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THE GRAVEYARD SHIFT:
MINING DEMOCRACY IN AN AGE OF ENERGY CRISIS, 1963-1981

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“God made the coal and he hid it.
Then some fool found it,
And we’ve been in trouble ever since.”

— Arnold Miller, in his first “State of the Union” address, 1973

TABLE OF CONTENTS

LIST OF CHARTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

IN TEXT

AEC	Atomic Energy Commission
BCOA	Bituminous Coal Operators Association
BLA	Black Lung Association
BrLA	Brown Lung Association
BOM	Bureau of Mines
CMLDF	Coal Miners Legal Defense Fund
DOE	Department of Energy
DOI	Department of the Interior
FEO	Federal Energy Office
FOPC	Foreign Oil Policy Committee
JCAE	Joint Committee on Atomic Energy
MOIP	Mandatory Oil Import Quota Program
MSHA	Mine Safety and Health Administration
NCPC	National Coal Policy Conference
NCA	National Coal Association
OCAW	International Union of Oil, Chemical and Atomic Workers
UMW	United Mine Workers of America
USW	United Steel Workers

ARCHIVES

ARP	Archie Robinson Papers
JDC	Jerry DeMuth Collection of United Mine Workers and Strip Mining
JHP	John Herling Papers
LCSEFE	Labor Committee for Safe Energy and Full Employment Records
MFDR	Miners for Democracy Records
UMWAV	United Mine Workers of America Audio-Visual Collection
UMWG	United Mine Workers of America, Graphic and Artifacts Collection
UMWJR	United Mine Workers Journal Records
UMWL	United Mine Workers of America, Legal Department/COMPAC Records
UMWPO	United Mine Workers of America, President's Office Records
UMWPC	United Mine Workers of America, President's District Correspondence
UMWRD	United Mine Workers of America, Research Department Records
UMWSD	United Mine Workers of America, Safety Division Records
USWD50	United Steel Workers, District 50 Records

ONLINE DATABASES

APP	American Presidency Project
PQHN	ProQuest Historical Newspapers

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In 2010, on the verge of finally finishing a bachelor's degree, I had taken only one history course, which I had found uninspiring and for which I received a C. But at Destiney's encouragement, I audited a course with Dan Prosterman on the global Cold War in my final semester. That class changed the entire course of my life. I continued to sit in on more of his courses after graduating, and with his support, I ultimately decided to apply for graduate school. The seeds of this dissertation were planted in one of those courses. It only seems fitting, then, out of respect for that contingency, to dedicate this dissertation to both of them. It certainly would not have been written otherwise.

ABSTRACT

This dissertation re-narrates the US energy crisis of the 1970s as a crisis of labor and democracy in the Appalachian coalfields. Viewed from the coalfields, the energy crisis can help us unravel an irony of the late twentieth century: although many believed the energy crisis would radically transform the American relationship to fossil fuels, fostered by a government-led energy transition, the crisis in fact changed very little about the way Americans consumed energy—especially coal-fired electricity. What the crisis did transform, however, was the coal mining workplace. In the post-1945 period, rapidly expanding electricity consumption—both among industry and by ordinary people—offered coal miners a new place in American society, but this new role could be measured in workplace death and disablement. Miners leveraged this growing disparity to force the crises of black lung, workplace death, and environmental destruction into national view, and through collective action, they helped secure the passage of new safety laws and environmental regulations. This same period also saw a short-lived but expansive reimagining of the terms of democratic politics. Yet at the very moment when miners' power, influence, and collective action should have continued to expand, it instead contracted, and by the end of the 1970s the United Mine Workers, the union which represented a majority of the nation's coal miners, entered a stage of decline from which it has never recovered. By telling these stories together, this dissertation shows how the long energy crisis exposed a set of social and political relationships which linked the productive and consumptive sides of the energy economy. These relationships, composed of newly imagined rights and obligations gave energy new forms of political power and social meaning, and which, from the coal mining workplace, forced a confrontation with the limits of postwar democracy.

This dissertation argues that the energy crisis which defined much of the 1970s was in fact a much broader and deeper crisis that cut to the heart of what citizenship meant in a high-energy

society. The crisis was not fundamentally about scarcity, but instead represented a political crisis of the energy relationships that bound energy workers to energy consumers, and which were mediated through government, market, and industrial institutions. In this story, coal figured centrally rather than being pushed to the margins of the international oil economy. It was, from many vantage points, the baseload fuel of democratic aspiration.

This dissertation traces the coalfield energy crisis from its origins in the early 1960s through the end of Jimmy Carter's presidency in 1981. Chapter one examines the postwar social contract in the coalfields as the leaders of the United Mine Workers struggled to adapt to the atomic age, in the process instilling new ways of thinking about the acceptable risks of modern energy systems, especially the risks to bodies and landscapes, offering a new context for coal's resurgence in the early 1960s. Chapter two reframes the aftermath of the deadly mine explosion near Farmington, West Virginia that killed 78 miners as the first major flashpoint of the energy crisis, a moment which shattered the coalfield social contract and gave miners new forms of political leverage over the nation. Chapters three and four examines the effort by union reformers to redefine citizenship and democracy as premised on the rights to jobs, lives, and land. Chapter five examines how the emergence of the modern energy firm offered new strategies to coalfield organizing efforts to secure union recognition and also lent leverage to miners' wildcat strikes to secure gasoline supplies amid the 1973-74 embargo. The final chapter considers how the uneasy conclusion of the crisis at the end of the 1970s forestalled political efforts at energy transition but reshaped the terrain of energy work and diminished the political expectations of coal miners. This is a dissertation about coal miners, but not as we are used to seeing them—not as relics of the coal-fired past, but as energy citizens. The political economic process by which coal miners became energy citizens illuminates the problem of energy not only as a force shaping political aspirations and possibilities, but rather as a subject of democratic concern.

Introduction

"The Pick and Shovel Days are Over"

On June 15, 1967, President Lyndon B. Johnson issued Executive Proclamation 3789 declaring "National Coal Week," as the Vietnam crisis began to crescendo and racial tensions around the country neared a new breaking point. Rejecting the roots of American coal use in the industrial revolution, Johnson concocted his own narrative of coal and freedom—one that began with "Indians in what is now Arizona" mining coal "as a fuel for baking pottery," and continued straight through "to the development of America's tomorrow." Coal appeared to stand in for any kind of human labor in Johnson's narrative. It "conquered our rivers and pushed our frontiers westward." Coal "built cities and railroads and automobiles…warmed our homes and provided the current light to them." Johnson's description of coal appealed to security in a world that felt increasingly unstable. It called upon coal to represent the connections of modern democratic society that otherwise appeared frayed. For Johnson, the history of the United States emerged from this intimate relationship between coal and democracy because coal had "fired—and is still firing—the furnaces of freedom."[1]

Johnson's proclamation also suggested that such a high-energy democracy was an entropic system, in need of constant fuel inputs to keep it running. The metaphor suggested an instability lie at the heart of modern American society, held within the energy relationships that undergirded the nation's social bonds. Freedom's furnace could run cold if left unattended, with dire—if

[1] Lyndon B. Johnson, Proclamation 3789—National Coal Week, June 15, 1967. Accessed online via the American Presidency Project, University of California, Santa Cruz [hereafter *APP*]. The fact that early coal use among the Hopi remained unknown even as colonists in the Americas imported coal from the British mainland and elsewhere in the empire (especially Nova Scotia), before beginning to systematically develop local reserves suggest that the lineage of modern American coal use is imperial rather than indigenous. Duane Lockard, *Coal: A Memoir and Critique* (Charlottesville: University of Virginia Press, 1998), 11-18. While the exact nature of the industrialization of energy is contested, early use of coal (for heating) and industrial use of coal (for power) marked a world-historical transformation of energy use. See Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (New York: Verso, 2017); E.A. Wrigley, *Energy and the English Industrial Revolution* (New York: Cambridge, 2010).

implied—Cold War consequences.[2] Yet this coal-fired vision of freedom rested on a paradox which Johnson studiously avoided. The stable and democratic growth Johnson imagined coal could provide based itself on a series of spatial, temporal, and moral asymmetries that resulted in the deaths of thousands of miners within the nation's coal seams, disabled hundreds of thousands with workplace injuries and occupational diseases, and rendered areas of the most biodiverse ecosystem east of the Rocky Mountains nearly uninhabitable as the "buried sunshine" of an earlier age was extracted from the earth's crust.[3]

The extractive society which turned fuels like coal into energy grew from the energy workplace. As the site of articulation between deep time and American high-energy capitalism—the place "where nature takes its revenge, where man pays for what he steals from the earth in life and blood"—coal mines sat at the center of this paradox, the fulcrum across which the energy relationships between the nation's energy producers and its consumers balanced, often precariously.[4] The increasing reliance on large quantities of coal for electric power, and increasingly common tendency to equate electricity consumption as synonymous with an American standard of living, brought the public interest into the energy workplace. The nation needed the coalfields to be stable in order to secure energy supply—especially in the face of an unsure future for nuclear power and a long-term energy outlook that suggested electricity consumption would continue to double each decade, approximately the same rate as total national

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[2] Adams pioneered the application of entropy to social systems. Richard Newbold Adams, *Energy and Structure: A Theory of Social Power* (Austin: University of Texas Press, 1975), 109-153. Westad outlines the ideological framework of US empire in the Cold War and Shulman has established the connection between coal and empire in the nineteenth century, which established a connection between the materiality of coal and narratives of "security." Odd Arne Westad, *The Global Cold War: Third World Interventions and the Making of Our Times* (New York: Cambridge University Press, 2007), 8-38; Peter Shulman, *Coal and Empire: The Birth of Energy Security in Industrial America* (Baltimore: Johns Hopkins University Press, 2015).

[3] Tom Butler and Doug Tompkins, *Plundering Appalachia: The Tragedy of Mountaintop Removal Coal Mining* (San Rafael, CA: Earth Aware Editions, 2009), especially "Beauty, Biodiversity, and Culture Imperiled." "Buried sunshine" is a phrase borrowed from Andrews to describe the relationship between deep time and the fossil economy. Thomas Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge, MA: Harvard University Press, 2008), 31.

[4] Transcript, "The Cherokee Shaft: The Story of Mines and Men." ABC Broadcast, May 22, 1971. 8:30-9:30 PM EDT. Miners for Democracy Records [hereafter MFDR], Box 63 Folder 1.

energy consumption, through at least 1990. (Chart 0.1.) This rapid growth in electricity consumption helped the coal industry surge back to life following decades of fatal predictions.[5]

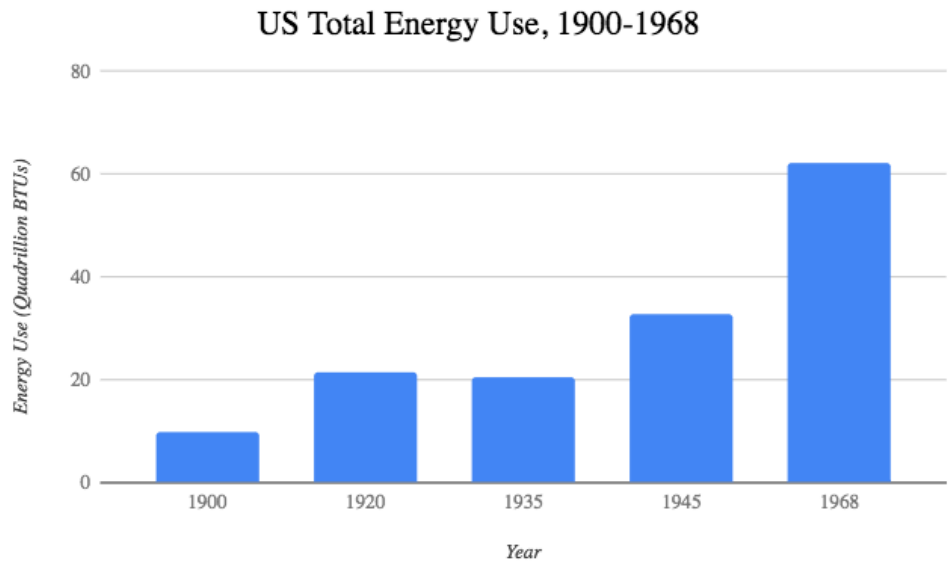

Chart 0.1: Total US Energy Use, 1900-1968. Adapted from US Energy Information Administration, "History of Energy Consumption in the United States, 1775-2009," *Annual Energy Review*, 2009. Accessed online. Note that the only blip in energy use growth across the twentieth century was in the midst of the Great Depression.

A coal-fired future had been made possible by new technical achievements which allowed coal to be mined in large quantities at low and seemingly stable prices, and more of the negative environmental impacts of coal to be pushed out of sight of suburban populations increasingly concerned with problems of air and water pollution—the mechanization of underground coal mining and the expansion of strip mining, the development of mine-to-mouth power generation (otherwise known as "coal by wire"), and growth of the grid .[6] This displacement and concentration

[5] Federal Power Commission, "Energy Sources for Generation, 1963-1980 (Projected)," in *The 1964 National Power Survey of the Federal Power Commission* (Washington: U.S. Govt. Print. Off., 1965), 52; Charles River Associates, Inc., "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy. Part I: Profile of the Appalachian Coal Industry and Its Competitive Fuels." (Cambridge: N.p., 1973); Resources for the Future, Sam H. Schurr, and Bruce Carlton Netschert, *Energy in the American Economy, 1850-1975; an Economic Study of Its History and Prospects* (Baltimore: Johns Hopkins Press, 1960); Price Van Meter Fishback, *Soft Coal, Hard Choices: The Economic Welfare of Bituminous Coal Miners, 1890-1930* (New York: Oxford University Press, 1992); John H.M. Laslett, ed., *The United Mine Workers of America: A Model of Industrial Solidarity?* (University Park: Pennsylvania State University Press, 1996).

