

Architecture Climate Change & Society

Buell Center
2021 Course Development Prize

SPACES OF COAL:
Energy, Environment, and Climate Change

+

ANTHRACITE CULTURE: Architecture After Mining

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The industrialization of modern states following the Enlightenment ran parallel to the increasing extraction and production of soft coal and anthracite. Coal became the leading source of energy during the nineteenth century as a replacement both for other combustibles (wood) and power sources (water and wind) and contributed in turn to the rapid development of transportation, industry, and—eventually—the modern urban experience. Coal-based capitalism was a global environmental project from the very beginning, affecting the morphology of modern cities as a consequence of iron and steel construction and of the alteration of natural landscapes to accommodate the new infrastructures that industries demanded. Regrettably, economic development triggered climate change and global warming. Although the heyday of coal production in the US occurred around the beginning of the twentieth century—consumption declined steadily following World War II, once oil proved to be a more effective and profitable source of energy—the global impact of past coal mining on the environment has not been reversed: currently, coal still remains at the origin of the majority of global CO₂ emissions in the atmosphere, contributing dramatically to global warming.





The Spaces of Coal: Energy, Environment, and Climate Change + Anthracite Culture: Architecture After Mining

Seminar and Studio Description

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This seminar explores the political, cultural, and environmental spaces that the coal mining industry generated (directly and indirectly) as well as the ecological consequences of extraction. Emphasis will be placed on the history of coal as a source of energy and its critical role in the definition of spaces and architectures in modernity (whether actual or metaphorical). We will focus on the anthracite region of Pennsylvania, understood as a locus where larger global events can be analyzed. The seminar is designed for anyone interested in the environmental effects of coal-mining extraction as well as in analyzing the consequent political and cultural struggles, possibilities, and forms of remediation. The seminar runs in parallel to the Research Option Studio

Anthracite Culture: Architecture After Mining exploring the transition to greener modes of energy production from a design point of view.

To think about coal extraction just in economic and environmental terms would be misleading. Indeed, Pennsylvania's economic growth since the early nineteenth century was closely related to the availability of coal in several regions of the state. However, the industrial mindset fueling railway transportation and construction industry, profited enormously from the massive supply of cheap labor arriving from Europe as well as the incorporation of former slaves to the mining industry. Migrants settling in Pennsylvania provided a social tissue that cannot be dissociated from the state's modern development. The departing premise of this research and design studio is that, despite of its inevitable decline and grim future, coal mining has produced local cultures in Pennsylvania that are worth considering. Given its proximity to Penn State University, we will concentrate in the Anthracite Region in the middle-east portion of the state. The studio will anticipate the progressive decline of anthracite extraction to find answers that successfully address environmental, economic, social, and cultural challenges ahead. Aspects of labor, race, gender, ethnicity, class, memory, corporate power, etc., will be crucial in our research and design discussions.

READINGS, MOVIES, AND DOCUMENTARIES.

I. Introduction: Understanding Coal.

Charles Lyell, "Chapter VI. From the Plants on Coal Formation," and "Origin of the Transition and Mountain Limestones, Coal Sandstones, and Coal," in *Principles of Geology*, (London: John Murray, 1830-33), 100-104; 132-133.

Alexander von Humboldt, *Kosmos: A General Survey of the Physical Phenomena of the Universe*, (London: Hippolyte Bailliere, 1845), 83-84.

Rosamond D. Rohne, "Anthracite Coal Mines and Mining," *The American Monthly Review of Reviews*, (1902)

Kathryn Yusoff, "White Utopia/Black Inferno: Life on a Geological Spike," *e-flux*, 97 (February 2019).

Brett Wallace, "Mining," *A World Made for Money: Economy, Geography, and the Way We Live Today*. (Lincoln, NE: University of Nebraska Press, 2015), 179-184.

Kim Stanley Robinson, "The Lunatics," in John Joseph Adams, ed., *Brave New Worlds*, (New York: Night Shade Books, 2011), 293-313.

Pierre Bélanger, ed., *Extraction Empire. Undermining the Systems, States, & Scales of Canada's Global Resource Empire*, (Cambridge, MA: The MIT Press, 2017).

II. History, Culture, Society.

John R. Lindermuth, *Digging Dusky Diamonds. A History of the Pennsylvania Coal Region*, (Mechanicsburg, PA: Sunbury Press, 2013), Excerpts.

Harry M. Caudill, *Night Comes to the Cumberlands. A Biography of a Depressed Area*, (Boston: Little, Brown and Company, 1962). Margaret M. Mulrooney, "A Legacy of Coal: The Coal Company Towns of Southwestern Pennsylvania," *Perspectives in Vernacular Architecture*, 4 (1991): 130-137.

James Graham, "Making Coal Historical (A Road Trip)," *Avery Review*, 35 (December 2018).

