

Columbia University GSAPP
Fall 2018
Instructor: Tei Carpenter
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ARCHA4449-1
Wednesday 11:00am – 1:00pm
Avery 412

INFRASTRUCTURAL IMAGINARIES: Between Design, Nature and Politics

Infrastructural systems are not merely technical but also capable of generating desire and fantasy. This seminar explores the way in which infrastructure might occupy these multiple (and at times competing) roles in order to better understand how it has been thought of historically, how it is thought of now, and how it might be thought of otherwise going forward. Within the context of the the Temple Hoyne Buell Center for the Study of American Architecture's ongoing research initiative, *Power: Infrastructure in America*, this seminar reflects on the current state of infrastructure in the United States through an examination of its recent history and offers a set of thematic tools to understand infrastructure as it relates to nature and politics.

The course looks at a series of built and speculative case studies by architects, landscape architects, civil engineers, policy makers, and urban designers, to better understand how design operates within infrastructural systems. These case studies focus on the ways infrastructure shapes the built environment through, for example, the mediation of resources, including water, waste, and energy. The course is particularly interested in investigating—and potentially developing—a heuristics of infrastructure, i.e. ways we might engage it as designers through, for example its aesthetic dimensions and systematic qualities.

FORMAT AND ASSIGNMENTS

Class sessions will typically begin with an introductory lecture followed by discussion of the readings. Each week, students will submit two questions to Canvas related to the readings that will focus the discussion. Questions should be submitted electronically to Canvas by 23:00 the evening before class. When developing questions, students should consider ways to engage multiple texts at once or consider differing perspectives provides. The questions should refer to specific parts of the reading (for example through quotation).

Along with preparing questions and doing the readings, assignments throughout the semester will include one 20-minute presentation on a case study specific to the session topic that focuses on the week's theme and approaches to design that relate to a contemporary topic (sign-up sheet to follow). The case study topic will be developed with the instructor.

Along with weekly readings, question submittal, discussion, and case study presentations, for the final research project participants in the seminar will explore a particular aspect of infrastructure through research into a topic related to the seminar's themes and production of an original textual and graphic analysis. This assignment will be distributed in a separate document and will include a series of intermediate steps towards the final project, including bibliography, precedents, visualization draft, and in class draft presentation. As infrastructural systems pose representational challenges because they exist at multiple scales of "force, time and social organization" (Edwards, 2003), an investigation into their modes of representation is a key component of the course.

LOGISTICS

The readings listed below for each week will be posted and made available on Canvas. Please come to class prepared for discussion with the readings, notes and your questions available.

The seminar will be structured into four parts:

- I. Definitions and Methods
- II. Nature
- III. Power
- IV. Design

EVALUATION

Attendance at every class is mandatory. Students are expected to participate actively and engage in discussion. If there is a conflict or illness, the student must inform the professor prior to class and provide a doctor's note or equivalent.

Class Participation	30%
Case Study Assignment	25%
Final Project (including intermediate deadlines)	45%
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	100%

SCHEDULE

The schedule below is subject to modification as necessary.

Week 01
05 September 2018

OVERVIEW

Week 02
12 September 2018

WHAT IS INFRASTRUCTURE?

Brian Larkin, "The Politics and Poetics of Infrastructure," *Annual Review of Anthropology* 42 (2013): 327-343.

Bill McKibben, "Apartment," *The New Yorker*, March 17, 1986, 43-91.

Week 03
19 September 2018

APPROACHES TO INFRASTRUCTURE

Paul N. Edwards, "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems" in *Modernity and Technology*, ed. Thomas J. Misa, Philip Brey, and Andrew Feenberg (Cambridge: MIT Press, 2003).

Reinhold Martin, "Infrastructure and Mediapolitics," *The Urban Apparatus: Mediapolitics and the City* (Minneapolis: University of Minnesota Press, 2016): 141-177.

Shannon Mattern, "Cloud and Field: On the resurgence of 'field guides' in a networked age. We've moved from birding to drone-watching, from natural history to dark ecology. But are we still looking through colonialist binoculars?" *Places Journal* (August 2016).

Week 04
26 September 2018

NATURE I: CONCEPTS OF NATURE / NATURE-INDUSTRIAL COMPLEX

Matthew Gandy, "Water, Space and Power," in *Concrete and Clay: Reworking Nature in New York City* (Cambridge: MIT Press, 2003): 19-87.