[6] On mechanization see Keith Dix, *What's a Coal Miner to Do? The Mechanization of Coal Mining* (Pittsburgh: University of Pittsburgh Press, 1988). On the concentration of coal's environmental impacts, although focused on the Southwestern context, see Andrew Needham, *Power Lines: Phoenix and the Making of the Modern Southwest* (Princeton, NJ: Princeton University Press, 2014). For coal prices, see "Bituminous Coal Prices in the United States, 1949-1980," adjusted for inflation. Energy Information Administration, and "Coal Prices, 1949-2011," *Annual Energy*

of coal's impact amplified the disparities between the social benefits of electricity consumption and the human costs of coal production. It also drove the coalfields into crisis as miners rebelled against what they perceived as a new coal industry that was killing them—one rooted in old inequalities but now structured around automated production for electrification. When Arnold Miller—the leader of the black lung movement who became the president of the United Mine Workers as part of the Miners for Democracy upsurge in 1972—declared that "the pick and shovel days are over," he spoke not only of the technological transformation driven by mechanization of underground mining, but of the new social relationships and political formations which had followed. The opposite of pick-and-shovel was not mechanization, but newly tangible political power.[7]

The crisis of the coal mining workplace fit into a broader narrative of energy crisis and uncertainty. By the spring of 1972, the nation had begun to reckon with the long-term, structural energy crisis that threatened the stability of the fuel supply and appeared to portend skyrocketing energy prices. Thomas O'Toole, a reporter for the *Washington Post*, tried to explain how "the richest nation in the world has suddenly discovered it is energy poor." Of course, energy poor was

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Review. Accessed online. Most literature on the growth of environmental concern in this period has almost exclusively focused on the growing aspirations of suburbanites and consumers, even though Rachel Carson's classic *Silent Spring* pointed out the importance of farmworkers and housewives—whose unpaid housework was not often seen as labor nor their homes as workplaces—in knowing their environments and the changes occurring within them. Rachel Carson, *Silent Spring* (New York: Houghton Mifflin, 2002). See Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1989); Christopher C. Sellers, *Crabgrass Crucible: Suburban Nature and the Rise of Environmentalism in Twentieth-Century America* (Chapel Hill: University of North Carolina Press, 2012); Robert D. Lifset, *Power on the Hudson: Storm King Mountain and the Emergence of Modern American Environmentalism* (Pittsburgh: University of Pittsburgh Press, 2014); Paul S. Sutter, *Driven Wild: How the Fight Against Automobiles Launched the Modern Wilderness Movement* (Seattle: University of Washington Press, 2005); Adam Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (New York: Cambridge University Press, 2001). A smaller, but growing set of literature has begun to re-examine the assumption that Americans developed environmental concern as consumers, and has instead begun to examine their working lives. See Chad Montrie, *The Myth of Silent Spring: Rethinking the Origins of American Environmentalism* (Berkeley: University of California Press, 2018); Stefania Barca, "On Working-Class Environmentalism: A Historical and Transnational Overview," *Interface* 4 no. 2 (2012), 61-80; Robert Gottlieb, *Forcing the Spring: The Transformation of American Environmentalism* (Washington, DC: Island Press, 1993).

[7] Arnold Miller, "State of the Union" address, transcribed in *Proceedings: of the Forty-Sixth Consecutive Constitutional Convention of the United Mine Workers of America* (Washington, DC: United Mine Workers of America, 1973), 9.

an exaggeration; Americans used energy at a rate six times the world average. Still, the growing disparity between energy production and consumer demand seemed to point toward an imminent "shortage of cheap, clean fuels to make electricity." Still, coal, despite its wide geological occurrence across the North American continent, faced a questionable future. It was too dirty, and it had, at the hands of energy firms and administrative agencies, fallen too far behind in research and development. More importantly—although O'Toole didn't mention it—coal had labor troubles. His picture of coal was one of mismanagement, stasis, and deadlock.[8] He suggested "[s]uch a debacle," as coal found itself in "could have been forestalled by foresight." But now it was a "race against time." He concluded that the "story of what's happened to coal"—and not oil or the atom—"tells a lot about why there is an energy crisis in America today."[9]

O'Toole was right: between the end of World War II and Jimmy Carter's departure from office in January 1981, coal's place in American life had changed drastically as high-energy capitalism became electrified. Utilities became by far the largest consumers of coal and by 1966, the production of electricity would burn more coal than all other uses combined.[10] How coal was consumed, however, was only part of the story. The conditions under which it was produced had also been transformed.

Underground mines mechanized and strip mining expanded, shedding two-thirds of the nation's coal mining jobs in the process.[11] The growth of electrification opened vast new markets for coal, which turned from primarily an industrial fuel into the primary source of the nation's

[8] Hirsh has also noted the role of technological stasis during the same period—though driven by a different set of factors. Richard Hirsh, *Technology and Transformation in the American Electric Utility Industry* (New York: Cambridge University Press, 1989).
[9] Thomas O'Toole, "US Energy Crisis: Light Dims at the End of the Tunnel," *Washington Post*, April 14, 1972.
[10] Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," (Cambridge, MA: N.p., 1973), 11-12, 183. Bureau of Mines, *Minerals Yearbook, 1969*, (Washington, DC: US Government Printing Office, 1971). Also see Chart 1.2.
[11] "Engineers' Magazine Examines Our Industry: The Return of Old King Coal," *UMW Journal*, January 15, 1964; Dix, *What's a Coal Miner to Do?*; Jerry Bruce Thomas, *An Appalachian Reawakening: West Virginia and the Perils of the New Machine Age* (Morgantown: West Virginia University Press, 2010).

illumination. Giant machines came to dominate the coal landscape and tore apart mountains, ripping veins of coal from the earth's crust above and below ground. These machines introduced new kinds of danger into what was already the nation's deadliest workplace. Meanwhile, the mining workforce became younger as Vietnam veterans replaced WWII veterans. The generational divide in work experience shaped attitudes toward union politics and industry regulation even as the emergent black lung crisis tied working, retired, and disabled miners together in a powerful coalition. New regulatory efforts further upset the careful postwar balancing act between state, company, and union that had, for a short period, brought relative labor peace to the coalfields—no small feat after decades of underground organizing campaigns, strikes, labor espionage, company repression, even guerilla warfare.[12] The mining workplace was further unsettled by new industry coalitions, as oil companies acquired coal companies at rapid rates, along with reserves of other energy sources. This shift in ownership restructured the disparate fuel sectors and turned themselves into the modern energy conglomerates that still dominate our political landscape today: Shell, Exxon, Peabody, CONSOL.

Viewed from the coalfields, the energy crisis was defined as much by mine explosions as by blackouts, by black lung as much as gasoline shortages. It began not in the early 1970s, as we are usually told, but rather stretched back into the early 1960s as industry leaders, union officials, government administrators, atomic scientists, and workers sought to build an energy portfolio

[12] For early history of the United Mine Workers and the Appalachian coalfields, see David Corbin, *Life, Work, and Rebellion in the Coalfields: The West Virginia Miners, 1880-1922*; Laslett, *The United Mine Workers of America: A Model of Industrial Solidarity*. On the eastern coalfield wars, see James Green, *The Devil Is Here in These Hills: West Virginia's Coal Miners and Their Battle for Freedom* (New York: Grove Press, 2016); Lon Savage, *Thunder in the Mountains: The West Virginia Mine War of 1920-1921* (Pittsburgh, PA: University of Pittsburgh Press, 1990); Robert Shogan, *The Battle of Blair Mountain: The Story of America's Largest Labor Uprising* (New York: Basic Books, 2006); Rebecca J. Bailey, *Matewan Before the Massacre: Politics, Coal, and the Roots of Conflict in a West Virginia Mining Community* (Morgantown: West Virginia University Press, 2008); Paul F. Taylor, *Bloody Harlan: The United Mine Workers of America in Harlan County, Kentucky, 1931-1941* (St. Martin, OH: Commonwealth Book Company, 2017).

suitable for fragile Cold War political sensibilities.[13] The first major flashpoint of this crisis was not the OPEC embargo but instead took place five years earlier, in November 1968, when an explosion tore through the Consol No. 9 mine near Farmington, West Virginia, killing 78 miners.[14] It would only wane more than a decade later in the wake of Three Mile Island, a near-nuclear catastrophe in the heart of one of the coal-richest states in the country.[15] Across this tumultuous decade, miners would use their new power over the nation's electric power to forge a new place for themselves in national politics, resulting in key legislative reforms. They would democratize their union and envision a new form of coalfield governance suitable to their position on the frontlines of American energy production. And they would see these visions go unrealized, as industrial restructuring, along with competing visions of democracy, would curb their national power and limit their political imaginations.

The energy crisis was not only a coalfield story, or a story of one fuel, but of the changing ways that energy—in a broader and more fluid sense—was produced, used, and governed. Still, coal played a unique, politically charged role. For a wider group of US policymakers, journalists,

[13] The growing body of historical scholarship on the energy crisis overwhelmingly points to one of two starting points for the energy crisis—either amid concerns over natural gas shortages in 1972 or with the better-known commencement of the OPEC oil embargo in 1973. See for example Robert D. Lifset, "A New Interpretation of the Energy Crisis of the 1970s," *Historical Social Research* 39 no. 4 (2014), 22-42; Robert D. Lifset, ed., *American Energy Policy in the 1970s* (Norman: University of Oklahoma Press, 2014); Meg Jacobs, *Panic at the Pump: The Energy Crisis and the Transformation of American Politics in the 1970s* (New York: Hill & Wang, 2016). On energy governance and the creation of industry-labor-state tripartite governance structures, see Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (New York: Cambridge University Press, 1991); James T. Sparrow, "Behind the Atomic Curtain: School Desegregation and Territoriality in the Early Cold War," *Tocqueville Review* 2 (2012), 115-139; Russel B. Olwell, *At Work in the Atomic City: A Labor and Social History of Oak Ridge, Tennessee* (Knoxville: University of Tennessee Press, 2004); John M. Findlay and Bruce William Hevly, *Frontier Days: Hanford and the American West* (Seattle: University of Washington Press, 2011). On the development of the tripartite structure in American industry more broadly, see Nelson Lichtenstein, *Labor's War at Home: The CIO in World War II* (Philadelphia: Temple University Press, 2008); James T. Sparrow, *Warfare State: World War II Americans and the Age of Big Government* (New York: Oxford University Press, 2011).
[14] Bonnie E. Stewart, *No. 9: The 1968 Farmington Mine Disaster* (Morgantown: West Virginia University Press, 2012).
[15] On Three Mile Island, see J. Samuel Walker, *Three Mile Island: A Nuclear Crisis in Historical Perspective* (Berkeley: University of California Press, 2004); Edward J. Walsh, *Democracy in the Shadows: Citizen Mobilization in the Wake of the Accident at Three Mile Island* (New York: Greenwood Press, 1988); Natasha Zaretsky, *Radiation Nation: Three Mile Island and the Political Transformation of the 1970s* (New York: Columbia University Press, 2018).

and intellectuals, including O'Toole, coal had come to serve as an indicator of the health of the nation's energy regime—the social relationships, institutions, laws, infrastructures, markets, and political culture which governed energy's production and use.[16] The failures and successes of coal carried meaning far beyond the industry, beyond the people who worked in it, managed it, regulated it, or invested in it. Coal miners, especially those organized under the banner of the United Mine Workers of America (UMW), were well-accustomed to this idea by the early 1970s. Across the 1960s, they had watched their union's president, W.A. "Tony" Boyle, insist that a healthy coal sector was the bedrock of American democracy from nearly the moment he ascended to the office in the early months of 1963. Even after rejecting Boyle and replacing him with the Miners for Democracy in 1972, miners leveraged the idea that as went the coalfields, so did the nation. Miners emphasized that powerlines didn't just conduct electricity, but their democratic aspirations, and carried with the current the moral and ecological costs of coal production. More than an infrastructure, the ever-expanding network of powerlines also represented a new set of energy relationships, along which newly claimed rights and new obligations ebbed and flowed.

Between the Cuban missile crisis in the fall of 1962 and the conclusion of the Iran hostage crisis in 1981, then, is a period which might be referred to as the "long" energy crisis, attentive to the "seemingly endless series" of crises that characterized US politics in this period: inflation, deindustrialization and urban crisis, Vietnam and the reshaping of the US empire, the racial, gender, and sexual orders of American life, pollution and environmental protection, the boundaries of the still-young and fiercely contested welfare state.[17] All were at least inflected, if not structured

[16] On the concept of energy regimes, see J.R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (New York: W.W. Norton & Co., 2001), 297-316; Michael Niblett, "Energy Regimes," in *Fueling Culture: 101 Words for Energy and Environment*, Jennifer Wenzel, Patricia Yaeger, Imre Szeman, eds. (New York: Fordham University Press, 2017).

[17] Chris Welles, "The Energy Crisis," *New York Times,* February 25, 1973. Judith Stein, *Pivotal Decade: How the United States Traded Factories for Finance in the 1970s* (New Haven: Yale University Press, 2011); Jefferson Cowie, *Stayin' Alive: The 1970s and the Last Days of the Working Class* (New York: New Press, 2010); Danielle L. McGuire, *At the Dark End of the Street: Black Women, Rape, and Resistance—a New History of the Civil Rights Movement from Rosa Parks to the Rise of Black Power* (New York: Vintage, 2011); Daniel S. Lucks, *Selma to Saigon: The Civil*

or directly caused, by the energy crisis which began amid the collapse of the Eisenhower-era oil import quota system, increased efforts by the Atomic Energy Commission to subsidize private sector development in the atomic sector, the struggle for the coal sector to adapt to—and protect—their newest and only growth market in the utilities.[18] The aftermath of a similar series of events—the 1977-78 national coal strike, the Iranian revolution, and the accident at Three Mile Island—uneasily dissipated the crisis, but also foreclosed efforts to reimagine energy relationships beyond fossil fuel extractivism.

Most accounts tell us that the energy crisis of this period, the long 1970s,[19] began in October 1973—when the Organization of Petroleum Exporting Countries (OPEC) declared an embargo on oil exports to the United States and instituted cuts in production, in part as retaliation

Rights Movement and the Vietnam War (Lexington: University Press of Kentucky, 2016); Elizabeth Hinton, *From the War on Poverty to the War on Crime: The Making of Mass Incarceration in America* (Cambridge, MA: Harvard University Press, 2017); Jennifer Klein, *For All These Rights: Business, Labor, and the Shaping of America's Public-Private Welfare State* (Princeton, NJ: Princeton University Press, 2003); Julilly Kohler-Hausmann, *Getting Tough: Welfare and Imprisonment in 1970s America* (Princeton, NJ: Princeton University Press, 2017); David Ekbladh, *The Great American Mission: Modernization and the Construction of an American World Order* (Princeton, NJ: Princeton University Press, 2011), 226-274; Jefferson Cowie, Joseph Heathcott, and Barry Bluestone, eds., *Beyond the Ruins: The Meanings of Deindustrialization* (Ithaca, NY: ILR Press, 2003); Eric Avila, *The Folklore of the Freeway: Race and Revolt in the Modernist City* (Minneapolis: University of Minnesota Press, 2014); Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton, NJ: Princeton University Press, 2014); Natasha Zaretsky, *No Direction Home: The American Family and the Fear of National Decline, 1968-1980* (Chapel Hill: University of North Carolina Press, 2007); Eric C. Scheider, *Smack: Heroin and the American City* (Philadelphia: University of Pennsylvania Press, 2011); Jeremi Suri, *Power and Protest: Global Revolution and the Rise of Détente* (Cambridge, MA: Harvard University Press, 2005); Robert O. Self, *All in the Family: The Realignment of American Democracy since the 1960s* (New York: Hill & Wang, 2013); Kathleen Belew, *Bring the War Home: The White Power Movement and Paramilitary America* (Cambridge, MA: Harvard University Press, 2018).

