following “foundational” works:

- Callon, M. (1984). Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Briec Bay. *The sociological review*, 32(1), 196-233.
- Latour, B. (1983). *The pasteurization of France*. Harvard University Press.
- Latour, B. (1987). *Science in Action: How to follow scientists and engineers through society*. Introduction (pp. 1-17). Cambridge: Harvard University Press.
- Latour, B. (1993). *We have never been modern*. Cambridge: Harvard University Press.
- Latour, B. (2013). Reassembling the social. An introduction to actor-network-theory. *Journal of Economic Sociology*, 14(2), 73-87.
- Law, J. (1992). Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity. *Systems practice*, 5(4), 379-393.
- Law, J. (1999). After ANT: complexity, naming and topology. *The Sociological Review*, 47(S1), 1-14.
- Law, J. (2002). *Aircraft stories: Decentering the object in technoscience*. Duke University Press.
- Mitchell, T. (1991). The limits of the state: Beyond statist approaches and their critics. *The American political science review*, 77-96.
- Mitchell, T. (2002). *Rule of experts: Egypt, techno-politics, modernity*. Univ of California Press.
- Mitchell, T. (2011). *Carbon democracy: Political power in the age of oil*. Verso Books.