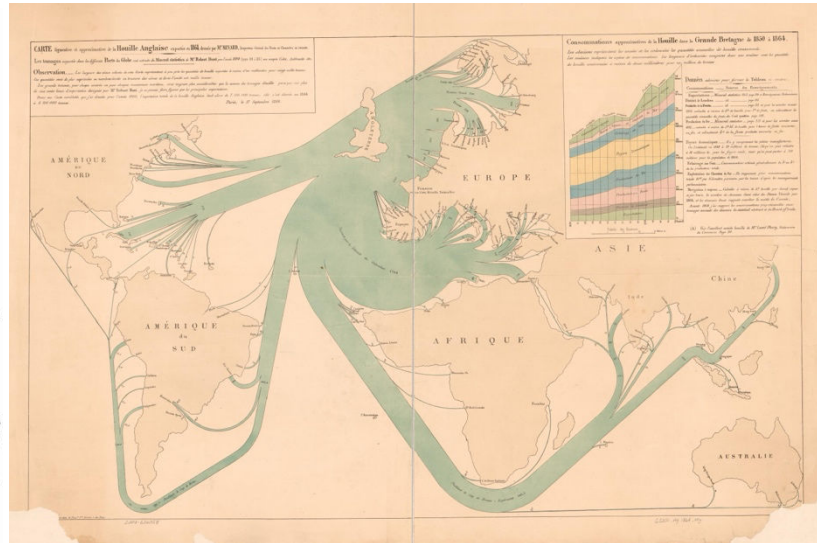


Fossil Space



Left: *A Railway Map of England.* "Punch, vol. 9, no. 222, 11 Oct. 1845



Right: Charles-Joseph Minard, *Figurative and Approximate Map of the Coal Exported from England, 1864*

“Coal, in truth, stands not beside but entirely above all other commodities. It is the material energy of the country — the universal aid — the factor in everything we do. With coal almost any feat is possible or easy; without it, we are thrown back into the laborious poverty of early times.”

William Stanley Jevons, *The Coal Question* (1865)

“Abstract space is not homogeneous; it simply *has* homogeneity as its goal, its orientation, its ‘lens.’”

Henri Lefebvre, *The Production of Space* (1977)

In an essay on the implications of climate change for human history, historian Dipesh Chakrabarty attempted to describe the elusive links between fossil fuel use and social formation through a central metaphor. “The mansion of modern freedoms,” he wrote, “stands on an ever-expanding base of fossil-fuel use. Most of our freedoms so far have been energy intensive.” What this architectural image meant, exactly, is not entirely clear, but this course will take his suggestion as a point of departure. As societies became accustomed to living with fossil fuels, what kinds of spaces did their extraordinary power produce?

This seminar will consider spaces made *by* and *for* fossil fuels: their extraction, their transportation, their consumption, and their waste. Our collective investigation will range from the fundamental material considerations of acquiring and distributing subterranean fuels to the broadest consequences of their use on human culture: the compression of space and time, the creation of ever-greater scales of circulation, the politics of energy abundance, and the present global climate crisis, precipitated in large part by their use. We will aim, in other words, to follow the fuel.

If today it can seem as if almost everything in modern society can be linked to a dependence on fossil fuels, in this seminar we will sharpen our focus by considering a moment *before their triumph*, emphasizing the rise of coal use in the nineteenth century. The primary emphasis over the first weeks will be on the emergence of spaces of coal extraction and transportation. This begins with the mine. While mining is an ancient practice, it was only with the rise of widespread coal use in Britain—beginning in the seventeenth century but taking off in the eighteenth and nineteenth centuries—that urban growth first became dependent on continuous supplies of fossil fuel, resulting in

a new underground imaginary linking mine and metropolis. Next, we will consider early routes of power, as expanding coal consumption precipitated canals and early railways to enable the mass transfer of fuel across regions. These new infrastructures disrupted and rescripted existing geographies according to the material logic of mineral coal, initiating new horizons of connection, speed, and homogeneity that were both enabled and afforded by the surplus energy of fossil fuel.

The ideal of fossil space that emerged by the early 1800s was smooth, continuous, frictionless, and universal. As a cartoon in the English periodical *Punch* proclaimed in 1845, “our country is being regularly ironed from one end of it to the other.” This new vision, enabled by coal-fired iron production and coal-powered steam locomotion, imagined that the space and time dividing places and people would one day be eliminated by virtue of the ancient power of fossil fuel. Opposed to earlier notions of *place*—natural, grounded, cyclical, and concrete—a modern ideal of fossil space emerged that was artificial, unbounded, linear, and abstract.

And yet the construction and articulation of fossil space was always haunted and indeed constituted by friction, protest, and contradiction. It is to these ironies and inconsistencies we turn in the second half of the class. The construction of canals and railways by precarious laborers—from the “navvies” of England to the “coolies” of Asia and North America—shows how profoundly dependent such routes were on labor that came from outside their circulations. We then consider the shape of space afforded by fossil fuels in the early steam factory, the emergent ironies of “efficiency” in the age of coal’s abundant energy, and the translation of fossil-fueled geographies into the ever-larger territories and scales of nineteenth-century imperial and capitalist expansion. Through these overlapping scales, we will rethink the relationship between energy, space, and culture, examining how fossil fuel created not only new spaces, but also generated novel mythologies about the purpose and direction of social and political history.