[18] This timeline of the energy crisis, as beginning during or the months immediately preceding the 1973 embargo is supported by scholars from Richard H.K. Vietor—who writing in 1980 noted that after 1974, the energy crisis "the preeminent issue of public concern," trends toward crisis had been developing "several months before the Yom Kippur war," in part driven by the 1972 publication of *The Limits to Growth*—to more recent scholarship by Meg Jacobs and Robert D. Lifset. Richard H.K. Vietor, *Environmental Politics and the Coal Coalition* (College Station: Texas A&M Press, 1980), 195; Jacobs, *Panic at the Pump*; Lifset, *American Energy Policy in the 1970s*.

[19] The years which are thought to constitute the long 1970s vary, but the term generally encompasses the years between the revolutionary upheavals of 1968 and the inauguration of Ronald Reagan in 1981. As a unique period in global history, the long 1970s is thought to signify the "transformative" decade which saw the shift from "traditional, collective-oriented socio-economic interest and welfare policies were increasingly replaced by the more individually and neo-liberally oriented value policies of the post-industrial epoch," Poul Villaume, Rasmus Mariager, and Helle Porsdam, *The 'Long 1970s': Human Rights, East-West Détente, and Transnational Relations* (New York: Routledge, 2017), 1. Stein suggests pushing this periodization back as far as 1964 to encompass changes in international trade policy. Judith Stein, *Pivotal Decade: How the United States Traded Factories for Finance in the 1970s* (New Haven: Yale University Press, 2011). Also see Cowie, *Stayin' Alive*; Borstelmann has argued for a narrower 1970s—one that follows closely the twin oil shocks of the decade. Thomas Borstelmann, *The 1970s: A New Global History from Civil Rights to Economic Inequality* (Princeton, NJ: Princeton University Press, 2013), 6-9.

for US support for Israel in the 1973 Arab-Israeli war, as well as to restore oil prices following the American exit from Bretton Woods in 1971.[20] The crisis, in this narrative, ended with the resolution of the 1979 oil shock amid a wider realignment of American politics that resulted in the triumph of the new conservatism and the election of Ronald Reagan.[21] This narrative begins and ends with oil: runaway domestic consumption, fueled by the growth of automobile society, coming into conflict with the global process of decolonization and the aftermath of US intervention in post-occupation Iran. In reality, these conflicts diminished without ever being resolved, unable to stymie American demands for more energy or address the international asymmetries of a global and extractivist high-energy capitalism.[22] This long energy crisis was not an oil crisis—nor a crisis

[20] Ed Conway, *The Summit—Bretton Woods, 1944: J.M. Keynes and the Reshaping of the Global Economy* (New York: Pegasus Books, 2014).

[21] On the rise of American conservatism which increasingly bound together neoliberal economic though with evangelical and social conservatism, especially post-1968, see Bruce J. Schulman and Julian Zelizer, *Rightward Bound: Making America Conservative in the 1970s* (Cambridge, MA: Harvard University Press, 2008); Robert O. Self, *All in the Family: The Realignment of American Democracy since the 1960s* (New York: Hill & Wang, 2012); Andrew Hartman, *A War for the Soul of America: A History of the Culture Wars* (Chicago: University of Chicago Press, 2016); Kim Phillips-Fein, *Invisible Hands: The Businessmen's Crusade against the New Deal* (New York: W.W. Norton & Co., 2010); Daniel K. Williams, *God's Own Party: The Making of the Christian Right* (New York: Oxford University Press, 2010); Darren Dochuk, *From Bible Belt to Sun Belt: Plain Folk Religion, Grassroots Politics, and the Rise of Evangelical Conservatism* (New York: W.W. Norton & Co., 2012); Bethany Moreton, *To Serve God and Walmart: The Making of Christian Free Enterprise* (Cambridge, MA: Harvard University Press, 2008); Matthew D. Lassiter, *The Silent Majority: Suburban Politics in the Sunbelt South* (Princeton, NJ: Princeton University Press, 2007); Lisa McGirr, *Suburban Warriors: The Origins of the New American Right* (Princeton, NJ: Princeton University Press, 2015). On the rise of neoliberalism, see David Harvey, *A Brief History of Neoliberalism* (New York: Oxford University Press, 2010); Kim Phillips-Fein, *Fear City: New York's Fiscal Crisis and the Rise of Austerity Politics* (New York: Picador, 2018); Melinda Cooper, *Family Values: Between Neoliberalism and the New Conservatism* (Cambridge, MA: MIT Press, 2017).

[22] On the US energy consumer—especially the growth of the automobile—see Brian Black, "The Consumer's Hand Made Visible: Consumer Culture in American Petroleum Consumption of the 1970s," in *American Energy Policy in the 1970s*, Robert Lifset, ed. (Norman: University of Oklahoma Press, 2014); Lizabeth Cohen, *A Consumer's Republic: The Politics of Mass Consumption in Postwar America* (New York: Vintage Books, 2003); Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1987); Christopher W. Wells, *Car Country: An Environmental History* (Seattle: University of Washington Press, 2014); Matthew T. Huber, *Lifeblood: Oil, Freedom, and the Forces of Capital* (Minneapolis: University of Minnesota Press, 2014); J.R. McNeill, *The Great Acceleration: An Environmental History of the Anthropocene since 1945* (Cambridge, MA: Belknap Press, 2016); Joseph F.C. DiMento, Cliff Ellis, and Robert Gottlieb, *Changing Lanes: Visions and Histories of Urban Freeways* (Cambridge, MA: MIT Press, 2014). On the US relationship with Iran, see Stephen Kinzer, *All the Shah's Men: An American Coup and the Roots of Middle East Terror* (Hoboken, NJ: Wiley & Sons, 2003); Mostafa Elm, *Oil, Power, and Principle: Iran's Oil Nationalization and Its Aftermath* (Syracuse, NY: Syracuse University Press, 1992); Mark J. Gasiorowski, *US Foreign Policy and the Shah: Building a Client State in Iran* (Ithaca, NY: Cornell University Press, 1991); David S. Painter, "From the Nixon Doctrine to the Carter Doctrine: Iran and the Geopolitics of Oil in the 1970s," in *American Energy Policy in the 1970s*, 61-92; Steve Marsh, "The United States, Iran, and the "Oil Weapon": From Truman to George W. Bush," in *American Energy Policy in the 1970s*, 93-122; on international oil politics, see Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York: Free

of any specific fuel—but instead of the energy regime used to govern the relationships that these fuels powered.

Viewed from the coalfields, the long energy crisis can help us unravel the paradox of coalfield power and American energy politics in the late twentieth century. The rapidly expanding use of electric power—both among industry and by ordinary people—offered miners a new place in American society, even if this new role could be measured in workplace death and disablement. Yet at the very moment when miners' power, influence, and collective action should have continued to expand, it instead contracted, and by the end of the 1970s the UMW had entered a stage of decline from which it has never recovered. At the same time, the energy crisis which was meant to forever alter Americans' relationship to energy ultimately had little lasting impact on the nation's fossil fuel dependence. By telling these stories together, this dissertation will show how the long energy crisis exposed a set of social and political relationships which linked the productive and consumptive sides of the energy regime, which gave energy new forms of political power and social meaning, and which, from the coal mining workplace, forced a confrontation with the limits of post-World War II democracy.

The Energy Workplace

The graveyard shift, a fixture of industrial working-class life, is conspicuously absent among coal miners. Believing the term invites disaster below ground, coal miners refer instead to the overnight working hours as the "cat-eye shift."[23] When the term *does* appear in the coalfields, as it did in the October 1967 issue of the *United Mine Workers Journal*, its intentional use suggested

Press, 2009); Matthieu Auzanneau, *Oil, Power, and War: A Dark History* (Hartford, VT: Chelsea Green Publishing, 2018); Anthony Sampson, *The Seven Sisters: The Great Oil Companies and the World They Made* (New York: Viking, 1975).

[23] Stewart, *No. 9*, 6.

a wide range of layered meanings.[24] To the obvious connotation of death, others cling: the collectivity of the dead who inhabit the graveyard, the landscape which gives meaning to their collective identity, the cycles of change implied in the working shift, the simultaneous gesture at finality as well as transition, a looming sense of doom in the banal and everyday, sometimes translated into superstition and the fantastic.[25] Perhaps no term then could more powerfully describe the changes in the American coal mining workplace between 1963 and 1981 than this one, which lives between worlds. With force, it reshapes the context for understanding today's mining workplace, which no matter how many times it "dies," continues to force its way into the national political foreground, election after election.

This tumultuous "graveyard shift" in the Appalachian coalfields played a central role in the transformation of the American way of producing, consuming, regulating, allocating, and imagining energy—the components that together constituted an energy regime—across the long 1970s. It helps us to reframe what Daniel Rodgers has called the "dominant tendency of the age toward disaggregation"; we might call it entropy.[26] The relationships of energy that had emerged through World War II to power and expand high-energy capitalism into the postwar period—not only in coal mines or factories, but in homes, communities, schools, white collar workplaces, and even the US military—came apart as coalfield Fordism, the regime which governed the coal mining workplace fractured. Looking at this period of crisis from the coalfields is that it helps us

[24] "Graveyard Shift!" *United Mine Workers Journal*, October 15, 1967.
[25] On the cultural meanings of death in the workplace, see Michael K. Rosenow, *Death and Dying in the Working Class, 1865-1920* (Urbana: University of Illinois Press, 2015); for a broader history, see Thomas W. Laquer, *The Work of the Dead: A Cultural History of Mortal Remains* (Princeton, NJ: Princeton University Press, 2015); on the particular meanings of death in Appalachia, see Muriel Rukeyser, *The Book of the Dead* (Morgantown: West Virginia University Press, 2018); Tim Dayton, "The Book of the Dead: A Vision of History," in *Muriel Rukeyser's The Book of the Dead* (Columbia: University of Missouri Press, 2003), 131-135; Brent Walter Cline, "Buried Bodies, Buried Treasure: Coal Mines and the Ghosts of Appalachia," *South Carolina Review* 47 no. 2 (2015), 37-48; on the fantastic, see David McNally, *Monsters of the Market: Zombies, Vampires, and Global Capitalism* (Chicago: Haymarket Books, 2011); Luise White, *Speaking with Vampires: Rumor and History in Colonial Africa* (Berkeley: University of California Press, 2000).
[26] Daniel Rodgers, *Age of Fracture* (Cambridge, MA: Harvard University Press, 2012), 5.

tell a more holistic story about why an energy crisis took place in the United States in the long 1970s. This crisis would have occurred even if disruptions in international oil supply had never taken place. The oil shocks helped make visible and exacerbate the deeper crisis, but they should not be mistaken for being the crisis itself, which cut to the heart of what citizenship in a high-energy society meant.[27]

The importance of the coalfields in this transformation has been overlooked precisely because of focus on the importance of international oil politics in this period. This singular focus on oil has relied on one basic assumption that has gone relatively unchallenged: that oil *replaced* coal in the American energy regime in the postwar period. But the rise of oil was also tied to its highly specialized applications—gasoline, jet fuel, petrochemical production—which consumed over fifty percent of all oil in the United States.[28] Yergin's time of "Hydrocarbon Man" and Mitchell's "Age of Oil," are better described as transformed systems of interdependence, both composed of and supported by new infrastructures and technological developments.[29] These technological transformations reshaped the cultural practices that gave energy social meaning.[30]

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[27] The concept of energy citizenship builds off the work of Linda Kerber, who identified the gendered nature of citizenship's rights and obligations, Judith Shklar, who pointed to the importance of work in defining the rights of twentieth century American citizenship, and Nelson Lichtenstein's definition of industrial citizenship. Linda Kerber, *No Constitutional Right to Be Ladies: Women and the Obligations of Citizenship* (New York: Hill & Wang, 1996); Judith Shklar, *American Citizenship: The Quest for Inclusion* (Cambridge, MA: Harvard University Press, 1998); Nelson Lichtenstein, *State of the Union: A Century of American Labor* (Princeton, NJ: Princeton University Press, 2003).

[28] Oak Ridge National Laboratory, for the Department of Energy, "Consumption of Petroleum by End-Use Sector," *Transportation Energy Data Book* 37 (2018), 1-18.

[29] Yergin, *The Prize*, 371-541; Mitchell, *Carbon Democracy*; on infrastructures and systems of development, see Astrid Kander, Paolo Malamina, and Paul Warde, *Power to the People: Energy in Europe over the Last Five Centuries* (Princeton, NJ: Princeton University Press, 2013), especially 17-34; Thomas P. Hughes, "The Evolution of Large Technological Systems," in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch, eds. (Cambridge, MA: MIT Press, 1987), 51-82; Hirsh, *Technology and Transformation;* Christopher F. Jones, *Routes of Power: Energy and Modern America* (Cambridge, MA: Harvard University Press); Needham, *Power Lines*.

[30] On the growth of petrocultures, see Sheena Wilson, Adam Carlson, and Imre Szeman, *Petrocultures: Oil, Politics, Culture* (Morgantown: West Virginia University Press, 2017); Stephanie LeMenager, *Living Oil: Petroleum Culture in the American Century* (New York: Oxford University Press, 2016); Bob Johnson, *Carbon Nation: Fossil Fuels in the Making of American Culture* (Lawrence: University Press of Kansas, 2014); Huber, *Lifeblood*; Carolyn Thomas de la Peña, *The Body Electric: How Strange Machines Built the Modern America* (New York: New York University Press, 2003); Lewis Mumford, *Technics and Civilization* (Chicago: University of Chicago Press, 2010).

In fact, the growth of oil consumption was only possible since coal, out of sight, continued to power the nation. Oil diplomacy flashed on TV screens powered by coal-by-wire electricity. The great mid-century effort to "build a mass-consumption economy," was not only, as argued by Adam Rome, "predicated on cheap oil," but made possible because oil could be diverted away from other uses to allow the development of niche energy consumption in petroleum, plastics, and petrochemicals.[31] Coal, however, was much more dynamic than many scholars of the ages of oil and the atom have suggested. Its geological variability, the wide variety of work arrangements that can be used to extract it, and the different systems of government it has fueled together point to the imagination, promise, and sublime danger it has been able to communicate through mines, stockpiles, smokestacks, and currents. Coal's dynamism assured that even amid the ascendance of oil and the promise of the atom, it continued to fire US energy relationships—even if it now did so mostly out of sight.