Jason W. Moore, "Anthropocene or Capitalocene? Nature, History and the Crisis of Capitalism," and "The Rise of Cheap Nature," in *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso, 2015): 1-13, 78-115.

Case Studies: Water Systems

Week 05
03 October 2018

NATURE II: ENERGY RESOURCES (EXTRACTION / TRANSPORT / VALUE)

Hannah Appel, "Offshore Work: Oil, Modularity, and the How of capitalism in Equatorial Guinea," *American Ethnologist* 39, no. 4 (2012): 692-709.

Eric Konigsberg, "Kuwait on the Prairie: Can North Dakota Solve the Energy Problem?" *The New Yorker*, April 25, 2011.

Case Studies: Extraction / Production

Week 06
10 October 2018

NATURE III: WASTE AND WATER (CHANGING NOTIONS OF RESOURCES)

Myra Hird, "Waste, Landfills and an Environmental Ethics of Vulnerability," *Ethics and the Environment* 18, No. 1 (Spring 2013): 105-124.

Rania Ghosn and El Hadi Jazairy, *Geographies of Trash* (Barcelona: Actar, 2016), selections.

Michelle, Huang, "Ecologies of Entanglement in the Great Pacific Garbage Patch." *Journal of Asian American Studies* 20, No. 1 (2017): 95-117.

Case Studies: Waste Systems

>> RESEARCH TOPIC PROPOSAL DUE <<

Week 07
17 October 2018

POLITICS I: REPRESENTATION

Laura Kurgan, "Introduction," *Close Up at a Distance: Mapping, Technology, and Politics* (New York: Zone Books, 2013): 9-38.

Nicole Starosielski, *The Undersea Network* (Chapel Hill: Duke University Press, 2015), selections.

Daniel A. Barber, "Hubbert's Peak, Eneropa, and the Visualization of Renewable Energy," *Places Journal*, May 2013.

Case Studies: Data / Communication Systems

Week 08
24 October 2018

POLITICS II: NATION BUILDING / MEGAPROJECTS

Deborah Cowen, "The Jurisdiction of Infrastructure: Circulation and Canadian Settler Colonialism," *The Funambulist 17: Weaponized Infrastructure*: 14-19.

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

Rob Nixon, "Unimagined Communities: Megadams, Monumental Modernity, and Developmental Refugees," in *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2013): 150-174.

Case Studies: Mobility Systems / Megaprojects

>>ANNOTATED BIBLIOGRAPHY DUE<<

Week 09
31 October 2018

DESIGN I: SYSTEMS / SCALE

Donella Meadows, *Thinking in Systems: A Primer* (New York: Chelsea Green Publishing, 2003), selections.

Sallie A. Marston, "The Social Construction of Scale." *Progress in Human Geography* 24, no. 2 (2002).

Case Studies: Elements / Scale

Week 10
07 November 2018

DESIGN II: ACTORS / AUTHORS / AGENTS

Brian Davis, Rob Holmes & Brett Milligan, "Isthmus," *Places Journal*, December 2015.

Matthew Gandy, "Technological Modernism and the Urban Parkway," in *Concrete and Clay: Reworking Nature in New York City* (Cambridge: MIT Press, 2003): 115-152.

>>PIN-UP: RESEARCH TOPIC VISUALIZATION IN PROGRESS WITH PRECEDENTS<<

Week 11
14 November 2018

DESIGN III: MAINTENANCE / FAILURE

Stephen Graham, ed. *Disrupted Cities: When Infrastructure Fails* (London: Routledge, 2009).

Jerome Denis and David Pontille. "Maintenance Work and the Performativity of Urban Inscriptions: The Case of Paris Subway Signs." *Environment and Planning D* 32 (2014): 404–16.

Patricia C Phillips, *Mierle Laderman Ukeles: Maintenance Art* (New York: Prestel, 2016), selections.

Hilary Sample, *Maintenance Architecture* (Cambridge: MIT Press, 2017), selections.

Case Studies: Maintenance

Week 12
21 November 2018

No Class - Thanksgiving Vacation

Week 13
28 November 2018

>>PRESENTATION OF FINAL PROJECTS IN PROGRESS<<

12 December 2018

>>FINAL PROJECTS DUE<<