Like Henri Lefebvre’s concept of “abstract space,” fossil space offered dreams of a modern monoculture, a homogeneous space where all places might be made the same. But, in reality, the distribution of fossil space was and

remains highly uneven. In its drive towards uniformity, fossil space generates stark divisions: those inside, with access to its “mansion of modern freedoms,” and those many others left outside who are nonetheless implicated in its operations.

Through this work, our goal will be to develop a critical genealogy of the present and its vexed and unfolding relation to the legacy of fossil fuels, which has structured modern buildings, infrastructures, and cities, along with their horizons of expectation. It is only by understanding the long-term spatial logic of fossil fuels that we can begin grasping the immensity of the challenge in front of us to imagine possible worlds no longer dependent on their power.

Students will work in pairs to identify, map, and interpret a particular example of fossil space—in any period or place—in order to elaborate, expand upon, or question the category of fossil space and the patterns we aim to diagnose through the rest of our discussions.

Selected Readings

Introduction: What is fossil space?

Dipesh Chakrabarty, “The Climate of History: Four Theses,” (2009): 197–222.

Edmund Burke III, “The Big Story: Human History, Energy Regimes, and the Environment,” (2009): 33–53.

The Historical Landscape of Energy Abundance

Wendell Berry, “The Use of Energy,” (1977), 81–96.

Paul Warde, “The Coal Development Block,” in *Power to the People: Energy in Europe over the Last Five Centuries* (2010), 159–208.

Barnabas Calder and G. A. Bremner, “Buildings and Energy: Architectural History in the Climate Emergency,” (2021): 79–83; 91–100.

Fredrik Albritton Jonsson, “The Industrial Revolution in the Anthropocene,” (2012): 679–96.

Simplifications: The Mine Aesthetic

Lewis Mumford, *Technics and Civilization* (1934), 65–77; 156–158.

Rosalind H. Williams, *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (1990), 1–8; 165–172.

Thomas Andrews, “Dying with their Boots On” in *Killing for Coal* (2010), 122–156.

Zeynep Çelik Alexander, “Nineteenth-Century Alchemy: Mineral Statistics circa 1850,” (2023): 31–43.

Jules Verne, *The Underground City* (1877), selections.

Repetitions: Routes of Power

Christopher F. Jones, “A Landscape of Energy Abundance: Anthracite Coal Canals and the Roots of American Fossil Fuel Dependence, 1820–1860,” (2010): 449–84.

Kate Brown, “Gridded Lives: Why Kazakhstan and Montana Are Nearly the Same Place,” (2001): 17–48.

Brian Larkin, “The Politics and Poetics of Infrastructure,” (2013): 327–43.

Fixes: Capital

Andreas Malm, “The Origins of Fossil Capital: From Water to Steam in the British Cotton Industry,” (2013): 15–68.

Sidney Pollard, “Fixed Capital in the Industrial Revolution in Britain,” (1964): 299–314.

Rachel Bok, “By Our Metaphors You Shall Know Us’: The ‘Fix’ of Geographical Political Economy,” (2019): 1087–1108.

Speed: The Annihilation of Space and Time

Wolfgang Schivelbusch, “Railroad Space and Railroad Time,” (1978): 31–40.

John D. Turner and William Quinn, “Democratizing Speculation: The Great Railway Mania,” in *Boom and Bust: A Global History of Financial Bubbles* (2020): 58–76.

David Brooke, “The Railway Navy—a Reassessment,” (1989): 35–45.

Manu Karuka, “Railroad Colonialism” in *Empire’s Tracks: Indigenous Nations, Chinese Workers, and the Transcontinental Railroad* (2019), 40–59.

Abundance and Freedom, Efficiency and Paradox

William Stanley Jevons, *The Coal Question* (1865), vii–xix, 102–114, 344–349.

Blake Alcott, “Jevons Paradox,” *Ecological Economics* 54, no. 1 (July 2005): 9–21.

Langdon Winner, “Energy Regimes and the Ideology of Efficiency,” (1982), 261–277.

Flows and Frictions

Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2011), 11–42.

On Barak, “En Route,” in *On Time: Technology and Temporality in Modern Egypt* (2013), 21–52.

On Barak, “Three Watersheds in the History of Energy,” (2015): 440–53.

Overshoot, Death Drive

Andreas Malm, “The Future Is the Termination Shock: On the Antinomies and Psychopathologies of Geoengineering. Part Two,” (2023): 3–61.

Deborah Cowen, “Following the Infrastructures of Empire: Notes on Cities, Settler Colonialism, and Method,” (2020): 469–86.

Chris Otter, “Encapsulation: Inner Worlds and Their Discontents,” (2018): 55–66.