This dissertation is organized around six flashpoints of the coalfield energy crisis, beginning with the UMW's crusade against nuclear power in the early 1960s and ending with the fallout from the 1977-78 national coalfield strike, the Iranian revolution, and the near-catastrophe at Three Mile Island. Chapter one examines the anti-atom crusade by the UMW leadership—especially Tony Boyle—as part of a broader debate over which energy source was most compatible with American democracy. Ironically, Boyle's very effort to secure coal's place as the "fuel of freedom" ironically highlighted the very issues of workplace safety and environmental hazard that

[31] On the development of filling stations and the creation of a gasoline consumption culture, see Huber, *Lifeblood*. On the role of plastics in twentieth-century American culture, see Susan Freinkel, *Plastic: A Toxic Love Story* (New York: Harcourt, 2011); Jeffrey L. Meikle, *American Plastic: A Cultural History* (New Brunswick, NJ: Rutgers University Press, 1997); Stephen Fenichell, *Plastic: The Making of a Synthetic Century* (New York: Harper Business, 1996). For studies of masculinity and leisure in gasoline consumptive habits, see Paul R. Josephson, *Motorized Obsessions: Life, Liberty, and the Small-Bore Engine* (Baltimore, MD: Johns Hopkins University Press, 2007); Ben A. Shackleford, "Masculinity, the Auto Racing Fraternity, and the Technological Sublime: The Pit Stop as a Celebration of Social Roles," in Roger Horowitz, ed., *Boys and Their Toys: Masculinity, Technology, and Class in America* (New York: Routledge, 2001).

ultimately proved the fatal weakness of the coalfield social contract that exemplified postwar efforts at Fordist energy governance.

The middle chapters examine the peak years of coalfield rebellion—1968 to 1974. Chapter two demonstrates how the transformation of coal from industrial fuel to the nation's source of electric power offered coal miners a new set of moral claims on political power, and how they leveraged these claims to secure the passage of key mine safety and black lung compensation legislation. Chapter three recasts one of the most infamous events in twentieth-century labor history—the 1969 murder of UMW reformer Jock Yablonski—as a key turning point in miners' understanding of energy politics. Rather than an expression of labor movement corruption, this doomed election came to symbolize the clash between efforts to maintain the fracturing regime of coalfield Fordism and to imagine what a broader vision of energy and workplace democracy might look like. The fourth chapter traces how this vision of union democracy was given the content of "jobs, lives, and land" in order to mobilize reform-minded miners in a campaign to bring a new, ecologically and morally minded vision of governance to the coalfields.

The final chapters examine the years between the twin oil shocks of the 1970s and demonstrate the central role of miners in remaking the American energy regime, putting them at the center of a story from which they have usually been excluded. The penultimate chapter examines the deeper structural change which led directly to the energy crisis—the transformation of fuel-based firms into energy conglomerates. Two case studies—the Brookside union recognition strike and wildcat strikes over gasoline access—demonstrate the wide-ranging impact this structural transformation had on workers in the sector and examine the challenge of implementing energy democracy from the workplace. The final chapter argues that the unrest that came to define the years of the energy crisis in the coalfields formed the basis for a legal, legislative, and organizational reimagining of the practice and purpose of collective bargaining in

the coalfields which integrated collective bargaining with energy governance. This chapter examines the anti-climax of the late 1970s by demonstrating that despite Carter's ambition to transform American energy relationships, the three key events of this period—the 1977-78 national coal strike, the outbreak of the Iranian revolution, and the disaster at Three Mile Island—replaced aspirations for energy democracy with visions of energy austerity. As a result, energy citizenship was sapped of its transformative potential in the Appalachian coalfields, instead driving what James Schlesinger, then the Secretary of Energy, called a "revolution of declining expectations" in American life.[32]

This is a dissertation about coal miners, but not as we are used to seeing them—not as relics of the coal-fired past, but as modern energy workers; not as an industrial polity, but as energy citizens. The political economic process by which coal miners became energy citizens illuminates the problem of energy not only as a force shaping political aspirations and possibilities, but rather as the subject of such democratic concern.[33] High-energy capitalism, once forged, was not as stable as it might first appear. In addition to depending on the infrastructures which facilitated its use, it relied on socially and politically mediated ideas about the acceptable amount of risk in an energy system and who would bear it, the obligations that energy producers and consumers had to one another, and the rights which they could then claim based on their position in this energy regime. The further destabilization of these new and precarious relationships, and not fuel shortages, was the basic cause of energy crisis. The Appalachian coalfields, still at the heart of the nation's energy

[32] James Schlesinger, "Energy Risks and Energy Futures," *Wall Street Journal*, August 23, 1979. *PQHN.*
[33] Compare to Mitchell's discussion of coal and oil powered societies capacity for democratic governance. Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (New York: Verso, 2013). Dunning has also argued that the democratic potential of an economy's energy base is not determined by the kinds of fuel produced. However, he focuses on the distribution of rents rather than on energy as a set of social or political relationships. Thad Dunning, *Crude Democracy: Natural Resource Wealth and Political Regimes* (New York: Cambridge University Press, 2008); On the importance of infrastructures, see Christopher F. Jones, *Routes of Power: Energy and Modern America* (Cambridge, MA: Harvard University Press, 2014) and Kander, Malanima, and Warde, *Power to the People*, 26-33.

regime, offer a unique glimpse into the making and remaking of energy's social power. The energy crisis had made clear to the nation's coal miners that—as Arnold Miller stated—the "system of allocating the nation's energy resources" was "upside-down." Miners believed they had a leading role to play in righting it.[34]

To rectify the deeply institutionalized and undemocratic imbalances that had characterized energetic life in the American "furnace of freedom," the Miners for Democracy proposed a stronger contract with the workers who produced the nation's energy. This contract could not be forged in the voting booth or at the diplomatic table, but instead must emerge from the workplace. Examining the energy crisis from the mining workplace illuminates how the depth of that crisis extended far beyond the problems of consumption, culture, and international politics. Indeed, unexamined except in moments of crisis, the US was governed by a tripartite energy regime that was written into laws, maintained through collective bargaining agreements, and managed at the level of the firm. When crisis hit then, it caused not only shortages, but cut to the heart of the American social contract, which since the 1930s had been forged and contested at work.[35]

This dissertation illuminates a new understanding of the energy crisis by focusing on energy *production*, rather than consumption or diplomacy, and on the coalfields rather than the oil sector or the development of nuclear power. The energy crisis had shaped the mining workplace since the growing discrepancy between peaking energy production and skyrocketing energy consumption became a central concern for both industry and government in the early 1960s. By conceptualizing the energy crisis as extending out from the sphere of work, the problem of decline of American workers' power on the job can be understood as part of the energy crisis, and the

[34] Arnold Miller, transcribed in *Proceedings* (1973), 11.
[35] Nancy MacLean, *Freedom Is Not Enough: The Opening of the American Workplace* (Cambridge, MA: Harvard University Press, 2008), Judith Stein, *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism* (Chapel Hill: University of North Carolina Press, 1998); Lane Windham, *Knocking on Labor's Door: Union Organizing in the 1970s and the Roots of a New Economic Divide* (Chapel Hill: University of North Carolina Press, 2017).

definition of the energy crisis can be expanded to encompass crises of democratic and labor politics.[36] Lyndon Johnson claimed that coal "fired—and is still firing—the furnaces of freedom," even as miners decried energy policy which undermined their claims on their lives, their jobs, and their land.[37] These crises were co-produced. Politicians hoped coal could stabilize an energy regime that struggled to cope, in human and ecological terms, with the massive increase in consumption of both electric power and petroleum products at the same time that miners' raised expectations for industrial and political democracy further destabilized the already precarious regime. The crisis of the American energy regime is essential in explaining a series of upheavals in mining workplaces across the Appalachian coalfields over health and safety, environmental degradation, and union democracy.

The rapid changes to the mining labor regime over the 1970s have typically been explained through the triumph of neoliberalism and general decline of unions, but these larger narratives lack specific causal mechanisms to explain the triumph of free market ideas in a nation with deep institutional commitments to regulation and industrial democracy. The transformation of the energy regime offers one explanation, initiated by oil companies which bought up coal companies at fantastic rates and reimagined themselves as the providers of energy rather than as the suppliers of oil or coal. Across the long 1970s, workers, the new energy companies, and the state renegotiated the bounds of workplace action, democratic politics, and environmental exploitation. The flash points in this transformation—black lung, strip mining, mine disasters, corruption, gasoline strikes—all represented the inability of the coalfield contract, negotiated in the aftermath of the post-WWII strike wave, to address the aspects of the energy regime which spread beyond collective bargaining agreements. The traditional social relations between miners, operators, and

[36] Jacobs, *Panic at the Pump*; Lifset, *American Energy Policy in the 1970s*; Federal Power Commission, *The 1964 National Power Survey of the Federal Power Commission* (Washington: U.S. Govt. Print. Off., 1965).
[37] Johnson, Proclamation 3789—National Coal Week, June 15, 1967. *APP*.

the state—on which the UMW had built its postwar power—upended, an enduring irony emerged: in both opening up and closing off the promises of democracy, the energy crisis—which at various junctures portended a radical transformation of the way Americans related with and to energy—ultimately ossified it. We live today with the legacies of those foreclosed possibilities.

Chapter I

Atomic Menace
Tony Boyle's Nuclear Age

"My conviction is that there is no Atomic Issue; rather, there are Human Issues, and therefore we must look not narrowly at the Atom alone but at the Atom as it is a part of the world today."

—David E. Lilienthal, 1963[1]

Figure 1.1: Miners gather for a photo after picketing to protest the Fort St. Vrain nuclear plant in front of the State Services Building in Denver, Colorado. November 15, 1967. United Mine Workers Journal Records Box 52, Folder 12.

On a brisk fall day in November 1967, a small group of miners drove into Denver, Colorado to protest the nearby Fort St. Vrain nuclear generating station, which was under construction and scheduled to come online in five years.[2] The miners' signs warned that "atomic energy poisons the air, the land, the water," and could turn Colorado into a "poisonous atomic wasteland."[3] (Figure 1.1.) Worried that an accident at Fort St. Vrain "could create another Hiroshima catastrophe in the

[1] David E. Lilienthal, *Change, Hope, and the Bomb* (Princeton, NJ: Princeton University Press, 1963), 10.
[2] Federal Power Commission, *The 1970 National Power Survey: Part I* (Washington, DC: US Government Printing Office, 1971), I-6-2
[3] See photo of miners gather for a photo after picketing in front of the State Services Building in Denver, Colorado. November 15, 1974. UMWJR [hereafter UMWJR] Box 52, Folder 12.

city of Denver and surrounding area of over two million inhabitants," the local unions of District 15 of the United Mine Workers of America (UMW) had dedicated a substantial amount of time to protesting the planned facility, located about 35 miles outside of Denver, including filing legal action to halt construction of the plant.[4] But as they picketed in front of the State Service Building, they must have seemed an oddity to a nation in the throes of a pitched debate over air pollution—particularly the air pollution caused by the increasingly popular coal-fired generating stations that ringed urban areas, and were sometimes sited directly in their working-class, black, and immigrant neighborhoods.[5]

The efforts expended by District 15 took place amidst a regional explosion of "energy activism," led by members of the Navajo nation—who had a deep, troubled connection with the development of atomic power on and around their lands, and who also represented an important segment of UMW membership in the region[6]—but also formed part of a broader, national debate about the future of energy in the atomic age. The group's protest, far from a unique event, was part of a national campaign by the UMW to convince the public and government officials that the development of civilian atomic power represented "a threat to the public safety and the health of

[4] Local Union 1082 Resolution on Atomic Energy, November 25, 1967. United Mine Workers President's Office Records [hereafter UMWPO] Box 34, Folder 9. Also see the description of the in-progress lawsuit, in "Proceedings of the Forty-Fifth Consecutive Constitutional Convention of the United Mine Workers of America," (N.p.: N.p., 1968), 9-12.

[5] Elena M. Krieger, Joan A. Casey, and Seth B.C. Shonkoff, "A Framework for Siting and Dispatch of Emerging Energy Resources to Realize Environmental and Health Benefits: Case Study on Peaker Power Plant Displacement," *Energy Policy* 96 (2016), 302-313; George E. Touché and George O. Rodgers, "Environmental Equity and Electric Power Generation: Disparate Community Outcomes within Texas?" *Journal of Environmental Planning and Management* 48 no. 6 (2005), 891-915; Lifset, *Power on the Hudson*; Needham, *Power Lines*.

[6] For portraits of Navajo miners in their communities, see UMWJR, Box 55 Folder 8. The broader context of "energy activism" by Navajo and other indigenous activists around the Southwest is documented in Needham, *Power Lines,* and Dana E. Powell, *Landscapes of Power: Politics of Energy in the Navajo Nation* (Durham, NC: Duke University Press, 2018). For more on Navajo and other southwestern indigenous relationships to the development of atomic power, see Peter H. Eichstaedt, *If You Poison Us: Uranium and Native Americans* (Santa Fe: Red Crane Books, 1994); Traci Brynne Voyles, *Wastelanding: Legacies of Uranium Mining in Navajo Country* (Minneapolis: University of Minnesota Press, 2015); Sarah Alisabeth Fox, *Downwind: A People's History of the Nuclear West* (Lincoln: University of Nebraska Press, 2014); Judy Pasternak, *Yellow Dirt: A Poisoned Land and the Betrayal of the Navajos* (New York: Free Press, 2011); Doug Brugge, Timothy Benally, and Esther Yazzie-Lewis, eds., *The Navajo People and Uranium Mining* (Albuquerque: University of New Mexico Press, 2006); Stephanie A. Malin, *The Price of Nuclear Power: Uranium Communities and Environmental Justice* (New Brunswick, NJ: Rutgers University Press, 2015).

all Americans"[7] which was actively being subsidized by taxpayer dollars. They insisted the development of nuclear power was politically irresponsible and morally questionable when "God gave this great land an almost unlimited supply of coal."[8] These anxieties about nuclear power, which emerged across the east/west divide in the US coalfields, aggregated the problems of acceptable risk, future ecological viability, and the uneasy marriage of the American regulatory regime to free enterprise ideology from the Colorado Plateau to Appalachia. The atomic age had arrived in the coalfields.