Margaret Crawford, "The Company Town in an Era of Industrial Expansion" and "Redesigning the Mining Town. Bertrand Goodhue and Tyrone, New Mexico," *Building the Workingman's Paradise. The Design of America Company Towns*, (New York: Verso, 1995), 29-45; 129-151.

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Friedrich Engels, "Conditions of the Working Class in England. The Mining Proletariat," 1845.

Charles Dickens, "A Coal Miner's Evidence," *Household Words*, (1842), 245-250.

Thomas Keil and Jacqueline M. Keil, "Worker Rebellion and the Problems of Worker Solidarity," in *Anthracite's Demise and the Post-Coal Economy of Northeastern Pennsylvania*. (Lanham, MA: The Rowman and Littlefield Publishing Group, Inc., 2015), 23-38.

The Molly Maguires, Directed by Martin Ritt, (Hollywood, CA: Paramount Pictures, 1970).

Kathryn Yusoff, "Queer Coal: Genealogies in/of the Blood," *philoSOPHIA*, 5: 2 (Summer 2015): 203-229.

Paul Shackel, "The History of Race in the Anthracite Coal Region," *An Archaeology of Unchecked Capitalism. From the American Rust Belt to the Developing World*, (New York: Berghahn Books, 2020).

Steven Stoll, "The Captured Garden. Subsistence Under Industrial Capitalism," *Ramp Hollow. The Ordeal of Appalachia*, (New York: Hill and Wang, 2017), 212-243.

James Graham, "Brushy Mountain and the Architecture of Carceral Extraction," in Isabelle Kirkham-Lewitt ed., *Paths to Prison, The Architectures of Carcerality*, (New York: Columbia Books on Architecture and the City, 2020), 159-206.

Martín Arboleda, "Bodies of Extraction and the Making of Urban Environments," in *Planetary Mine, Territories of Extraction Under Late Capitalism*, (New York: Verso, 2020), 74-108.

Documentary: Jean Donohue and Fred Johnson, *Coal Black Voices*, 2001.

III. Environmental Crisis

Andreas Malm, "In the Heat of the Past: Towards a History of the Fossil Economy," and "The Myth of the Human Enterprise: Towards a Different Theory," *Fossil Capital. The Rise of Steam Power and the Roots of Global Warming*, (New York: Verso Books, 2016), 1-20; 255-278.

Ronald C. Kramer, "'Beyond Catastrophic:' The Climate Crisis, Carbon Criminals, and Climate Change," in *Carbon Criminals, Climate Crimes*, (New Brunswick: Rutgers University Press, 2020), 27-57.

Timothy Mitchell, "Machines of Democracy," *Carbon Democracy: Political Power in the Age of Oil*, (New York: Verso Books, 2011), 12-30.

On Barak, "Introduction," and "Fossil," in *Powering Empire. How Coal Made the Middle East and Sparked Global Carbonization*, (Oakland: University of California Press, 2020), 1-23; 194-223. [\[Library Resources\]](#)

Alex Epstein, "The Secret History of Fossil Fuels," *The Moral Case for Fossil Fuels*, (New York: The Penguin Book, 2014), 1-37.

John Bellamy Foster, Brett Clark, and Richard York, "The Return of the Jevons Paradox," *The Ecological Rift. Capitalisms War on Earth*, (New York: NYU Press, 2010), 169-181.

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Jen Schneider, Steve Schwarze, Peter K. Bsumek, and Jennifer Peeples, "Coal and the Contradiction of Neoliberalism," *Under Pressure. Coal Industry Rhetoric and Neoliberalism*, (London: MacMillan Publishers, 2016), 167-180.

Reinhold Martin, "Abolish Oil. From Green New Deal to Green Reconstruction," *Places Journal*, (June 2020).

STUDIO DIGITAL RESOURCES

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<https://www.dep.pa.gov/>

<https://www.dep.pa.gov/Business/Land/Mining/BureauofMiningPrograms/Reports/Pages/2018-Coal-and-Industrial-Minerals.aspx>

EPA. United States Environmental Protection Agency. Pennsylvania.

<https://www.epa.gov/pa>

EIA. United States Energy Information Administration.

<https://www.eia.gov/>

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<https://www.minemaps.psu.edu/>

American Geosciences Institute. Interactive Maps of Historical Mines in Pennsylvania.

<https://www.americangeosciences.org/critical-issues/maps/interactive-atlas-historical-coal-mine-maps-pennsylvania>

Pennsylvania Department of Conservation and Natural Resources.

<https://www.dcnr.pa.gov/Geology/GeologicEconomicResources/Coal/Pages/default.aspx>

Archives of the Indiana University of Pennsylvania. Coal Culture Projects

<https://www.iup.edu/archives/coal/>

PSU Library. Pennsylvania Mines and Mining

<https://guides.libraries.psu.edu/c.php?g=332704&p=2236086>