The "atomic age," a moment that has come to represent the "convergence of historical and geological time,"[9] wound together simultaneous images of looming total destruction with those of cheap—even free—energetic abundance.[10] Although the links between war-making and energy had been institutionalized in the colonial order that dominated world politics in the late nineteenth and first half of the twentieth century, the powerful capacity of atomic power to marry visions of apocalyptic war to promises of prosperity, matched with the sublime terror of the mushroom cloud, turned the dawn of the atomic age into a historical marker of geological significance.[11] Nuclear advocates, including Thomas Murray, an outspoken member of the Atomic Energy Commission throughout the from 1950-1957, also believed the expansion of atomic power represented a

[7] W.A. Boyle, Labor Day Address in Wheeling, West Virginia, September 4, 1967. UMWPO Box 46, Folder 21.
[8] Statement of W.A. Boyle on Amendments to the Clean Air Act before the House Committee on Interstate and Foreign Commerce, August 24, 1967. UMWPO Box 46, Folder 21.
[9] Gerard Delanty and Aurea Mota, "Governing the Anthropocene: Agency, Governance, and Knowledge," *European Journal of Social Theory* 20 no. 1 (2017), 9-38. Also see Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35 no. 2 (2009), 197-222.
[10] Remarks of Lewis L. Strauss, Chairman of the AEC, at the Founder's Day Dinner of the National Association of Science Writers, September 16, 1954. Accessed online: https://www.nrc.gov/docs/ML1613/ML16131A120.pdf.
[11] On colonial expansion and energy acquisition, see Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton, NJ: Princeton University Press, 2001); Shulman, *Coal and Empire*; Yergin, *The Prize*; Mitchell, *Carbon Democracy*, 15-20. On the Great Acceleration, see J.R. McNeill and Peter Engelke, *The Great Acceleration: An Environmental History of the Anthropocene since 1945* (Cambridge, MA: Harvard University Press, 2016). Also see Jan Zalasiewicz et al, "When Did the Anthropocene Begin? A Mid-Twentieth Century Boundary is Stratigraphically Optimal," *Quaternary International* 383 (October 5, 2015), 196-203.

civilizational advance, "a stimulant to a new moral maturity," as much as it was a "deterrent to immoral aggression."[12]

From our present vantage point more than a half-century removed, the meaning of the nuclear age appears more uncertain. Natasha Zaretsky contends that the arrival of the nuclear age was an "environmental rupture," that challenged human societies, for the first time "confronted with the prospect of self-induced extinction."[13] J.R. McNeill, like Zaretsky, also notes that in the history of the Anthropocene, the period after 1945 marks a particularly "eccentric historical moment…an anomalous and unrepresentative period in the 200,000-year-long-history of relations between our species and the biosphere."[14] The devastating social, political, and ecological legacies of the nuclear bomb, the expanding popular understanding of radiation's impact on the body, the psychological tolls of nuclear fear, and the persistence of nuclear accidents and disasters—from Three Mile Island and Chernobyl to Fukushima—have all inflected popular memory of the atomic age with a profound sense of ambivalence.[15]

The atomic age arrived in the coalfields through cultural changes, new regulations and legislation, and through the growing influence of international organizations and scientific expertise. While Geneva, Switzerland must have appeared worlds apart from the American coalfields in the mid-twentieth century, the officers of the UMW read the reports from the Geneva conferences on the atom with rapt attention. The "vision of a brave new world powered with nuclear energy" which emerged from the gatherings of leading international scientists, first in 1955 and again in 1958, stirred early anxiety at the United Mine Workers over the ultimate impact

[12] Thomas E. Murray, "The Atom and a New Moral Maturity," May 26, 1955. UMWPO Box 8 Folder 2. Murray was nominated to the AEC by Dwight Eisenhower to fill the seat left vacant by David E. Lilienthal. Anthony Leviero, "Murray, New York Engineer, Is Named to Atomic Board," *New York Times*, March 23, 1950. *PQHN.*
[13] Zaretsky, *Radiation Nation*, 2.
[14] J.R. McNeill and Peter Engelke, *The Great Acceleration: An Environmental History of the Anthropocene since 1945* (Cambridge, MA: Harvard University Press, 2014), 5; Zaretsky, *Radiation Nation*, 1-14; Sarah E. Robey, "The Atomic American: Citizenship in a Nuclear State, 1945-1963," Ph.D. diss., Temple University, 2017.
[15] Zaretsky, *Radiation Nation*; Spencer R. Weart, *Nuclear Fear: A History of Images* (New York: Cambridge University Press, 1988).

nuclear power would have not only on the coal industry, but American society more broadly.[16] The emergence of atomic energy for civilian and commercial use forced a reckoning with energy relationships that had often gone unspoken, even as the process of electrification had embedded them more deeply in American political culture.[17] While the growth of energy and the economy appeared certain, stabilized by the adoption of Keynesian economic policies, the question of which fuel would power the nation's rapidly growing energy consumption had suddenly been called into question. Moreover, the development of atomic power posed fundamental questions about the nature of the high-energy economy which had, through the Second World War, pulled the United States from the depths of the Great Depression and into a postwar era that saw gradually stabilizing politics and industrial relations, a rising standard of living, and decreasing inequality of wealth and income that increasingly appears exceptional.[18]

If the development of the regulatory state had, for the moment, stabilized American politics and society in some areas, the arrival of the nuclear age had started the nation's energy regime down a path of destabilization. That energy regime organized how Americans pursued their day-to-day lives, and governed, managed, and regulated how energy was produced, delivered, and at what price. The *New York Times* captured the epoch-making impact of the advent of the atomic age on that regime when the editors wrote that "No other concept in our time is more challenging…We are literally at the very beginning of what can be one of the greatest of revolutions in the whole relationship of man to his environment." The editorial suggested the arrival of the atomic age had the power to remake the basic human relationship with nature itself,

[16] William L. Laurence, "Parley in Geneva Unveils Advance in Atomic Plants, Led by US, Nations Reveal Vision of a New World Run by Nuclear Energy," *New York Times*, August 14, 1955. *PQHN*.
[17] David E. Nye, *Consuming Power: A Social History of American Energies* (Cambridge, MA: MIT Press, 1997) and *Electrifying America: Social Meanings of a New Technology* (Cambridge, MA: MIT Press, 1994).
[18] Jefferson Cowie, *The Great Exception: The New Deal and the Limits of American Politics* (Princeton, NJ: Princeton University Press, 2008); Alan Brinkley, *The End of Reform: New Deal Liberalism in Recession and War* (New York: Vintage, 1995; Steve Fraser and Gary Gerstle, *The Rise and Fall of the New Deal Order, 1930-1980* (Princeton, NJ: Princeton University Press, 1990); Robert J. Gordon, *The Rise and Fall of American Growth: The American Standard of Living since the Civil War* (Princeton, NJ: Princeton University Press, 2016).

but that atomic potential was still entangled in a much older problem: the labor politics which emerged from the seam of nature and society.[19] Concluded the editorial: "In the hands of these [atomic age] men are the tools that can remake the world."[20]

Perhaps no labor organization took this claim as seriously as the United Mine Workers of America, to whom it represented a fundamental challenge. They were engaged in their own effort to shape a new social order that would be secure coal's place as the nation's provider of electric energy while preventing further social collapse across the eastern coalfields.[21] In the postwar period, the UMW had fully committed itself to "coalfield Fordism," which entailed not only a particular vision of collaborative effort between labor, industry, and the state, but also the belief that the ultimate goal of industrial relations was to exchange labor stability for higher wages and more remunerative benefits—which in the coalfields meant company buy-in to the United Mine Workers Welfare and Retirement Fund.[22] Coalfield Fordism was distinguished from Fordism in auto and other industries by a third component of this social contract: that all parties to the coal industry would advocate vigorously to save the industry from the brink of total ruin.

Coalfield Fordism was an apocalyptic system of labor governance—but one intended for a far different disaster than the atomic menace. The UMW saw it as the primary mechanism by

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[19] Thomas Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge, MA: Harvard University Press, 2008). Also see Richard White, "Are You an Environmentalist or Do You Work for a Living?: Work and Nature," in *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W.W. Norton & Co., 1996), 171-185.
[20] "The Atom at Geneva," *New York Times*, September 15, 1958. *PQHN.*
[21] This reflected the broad vision of Fordism that sought to marry mechanical perfection and the common man while also setting the parameters of social morality. Warren J. Susman, *Culture as History: The Transformation of American Society in the Twentieth Century* (Washington, DC: Smithsonian Institution Press, 2003), 131-140.
[22] On Fordism, see Antonio Gramsci, "Americanism and Fordism," in *Prison Notebooks*, Volume II (New York: Columbia Univeristy Press, 2011), 215-220. For the connections between the economic and social programs of Fordism, see Greg Grandin, *Fordlandia: The Rise and Fall of Henry Ford's Forgotten Jungle City* (New York: Picador, 2010); Henry Ford, *My Life and Work* (Garden City, NY: Doubleday, 1922). On welfare capitalism more broadly, see Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (New York: Cambridge University Press, 2014). Other scholars have referred to this trade-off in the postwar period as "bread-and-butter unionism," but in the coalfields this process had a broader social component which included wide involvement in healthcare, disability payments, and pension delivery. Richard P. Mulcahy, *A Social Contract for the Coalfields: The Rise and Fall of the United Mine Workers of America Welfare and Retirement Fund* (Knoxville: University of Tennessee Press, 2001).

which to restore coalfield employment in the wake of mechanization, which had been supported by the UMW but had put two-thirds of the nation's miners out of work.[23] Rather than a vision of a "golden age" of shared prosperity, coal's advocates felt they had to fight for a share of postwar industrial prosperity. As H. Vernon Fritchman, chairman of the National Coal Association, put it "Both of us—the coal producers and the miners—faced the harsh fact that we had to fight a battle for survival…we had to mechanize and modernize—or die a slow and painful death."[24] The coalfield Fordists learned collaboration first by fighting trade policy over residual oil. In an era of trade liberalization, they argued that the stability of coal markets could only result from a balance of fair competition and cooperation for market stability. But the coalfield Fordists soon applied these lessons to the problem of atomic power.[25]

Increasing reliance on oil, coupled with the looming threat of nationalization in some of the world's richest oil fields, drove a series of trade policy wars in the 1950s as policymakers sought to balance conservation on national reserves without reducing production capacity to dangerously low levels that would limit American control over supply and prices and potentially undermine Cold War mobilization efforts.[26] The primary concern of the UMW in these debates, residual fuel oil, threatened more immediate impact on coal markets along the eastern seaboard but lacked the long-range existential threat the atom seemed to pose. Even amid the debate over

[23] On Fordism and the labor movement, see Nelson Lichtenstein, *The Most Dangerous Man in Detroit: Walter Reuther and the Fate of American Labor* (New York: Basic Books, 1995) and *Labor's War at Home: The CIO in World War II* (Philadelphia: Temple University Press, 2008); Malcolm Ross, *Machine Age in the Hills* (New York: Macmillan Company, 1933); Thomas, *An Appalachian Reawakening.*

[24] H. Vernon Fritchman, "The Bituminous Coal Industry Today: A Status Report," delivered December 28, 1962 at Coal in the United States: Problems and Promises, Philadelphia, Pennsylvania. UMWPO Box 6, Folder 10. Fritchman, in addition to being chairman of the National Coal Association, was also the Executive Vice President of the Rochester and Pittsburgh Coal Company.

[25] United Mine Workers of America, Resolution on International Energy Policy to the Miners International Federation, May 5, 1969. UMWPO Box 193, Folder 4.

[26] Yergin, *The Prize*, 391-480; Kinzer, *All the Shah's Men*; Michael F. Widman, Jr., Testimony at a Public Hearing on Crude Oil Imports held by the Department of the Interior, May 11, 1961. UMWPO Box 13, Folder 16; National Coal Association, "Congress Speaks," October 1953. UMWPO Box 10, Folder 3.

residual fuel oil, W.A. "Tony" Boyle, assistant to UMW titan John L. Lewis, became obsessed with the specter of nuclear power.

In the late 1950s, during Lewis's last years as union president, Boyle was introduced to atomic politics as he handled the coal contracts for the Hanford site run by the Atomic Energy Commission in Washington state. Lewis soon retired from his position at the head of the UMW in 1960—although he would continue to hold a separate post at the National Coal Policy Conference (NCPC), Lewis's collaborative effort bringing together industry leaders not only from the coal companies but also coal adjacent industries, including utilities and railroads, together with the United Mine Workers. Lewis's successor at the UMW, Thomas Kennedy, died in office just three years later. In the early months of 1963 then, Tony Boyle suddenly found himself at the helm of the UMW. But Boyle had ascended to power at the very moment the world he knew so well had begun to unravel beneath him—at the very moment that David E. Lilienthal declared "the world of 1963" was "a world in motion."[27] Less than a decade later, after ordering the murder of union reformer Jock Yablonski and his family, Boyle would leave the union's top office in disgrace, forced out by the insurgency of the Miners for Democracy, and in 1985, he would die in prison.[28]

The legacy of Tony Boyle, tainted by his corruption—especially his ordering of the Yablonski murders—and his autocratic handling of UMW politics, has rendered him as a two-dimensional historical figure. He looms between John L. Lewis, whose reputation stood so large that nothing seemed able to mar it, and the era of reform. The story of the United Mine Workers in the twentieth century cannot be told without him, though one gets the sense that most historians wish it could be.[29] Yet, for a megalomaniac so intent on maintaining his own grip on power, Boyle

[27] David E. Lilienthal, "Whatever Happened to the Peaceful Atom?" Lecture delivered at Princeton University, 1963. UMWPO Box 8, Folder 6.
[28] Wolfgang Saxon, "W.A. Boyle Dies; Led Miners' Union," *New York Times*, June 1, 1985. *PQHN.*
[29] Paul J. Nyden, "Rank-and-File Movements in the United Mine Workers of America, early 1960s-early 1980s," in *Rebel Rank and File: Labor Militancy and Revolt from Below during the Long 1970s* Aaron Brenner, Robert Brenner, and Cal Winslow, eds. (New York: Verso, 2010), 173-198.

failed repeatedly and spectacularly at taking any action that would have helped him do so. Why did he spent nearly seven years almost singularly focused on nuclear power when he might much more effectively have channeled that effort into campaigning for black lung legislation or focusing on the coming impact of increasingly popular clean air legislation? Why did he spend so much time creating strategic alliances with coal operators and government agencies and yet barely attempt to massage such connections in his own organization? Opportunism alone can explain neither, for neither course of action could have been seriously considered a sure hedge to get what he wanted: stable power at the head of one of the nation's most powerful unions.

Boyle was a committed coalfield Fordist: a product of the "warfare state," and the Fordist system of labor relations which lived on into the postwar period.[30] His political experience had been built not on union organizing, but as the UMW representative on the war production boards. He was more at home at gatherings of the NCPC than at the UMW's own convention. While the atom was not the only—or even the principal—threat that the coal industry faced as it attempted to forge a new place for itself in American society, Boyle latched onto it quickly in part because it provided a new, seemingly modern outlet for an older cultural narratives of the "passage through destruction to rebirth"—a narrative which had great purchase in the wake of total war and the decimation of the coalfield economy.[31] In the coalfields, Boyle drew on a broader coalfield ambivalence toward efforts to rebrand the atomic age and the "atoms for peace" program. He wove a narrative in which the atom threatened the jobs of all miners and the lives of all Americans.[32] As

[30] Sparrow, *Warfare State*. Although this term stretches back to at least 1961, when Fred J. Cook used it in an article in *The Nation*, Sparrow's warfare state expands on Cook's construction of the warfare state as tying national prosperity to the "pump-priming" of the economy through military spending, demonstrating how it transformed not only the economy, but also the fundamental role of government and the meaning of citizenship. Fred J. Cook, "Juggernaut: The Warfare State," *The Nation*, October 28, 1961. Also see Fred J. Cook, *The Warfare State* (New York: Collier Books, 1962).

[31] Weart, *Nuclear Fear*, 421.

[32] On the ambivalence toward science in the wake of the bombing of Hiroshima and Nagasaki, see Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon Books, 1985), especially 266-287; Henriksen recounts the first decade of the atomic age, which included Eisenhower's atoms for peace speech to the United Nations, as indicative of the extent to which the atomic ethics of governance had

Ira Chernus notes, Eisenhower's Atoms for Peace program reframed the problem of atomic development. "Peace could no longer be a static confrontation across an Iron Curtain or negotiating table," but rather "had to be a journey of two partners traveling the same road."[33] A coal industry for the atomic age would have to adapt to survive, Boyle believed. Management and labor would have to face the landscape of nuclear politics together.

Despite the centrality of Boyle's particular vision of labor-management cooperation, the most potent aspect of Boyle's veritable crusade against nuclear power remained his effective connection of the atom's energy promise with its penchant for destruction, as an energy source that portended mortal danger—not only to miners, but to the nation as a whole. As the number of coal miners killed on the job since the beginning of the century approached 100,000, the currency of death found increasing purchase in the coalfields. This growing concern over the economy of death that defined the modern US energy regime could speak simultaneously to both fuels, and it was only amplified by efforts to quantify the risks of the atom through state-sponsored insurance schemes, like the Price-Anderson Act. The UMW argued that Price-Anderson—originally passed

become "unhinged" from previous moral baselines, resulting in the corrosion of "democratic decency." Margot A. Henriksen, *Dr. Strangelove's America: Society and Culture in the Atomic Age* (Berkeley: University of California Press, 1997), especially 39-85. Boyle's discursive construction reflects what Alan Nadel has described as the "atomic age gaze," which sought to define all activity as falling into dangerous or safe activity, by creating binaries that enforced performance and behavior that emphasized loyalty and belonging, and most importantly, which "prohibit[ed] actions with ambiguous motives. Alan Nadel, *Containment Culture: American Narratives, Postmodernism, and the Atomic Age* (Durham: Duke University Press, 1995), 24. On how Americans came to see themselves as potential victims of atomic radiation, see Lane Fenrich, "Mass Death in Miniature: How Americans Became Victims of the Bomb," in *Living with the Bomb: American and Japanese Cultural Conflicts in the Nuclear Age* (Armonk, NY: M.E. Sharpe, 1997), 122-133. Despite the efforts to rebrand the atom as peaceful, "high atomic age culture" still centered weapons use, although popular culture encouraged Americans to "dissociate the devastating potential of nuclear warfare from the realities of everyday life." Scott C. Zeman and Michael A. Amundson, eds., *Atomic Culture: How We Learned to Stop Worrying and Love the Bomb* (Boulder: University Press of Colorado, 2004), 4. For more ambivalent readings on the cultural dissociation on the atomic age, see Alison M. Scott and Christopher D. Geist, eds., *The Writing on the Cloud: American Culture Confronts the Atomic Bomb* (Lanham, MD: University Press of America, 1997).

[33] Ira Chernus, *Eisenhower's Atoms for Peace* (College Station: Texas A&M University Press, 2002), 12.

in 1957 and renewed in 1966—placed not only a fiscal cap on the risks of atomic power, but also placed the benefits of energy production as comparable to the costs of human life.[34]

In early 1963, when Boyle assumed the presidency of the United Mine Workers of American following Thomas Kennedy's death, the energy crisis that would come to define coalfield politics for the next twenty years lurked in the background, unnoticed by almost anyone. So bright did the future of the energy industries appear that the Federal Power Commission (FPC) concluded the "Nation's rapidly expanding use of electricity"—which they expected to "more than double and perhaps triple by 1980"—represented an "opportunity" for "consumers and industry alike."[35] To Boyle, this bright future offered an opportunity for coalfield Fordism to grow from a survival mechanism into industrial maturity.

Yet the advent of the atomic age in the energy industry in retrospect appears to have foreshadowed the uncertainty and antagonisms that would redefine the production of energy in the United States in the long 1970s—private ownership and public interest, environmental degradation, occupational health and safety, the definition of acceptable risk in the modern regulatory state, and international power amidst the Cold War. These tensions were particularly primed in the Appalachian coalfields, where, Boyle argued before Congress, that "the human suffering and misery so common to many of our coal mining communities makes a mockery of the overly advertised well-being and wealth of our society. Claims of comfort and abundance sound mighty hollow."[36]

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[34] Joseph P. Brennan to W.A. Boyle, "A Study of the Problems and Hazards of Civilian Atomic Power," April 14, 1969, UMWPO Box 193, Folder 4; "What Price Price-Anderson?" *United Mine Workers Journal*, June 15, 1969.
[35] Federal Power Commission, *National Power Survey*, Part I (1965), 1-10. Ultimately the projects of energy growth fell short of expectations, due to a combination of technological stasis, rising electricity prices, and the growth of environmental politics and energy conservation. Richard F. Hirsh, *Power Loss: The Origins of Deregulation and Restructuring in the American Electric Utility System* (Cambridge, MA: MIT Press, 2002).
[36] Statement of W.A. Boyle to the Mines and Mining Subcommittee of the House Committee on Interior and Insular Affairs, March 26, 1963. UMWPO, Box 12, Folder 24.

The promises of postwar citizenship appeared to be applied unequally, driven in no small part by mechanization and the growth of strip mining. While scholarship on mechanization has focused on the employment impacts and community devastation caused by the automation of the mining workplace, mechanization transformed not only the work of coal mining, but also coal's place in the broader energy sector. Once again, coal was profitable and had a clear market—the generation of electric power—and excellent prospects for growth.[37] But as utilities became large primary fuel consumers, the relationship among fuels became profoundly destabilized as firms and industry associations jockeyed for utility and regulatory favor. Fuels that once had sector-specific and region-specific uses were increasingly viewed as substitutable for one another, even if the material differences between them made such substitution more complicated in practice.

Coalfield Fordism, then, was part of a broader effort to stabilize energy markets that were coping with a postwar surge in demand and the growth of US international power amidst the Cold War.[38] The increasingly ubiquitous presence of electrification across the country drove new patterns of production and consumption. By the early 1960s, not only was electrification nearly complete nationwide (though with substantial inequities), but the use of electricity was so pervasive that increasingly, nothing could function without it.[39] Underlying these new relationships of electrification, a battle for the utility market had emerged, driven powerfully forward by the emergence of civilian nuclear power, which promised unlimited energy that was "too cheap to meter."[40] Coal, while abundantly available in the United States, desperately needed to secure a large portion of the growing utility market to stabilize the coalfield Fordist vision. Although men throughout the coal industry—company men and union leaders alike—dreamed

[37] Dix, *What's a Coal Miner to Do?*; Richard H.K. Vietor, *Energy Policy in America since 1945* (New York: Cambridge University Press, 1984).
[38] Vietor, *Energy Policy in America since 1945*, 15-115.
[39] David E. Nye, *When the Lights Went Out: A History of Blackouts in America* (Cambridge: MIT Press, 2010); Cohn, *The Grid.*
[40] Remarks of Lewis L. Strauss, September 16, 1954; Weart, *The Rise of Nuclear Fear*, 79-96.

that research to successfully and economically turn coal into gasoline might revolutionize the use of internal combustion engines, this technology, contrasting to the atomic cornucopianism of nuclear power's proponents, derived not only from a desire to increase coal's markets but also from a fear that oil's political and geological scarcity had to be underwritten with other forms of energy. In any case, in the 1950s, this technology only peeked over the horizon, something to be glimpsed from the current battle over electrification. Still, despite concerns that coal's higher labor costs would ultimately undermine its competitiveness, by the late 1950s, the coal industry *had* secured an overwhelming majority of the utility market nationally—particularly east of the Mississippi.[41]

Utility leaders worried also about coal's labor costs, but suggested that coal's central place in the industry could be secured by "better labor utilization and greater mechanization."[42] These strategies, A.F. Tegen, president of the General Public Utilities Corporation, argued, would ensure a continued symbiotic relationship between the utility industry and the coal industry, especially since the future of oil and gas for electricity generation seemed so uncertain, and the atom seemed at least a decade away from approaching commercial viability. Still, he quickly followed with the caveat that while he favored the use of coal, and "our industry is now your best customer," other companies viewed the issue with "considerable difference."[43] The costs of generating plant fuel conversion only complicated the matter. While it was relatively easy and inexpensive to convert a coal-fired generating plant to one fueled by oil or gas, conversion—or reconversion—to coal was a costlier process. As a result, observers worried that a relatively small rise in coal prices could set

[41] A.F. Tegen, "The Coal Producer and the Electric Power Industry," 19. Presentation at the annual joint meeting of the Pennsylvania Coal Producers' Association and the Eastern Bituminous Coal Association, Bedford Springs, Pennsylvania, October 2, 1958. UMWPO Box 10, Folder 2.
[42] Tegen, "The Coal Producer and the Electric Power Industry," 24. UMWPO Box 10, Folder 2.
[43] Tegen, "The Coal Producer and the Electric Power Industry," 2. UMWPO Box 10, Folder 2.

off conversions to alternative fossil-fuels, while much larger rises in oil or gas prices would be required to encourage reconversion, if reconversion could be encouraged at all.[44]

But coal's survival in the atomic age was predicated on fragile political alliances which stretched across fuels and which themselves had been destabilized by growth.[45] The fuels mix of the postwar period, was precariously balanced through a loose combination of technological infrastructure, trade policy, and personal and political relationships.[46] To survive in this paradoxical set of circumstances, the different fuel sectors "learned to live with regulation" even as other sectors of the business elite began a coordinated campaign against it.[47] The reasons for regulation in each sector varied—a primary factor in nuclear regulation was national security; oil regulations were meant to prevent monopoly; coal regulations were primarily directed toward occupational safety and pollution control efforts. Similarly varied across industries was the actual adherence to and enforcement of these regulations. Fossil fuels, in particular, as a primary driver of the nation's economy, often found exemptions could appear when required to meet the ever-growing demand for energy. New institutions, like the Atomic Energy Commission, normalized the energy regime as an object of management, regulation, and governance while also becoming new sources of ideological conflict and democratic anxiety. The AEC in particular—because it sat at the uneasy intersections of apocalypse and prosperity, scientific expertise, and democratic governance, oversight and promotion—played an outsized role, compared to the amount of energy

[44] Charles River Associates, Report to the Appalachian Regional Commission, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," (1973), Volume I, 5-9.
[45] On Fordism in the oil sector, see Huber, *Lifeblood*.
[46] Kander, Malamina, and Warde, *Power to the People*; Jones, *Routes of Power*; Thomas P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore, MD: Johns Hopkins University Press, 1983).
[47] Vietor, *Energy Policy in America since 1945*, 133-135; Elizabeth A. Fones-Wolf, *Selling Free Enterprise: The Business Assault on Labor and Liberalism, 1945-1960* (Urbana: University of Illinois Press, 1995) and Phillips-Fein, *Invisible Hands*.

nuclear power contributed to the nation's energy mix, in setting the tone and framework for postwar energy policy.[48]

Nearly as soon as this atomic age energy governance emerged, it began to fracture. The oil import quotas, which had held utility markets in relative stasis since 1958 after a multiyear period of volatility, were contested and ultimately removed. Changes at the Atomic Energy Commission sought to shift the balance of public and private investment in their own sector, and coal, recently mechanized and with its sectoral leadership consolidated, suddenly roared back to life. Without the careful balance maintaining stasis among fuels in the Fordist energy regime, the politics of energy took on new life and meaning. In the view of the United Mine Workers, each fuel came to represent a different political economic future for the nation. They saw oil, the symbol of autocracy, as incompatible with the promises of economic freedom to which coal miners believed they were entitled. Nuclear power represented state control and the encroachment of technocracy on democratic control.[49] As the US fuels mix diversified in the postwar years, the UMW leaders charged both oil and nuclear power were incompatible with the American system of free enterprise, a politically charged claim at the height of the Cold War. The ideological dangers of these energy sources, especially in the case of atomic power, were evidenced by the mortal harm they portended. The solution to stabilizing the Fordist energy regime and protecting American democracy, Boyle and his ilk argued, was UMW coal.

But if Boyle found his rhetorical stride in castigating other fuels or the Atomic Energy Commission, he seemed completely unable to grasp the implications of the shifts happening beneath his feet. This chapter examines the rise of Tony Boyle, one of the most infamous labor

[48] Balogh, *Chain Reaction*; Gabrielle Hecht also notes the centrality of atomic institutions to the shaping of broader energy politics in the French context. Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II* (Cambridge, MA: MIT Press, 1998).
[49] On the growth of technocracy in other natural resource focused state agencies, see Christopher McGrory Klyza, *Who Controls Public Lands? Mining, Forestry, and Grazing Policies, 1870-1990* (Chapel Hill: University of North Carolina Press, 1996).

leaders in US history, and the early years of his presidency of the United Mine Workers in the context of this new atomic landscape. Boyle's anti-atomic crusade, most fundamentally an effort to navigate these transformative years in both the mining workplace and the larger energy regime, also set in motion a chain of events within the UMW that would ultimately lead to his downfall, as coalfield Fordism collapsed around him.

Caught Between Deep Time and the Future

For the UMW, coal sat in the midst of a war over the forging of atomic age energy policy. Because the UMW portrayed oil and the atom as representing opposite possible political economies of energy against the ideologically charged background of the Cold War, the stakes of UMW claims took on a broader political economic significance. They portrayed oil as representing the dangers of corporate monopoly, with atomic power menacing state industrial capture. Coal, they argued, stood as the ideal fuel for the postwar American state, for its Fordist economy, and for its particular vision of welfare, particularly in the coalfields. Even if the postwar economy relied on petroleum products more than ever both for gasoline and packaging, coal continued to power the nation's growing demand for electricity.[50] (Charts 1 and 2.)

Coal's place in the postwar economy had not always appeared so certain. The growth of electric utilities had saved coal from what some thought was terminal decline over the 1950s, a fact that finally became apparent once the railroad markets and home heating had been totally decimated. The railroad market, once the primary use for coal in the United States that had allowed locomotive power to expand across the sparsely timbered West, had disappeared, virtually

[50] On the growing importance of petroleum centered industries (trucking and plastics) see Shane Hamilton, *Trucking Country: The Road to America's Walmart Economy* (Princeton, NJ: Princeton University Press, 2008); Peter Dauvergne, *The Shadows of Consumption: Consequences for the Global Environment* (Cambridge, MA: MIT Press, 2008).

overnight, with the "very rapid adoption of diesel" as the primary railroad fuel.[51] The steel industry represented a relatively stable coal customer, particularly for the Appalachian region, since by design the steel mills lay in close proximity to the coalfields and the coking process required a very particular mix of low-sulfur coal to prevent impurities in the resulting steel. That coal was widely available in the rich bituminous seams of West Virginia and western Pennsylvania, but the steel industry requirements alone were not enough to sustain the coal industry, particularly one that had been rendered more even capital-intensive by the process of mechanization. Nor could coal miners' jobs be secured through exports, which still only represented a tiny fraction of total coal production. After 1945 then, the fate of the coal industry had been yoked to the electric utilities, the most competitive of the energy markets in the United States.

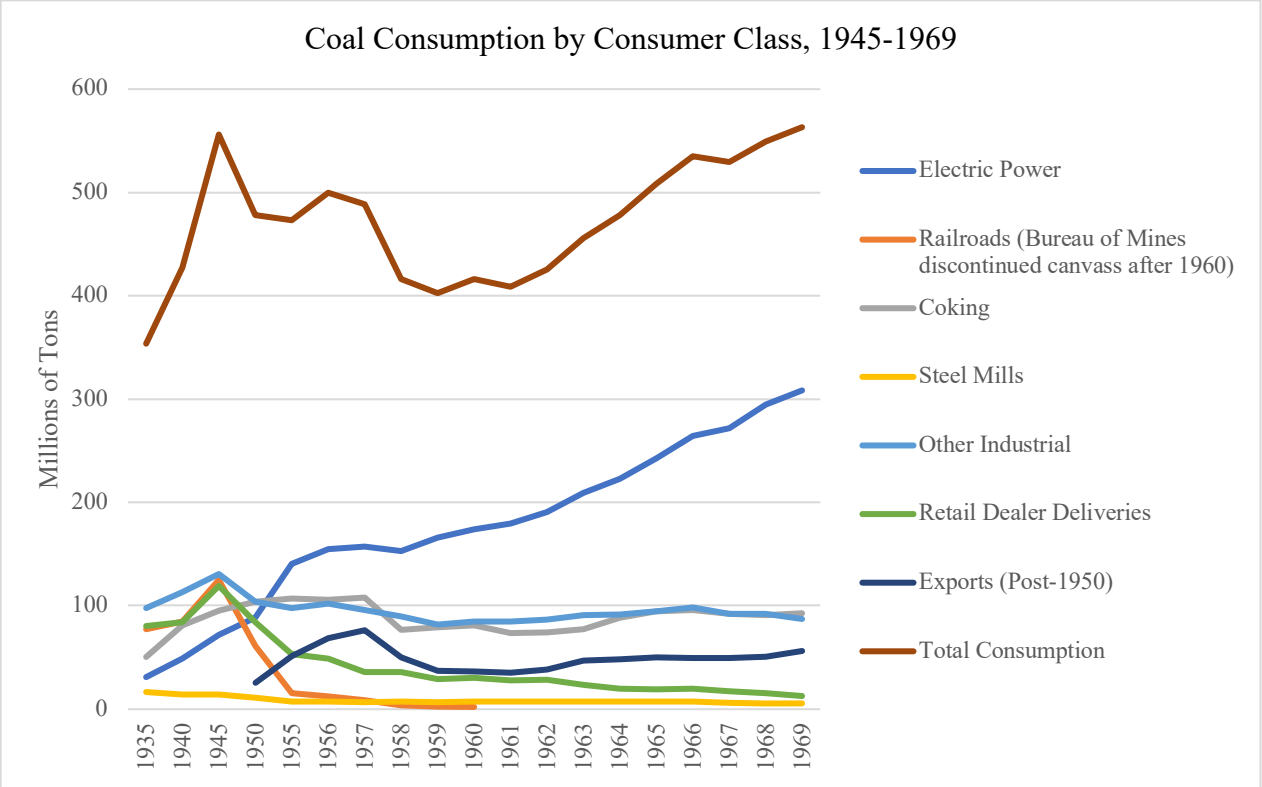

Chart 1.1: Coal Consumption by Consumer Class, 1945-1969. Source: Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," (Cambridge, MA: N.p., 1973), 11-12; 183. Bureau of Mines, "Minerals Yearbook, 1969." (Washington, DC: US Government Printing Office, 1971).

[51] Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," volume 1, (Cambridge, MA: N.p., 1973), 10.

Chart 1.1, continued. Notable features of this chart include that the postwar recovery of coal is entirely driven by growing utility consumption, that even when total coal production declined between 1945 and 1958, this decline was driven by the loss of railroad and delivery markets and utility consumption in fact grew across these years, and finally, the relative stability of the non-competitive coking, steel, and heavy industrial markets. "Other industrial" use includes cement manufacture as well as other industrial processes which utilized coal in their production process.

The coalfield Fordists saw two great threats to this newly established set of energy relationships that so tightly linked coal and the generation of electric power: residual oil, a fellow fossil fuel, menaced coastal power markets in the short term, while nuclear power represented a long-range threat that the coalfield Fordists feared might "further disorganize our economy," and perhaps totally replace coal by the end of the century—that moment when "nuclear power will take over and the scientific revolution will be complete."[52]

The coalfield Fordists set out to prove that as much as the fortunes of coal were tied to the future of electric power generation, the "free enterprise system of this American republic" [53] and the "precious heritage of political liberty"[54] were also at stake. That these efforts to combat residual oil and atomic power went deeper than market share was belied by the relative inattention to other potential competitors—hydropower, which vastly "outcompeted" coal in key areas of the west and had largely been driven by government infrastructure projects; or even more tellingly, natural gas, which had expanded its share of the electricity generation market at a much faster rate than either coal or oil between the end of World War II and 1963.[55]

[52] Michael F. Widman, Jr., Testimony at a Public Hearing on Crude Oil Imports held by the Department of the Interior, May 11, 1961. UMWPO Box 13, Folder 16; "Today—and That Magic Year 2000," *Coal: Today and Tomorrow*, November 1964. UMWJR Box 13, Folder 6.
[53] Remarks of John L. Lewis upon his retirement from the National Coal Policy Conference, April 3, 1963. UMWPO Box 192, Folder 13. This phrase was referring to the danger presented by the atom.
[54] Michael F. Widman, Jr., Testimony at a Public Hearing on Crude Oil Imports held by the Department of the Interior, May 11, 1961. UMWPO Box 13, Folder 16. These claims reflected the success of postwar efforts to place economic "freedom"—rebranded private enterprise—at the heart of how Americans imagined political freedom. Wendy Wall, *Inventing the American Way: The Politics of Consensus from the New Deal to the Civil Rights Movement* (New York: Oxford University Press, 2008); Fones-Wolf, *Selling Free Enterprise*; Phillips-Fein, *Invisible Hands*.
[55] Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," (Cambridge, MA: N.p., 1973), 14; also see Federal Power Commission, *National Power Survey* (Washington, DC: US Government Printing Office, 1964), 51-64.

Oil, despite its growing centrality to the American economy, made for an easy political target in the mid-century United States, particularly following the Suez Canal crisis in 1956.[56] By portraying oil as subject to undue to influence from foreign powers—especially decolonizing nations in the Middle East, Africa, and Latin America—as geologically scarce, and as not only monopolized by larger corporations but also as having a *natural* predisposition toward undemocratic monopoly, coal men hoped to suggest that oil was antithetical to the practice of free enterprise and democratic governance.[57] The idea drew on a longstanding fear, which had persisted since Rockefeller had monopolized oil production under the banner of Standard Oil of New Jersey, that the oil industry was "unlike other industries," and that "the nature of oil" was "that it could never survive as a free enterprise ruled by the normal laws of supply and demand."[58] In the field of electric power generation, the primary form of oil used was residual fuel oil—created as a by-product during the refining of gasoline and other oil products. Although primarily known as "bunker fuel" and used in the diesel engines of marine vessels, residual fuel oil had also begun to make inroads by the early 1950s in the US utility sector—particularly in the Northeast.[59]

[56] Scholars note that the Suez Crisis was what finally prompted Eisenhower, himself opposed to protectionism, to finally enact a mandatory oil import program in 1959. See Douglas R. Bohi and Milton Russell, *Limiting Oil Imports: An Economic History and Analysis* (Baltimore: Johns Hopkins University Press, 1978); Burton I. Kaufman, *Trade and Aid: Eisenhower's Foreign Economic Policy, 1953-1961* (Baltimore: Johns Hopkins University Press, 1982); Douglas A. Irwin, *Clashing over Commerce: A History of Trade Politics in America* (Chicago: University of Chicago Press, 2017), especially 515-517.

[57] Domestic oil producers tended to argue that oil was abundant in the United States and that foreign imports were not needed, but protectionism in oil trade policy actually had the effect of drawing down these domestic reserves substantially. Irwin, *Clashing over Commerce*, 517.

[58] Anthony Sampson, *The Seven Sisters: The Great Oil Companies and the World They Shaped* (New York: Viking, 1975), 28.

[59] Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," vol. 1 (Cambridge, MA: N.p., 1973), 8-9. The FPC noted that despite these inroads, the growth was limited by eastern proximity to coalfields, the limits placed by import quotas, and the fact that residual fuel oil could not be effectively transported by pipeline, limiting its competitive influence to markets accessible by navigable waterways. Federal Power Commission, *National Power Survey* (1964), 57-58. The influence of residual fuel oil would expand rapidly after the import program was abandoned in 1965. Federal Power Commission, *National Power Survey* (1970), I-4-17.

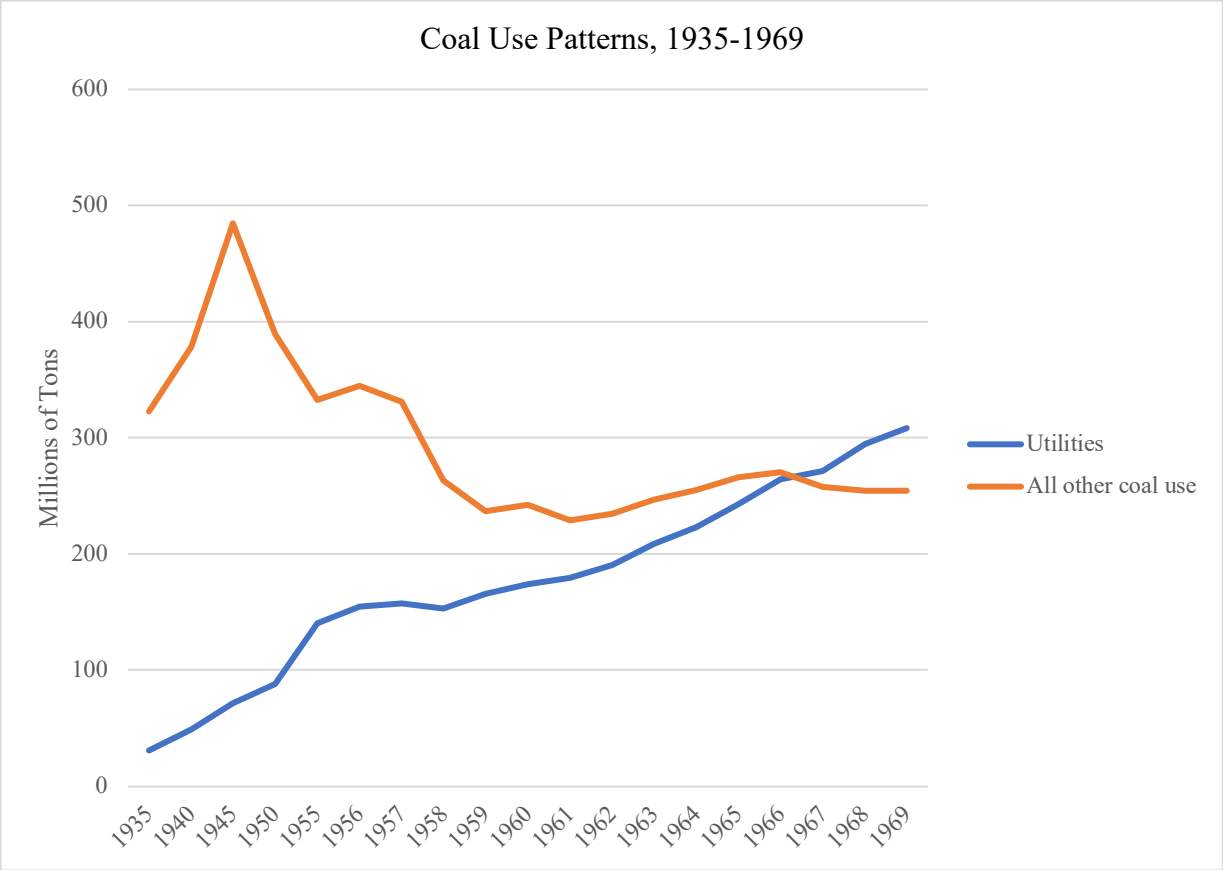

Chart 1.2: Coal Use Patterns, 1935-1969. This chart condenses the information in chart one to clearly show that utility use of coal represented an outlier to overall use patterns. The convergence of these two lines visualizes the transformation of the political economy of coal in the postwar period. Less than two years after coal for utilities overtakes coal for all other uses also represents the moment that the United Mine Workers erupted in rebellion. Source: Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," (Cambridge, MA: N.p., 1973), 11-12; 183. Bureau of Mines, "Minerals Yearbook, 1969." (Washington, DC: US Government Printing Office, 1971).

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undemocratic monopoly, coal men hoped to suggest that oil was antithetical to the practice of free enterprise and democratic governance.[61] The idea drew on a longstanding fear, which had persisted since Rockefeller had monopolized oil production under the banner of Standard Oil of New Jersey, that the oil industry was "unlike other industries," and that "the nature of oil" was "that it could never survive as a free enterprise ruled by the normal laws of supply and demand."[62] In the field of electric power generation, the primary form of oil used was residual fuel oil—created as a by-product during the refining of gasoline and other oil products. Although primarily known as "bunker fuel" and used in the diesel engines of marine vessels, residual fuel oil had also begun to make inroads by the early 1950s in the US utility sector—particularly in the Northeast.[63]

The UMW quickly joined members of the National Coal Association, representatives from heavy metals industry, railway labor unions, and utility companies, to support domestic oil industry efforts to limit imports under the banner of the Foreign Oil Policy Committee (FOPC) in 1953. The FOPC argued that the "flood of foreign fuel in the absence of remedial action by the Congress" posed "a critical threat to the basic industries of the nation…the military and domestic economy," and it depicted the stakes of the "fight" against foreign residual oil as nothing less than the preservation of "a sound domestic economy and continue to encourage the development of a well-balanced industrial mobilization base in a state of constant readiness to counter attacks of aggression." What constituted aggression was a matter of perspective, and the coal representatives

[61] Domestic oil producers tended to argue that oil was abundant in the United States and that foreign imports were not needed, but protectionism in oil trade policy actually had the effect of drawing down these domestic reserves substantially. Irwin, *Clashing over Commerce*, 517.
[62] Anthony Sampson, *The Seven Sisters: The Great Oil Companies and the World They Shaped* (New York: Viking, 1975), 28.
[63] Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," vol. 1 (Cambridge, MA: N.p., 1973), 8-9. The FPC noted that despite these inroads, the growth was limited by eastern proximity to coalfields, the limits placed by import quotas, and the fact that residual fuel oil could not be effectively transported by pipeline, limiting its competitive influence to markets accessible by navigable waterways. Federal Power Commission, *National Power Survey* (1965), 57-58. The influence of residual fuel oil would expand rapidly after the import program was abandoned in 1965. Federal Power Commission, *National Power Survey* (1970), I-4-17.

were successful in the getting the FOPC to argue for theirs. They contended that since "the close of World War II the coal industry in the United States has been relentlessly attacked by a competitor willing to sell its product at severe losses in order to establish markets at the expense of coal."[64] The effort to attack foreign products as unfairly competitive had a long tradition in US politics, but what was striking about this effort was the suggestion that the opposite of oil was coal.[65]

Figure 1.2: Zell, "This is War," *United Mine Workers Journal*, February 15, 1962.
UMWPO Box 60, Folder 6.

[64] Foreign Oil Policy Committee, "An Economic Credo for Americans," written by the coal representatives on the committee. Undated. UMWPO Box 10, Folder 3.
[65] For histories of the politics of foreign trade in the modern US, see Susan Ariel Aaronson, *Trade and the American Dream: A Social History of Post-World War II Trade Policy* (Lexington: University Press of Kentucky, 1996); Nitsan Chorev, *Remaking US Trade Policy: From Protectionism to Globalization* (Ithaca, NY: Cornell University Press, 2007); Irwin, *Clashing over Commerce*; C. Donald Johnson, *The Wealth of a Nation: A History of Trade Politics in America* (New York: Oxford University Press, 2018).

Coal was a "solid base" on which "industries have been built," while residual oil was "Venezuelan," "heavy," "left over," and, from the perspective of the FOPC, "absolutely without value," although they admitted that the imports substituted in for "one year's work for 22,000 miners." Coal, in their view, competed fairly, making "every effort to keep itself competitive with other fuels, in the best tradition of the American economic system," while residual oil "flooded" markets, hundreds of thousands of barrels each day arriving on tankers. By 1954, daily deliveries on the East Coast had reached 445,000 bpd. These tankers didn't just carry residual oil, the FOPC charged. They carried "unemployment."[66] The FOPC argued that the Venezuelans were intentionally focusing on flooding the markets with residual oil, instead of following the law of supply and demand. "Although world markets are demanding increasingly more motor fuel, kerosene, and distillates," the coal members of the FOPC wrote, "Venezuelan oil is being literally down-graded into coal to compete…in coal's rightful markets" instead. Misuse of oil resources thus deprived coal of its "rightful future."[67] The anatomy of this argument, which assigned each fuel a rightful role, sought to adjudicate which fuel was most compatible with the American political and economic system, and which sought to attribute political aspirations to an energy source, would later be reused to argue against further state subsidy for nuclear power.

Coal had a claim on residual oil policy, in the view of the FOPC, because "no nation can accept free trade without reservations, in self-defense, if for no other reason." Weakening the coal industry, they argued, would come back to haunt the nation in the case of emergency, when "heavy reliance" on coal always resurfaced. Scaling up capacity was easier when more mines were in production. The FOPC argued that if coal met 50 percent of total energy needs in peacetime, it

[66] See letters from coal miners to various national politicians concerned about the impact of oil imports on coal employment. UMWPO Box 21, Folder 22.
[67] Foreign Oil Policy Committee, "An Economic Credo for Americans," written by the coal representatives on the committee. Undated. UMWPO Box 10, Folder 3.

would be easier to keep up stockpiles and meet wartime production demands. While coal was no longer used to fuel military transportation, this framework understood coal's role in wartime steel production and electricity generation. Even a policy framework that imagined atoms as facilitating world peace under American hegemony, would thus still rely on a coal-fired support system, and the FOPC believed that this support structure should primarily rely on a "healthy"—profitable—private industry capable of "instant outlays of money, contract commitments for expansion and new machinery…on practically an instant's notice."[68] While the FOPC claimed that "none of us wants" an outbreak of a third world war, they wrote, nearly giddy with possibility, of the markets that disruptions in tanker services might open for coal if war *did* break out, noting that between 1940 and 1942 crude oil deliveries had plummeted 81 percent and residual oil imports had dropped 60 percent.[69] They painted coal as a fuel well-suited for a planned war economy, and oil as unreliable, fickle, even as a weapon of war. (Figure 1.2.) Even though politicians from the nation's oilfields focused on replacing foreign oil imports with domestic oil production, politicians and industry leaders worried about the depth of oil reserves and their recoverability. Coal, due to its vast known, recoverable reserves, figured centrally in any plan for long-term energy security, and domestic oil producers and coal industry leaders felt if oil imports could be limited, each of their industry's futures looked bright.[70]

As the Cold War escalated, congressional leaders rallied to the FOPC agenda. Voluntary restrictions, which Eisenhower had announced as a concession to the protectionist forces even as broader US trade policy moved toward liberalization, fell apart when the "economic interest of

[68] Foreign Oil Policy Committee, "An Economic Credo for Americans," written by the coal representatives on the committee. Undated. UMWPO Box 10, Folder 3.
[69] *Ibid.*
[70] Resolution of the Governor's Fuel Conference, April 28, 1954. UMWPO Box 10, Folder 3. Resolution of the Board of Directors of the Independent Petroleum Association of America at their midyear meeting, Denver, Colorado, May 3-4, 1954. UMWPO Box 10, Folder 3. Press Release by Tom Pickett, Executive Vice President of the National Coal Association, March 1, 1955. UMWPO Box 10, Folder 3. Shulman, *Coal and Empire*.

their stockholders," had to be accommodated alongside the "irresistible demands of the kings, sheiks [sic] and juntas."[71] Dozens of congressmen called for "free trade and protection, too," and sixteen governors, organized as the "Governor's Fuel Conference" adopted a resolution calling for a congressional quota on imports to ensure "the nation's defense, security, and welfare."[72] This vision of national security was in large part a reflection of anxieties about oil amid a changing imperial order and renewed competition international markets as recovery from the destruction wrought by World War II began in earnest.

Residual oil in particular demonstrated how the discourse of energy security had moved beyond military concerns, since the primary opposition to residual fuel oil imports came from its impact on regional utility markets. The efforts to curb residual fuel oil imports were in part reflective of broader oil policy concerns, but also pointed to the way utilities had understood Keynesian models of growth to tie national economic security to consumption, and consumption of particular kinds of fuels. "Coal producing areas," the FOPC wrote "are themselves huge consumers but if paychecks grow smaller or disappear entirely, the whole economy suffers."[73]

As a result, the first wave of industrial lobbying against residual oil ended not with a quota, but with President Eisenhower announcing the "formation of a Cabinet Committee on Energy Supplies and Resources." According to *National Petroleum News*, which UMW staffers had excerpted for Boyle's attention, early lobbying efforts also resulted in those oil and gas interests which did not rely on imports for revenue moving to support coal's position that the US should pursue a planned national fuels policy.[74] It also resulted in a "long-range foreign aid program"

[71] Foreign Oil Policy Committee, "An Economic Credo for Americans," written by the coal representatives on the committee. Undated. UMWPO Box 10, Folder 3.
[72] National Coal Association, "Congress Speaks," October 1953. UMWPO Box 10, Folder 3. Resolution adopted by the Governor's Fuel Conference, April 28, 1954. UMWPO Box 10, Folder 3.
[73] Foreign Oil Policy Committee, "An Economic Credo for Americans," written by the coal representatives on the committee. Undated. UMWPO Box 10, Folder 3.
[74] "Oil Protest Wins Shift in Coal Study Plan," excerpted for Boyle's attention from *National Petroleum News*, September 22, 1954. UMWPO Box 10, Folder 3.

which would require the production and export of 10,000,000 tons of coal. Senator John Sherman Cooper (R-WV) hoped that over time, the ten million tons could be expanded to as much as 200 million tons, all targeted for export, all part of building the American century.[75] The Cabinet Committee rejected the idea of an imposed quota, calling once again for "voluntary action" to achieve a "desirable proportionate relationship… between imports and domestic production"—about a ten percent ratio. They concluded that "every effort should be made and will be made to avoid the necessity of government intervention." Coal, they said, could be stabilized by allowing the increased exports to continue and by requiring all government agencies to purchase their coal on a contract basis at least 75 percent of the time.[76] While the National Coal Association called the report "a step in the right direction,"[77] the United Mine Workers claimed the report was "too generalized" and failed "to meet squarely the realities facing the coal industry."[78] Instead of providing a long-term path to industrial stability, the Eisenhower administration response provided new avenues by which energy regime transformation might proceed.

Voluntary restriction system quickly proved a failure, and the UMW and broader coal industry concern over the impact of residual oil on their newly acquired—and in their minds hard-won—markets in electric power generation persisted. Eisenhower finally agreed to a quota system in 1959—the Mandatory Oil Import Quota Program (MOIP). Still, the broader trend toward trade liberalization left the UMW concerned that the US government was not doing enough to ensure "fair" national energy markets. Coal could compete for utility markets *and* bolster national security, they insisted, if only the oil companies weren't allowed to dump their waste oil into the

[75] "Cooper Says Coal Exports to be Raised," *Associated Press*, October 1, 1954.
[76] "White House Report on Energy Supplies and Resources Policy," February 26, 1955. UMWPO Box 10, Folder 3.
[77] Statement of Tom Pickett, President of the National Coal Association, March 1, 1955. UMWPO Box 10, Folder 3.
[78] Press Release, "UMWA Criticizes President's Energy Report as Too General," March 13, 1955. UMWPO Box 10, Folder 3.

coastal markets, "threaten[ing] the life of the free and destroy[ing] freedom in the interests of revolution."[79]

The coal industry received a relatively friendly hearing on the oil question, in spite of the fact that oil stood at the center of the nation's rapidly expanding transportation system. The Suez Canal crisis had "demonstrated the plausibility of a national security rationale for standby domestic production capacity."[80] The foreign oil import policy, thanks to its "labyrinthine complexity," the "distortion of markets" it caused, and the "interest-group dissension" it facilitated, proved a fertile terrain for the political realignment of the energy sector as it adjusted to changing markets, new social uses for electric energy. The oil wars also "foreshadow[ed] further disruption of the normal patterns of energy production, distribution, and use."[81]

The advent of the nuclear industry—tasked with national defense and energy futures—had also ensured that energy economics and national security appeared to be tighter linked than ever in the public mind. In his seminal study of energy and political economy in the postwar period, Richard Vietor noted that this link had created a paradox in the oil markets—one that "voluntary cooperation" proved unable to solve. Foreign oil, "in the long run…could foster conservation of domestic reserves. But in the short-run event of geopolitical or military crisis, would domestic production capacity be adequate?"[82]

Moreover, politically useful rhetoric that connected global energy interdependence with national weakness, and calls for protection drew on politically familiar understandings of trade protectionism—it was compared by members of Congress at various points to cotton, automobiles,

[79] Michael F. Widman, Jr., Testimony at a Public Hearing on Crude Oil Imports held by the Department of the Interior, May 11, 1961. UMWPO Box 13, Folder 16.
[80] Irwin, *Clashing over Commerce*, 517.
[81] Vietor, *Energy Policy in America since 1945*, 119-121; W.A. Boyle, Resolution presented to the Miners International Federation, May 30, 1969. Also see folder of correspondence over the resolution with British and German mining unions. UMWPO Box 193, Folder 4.
[82] Vietor, *Energy Policy in America since 1945*, 91.

and cattle. And the claims coal men made about oil competing unfairly were readily understandable as part of a history of cartelization that stretched back to the early years of the twentieth century, when Chief Justice Edward Douglass White wrote in the majority opinion for the Supreme Court that the Rockefeller oil monopoly was "an open and enduring menace to all freedom of trade and is…a reproach to modern economic methods."[83] A later case, abandoned by the Justice Department upon entry into World War II had charged the American Petroleum Institute, the largest industrial organization in the sector, along with its 22 biggest corporate members, with "monopolistic combination in restraint of trade."[84] Widman, the UMW assistant, echoed these arguments when he claimed to the Department of the Interior that the oil men would "demand the right to pursue their business in any way they see fit," would "pour an ever-increasing flood of propaganda designed to reorder our economic life to fit their economic advantages." He concluded "these major oil companies are attempting to dominate the most lucrative market in the world."[85] Still, despite the economic pressures on the utility companies to move to liquid fuels, utility leaders thought "the long-term trend of oil prices will be up…COAL WILL REMAIN KING" even in the face of threats from oil on the one hand and nuclear power on the other.[86]

If oil increasingly drove the American economy in the postwar period, nuclear power had come to helm the nation's national defense plan, as well forming a key avenue for the international projection of American power through the development of civilian applications. The development of "industrial atomic electric power," argued AEC member Thomas E. Murray, was "of hardly less importance" than the defense applications of nuclear technology. Civilian development,

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[83] *Standard Oil Co. v. United States* 221 US 1 (1911).
[84] *United States vs. American Petroleum Institute,* Civil Action No. 8524 (District of Columbia, 1940), discussed in Richard. H. K. Vietor, *Energy Policy in America since 1945*, 34.
[85] Michael F. Widman, Jr., Testimony at a Public Hearing on Crude Oil Imports held by the Department of the Interior, May 11, 1961. UMWPO Box 13, Folder 16.
[86] A.F. Tegen, "The Coal Producer and the Electric Power Industry." Presentation at the annual joint meeting of the Pennsylvania Coal Producers' Association and the Eastern Bituminous Coal Association, Bedford Springs, Pennsylvania, October 2, 1958, page 24. UMWPO Box 10, Folder 2.

however, was fraught with tensions between state interest and private investment. Murray noted that as long as the "responsibility for the development of atomic power" lay with corporations, industry willingness to accept the risk of investment would remain the primary factor limiting its expansion. The corporations would also then "determine the size of the industrial power program" and "set the pace of the program according to their own time schedules" based on the development of domestic markets that was simply "not urgent."[87]

However, as electricity consumption continued to spike in the United States, however, the FPC hoped that growth of nuclear power, "accelerated by Government expenditures" would "play an important part in setting ceilings for prices of power in an increasing number of locations," as the TVA had done on a regional basis.[88] As the price ceilings continued to come down, the FPC projected that service areas would "greatly broaden with resulting lower power costs to consumers." Moreover, the FPC suggested that the growth of nuclear power would also drive down the cost of other fuels, including coal: "the prospects for nuclear power…have contributed both to major reductions in the price of coal and coal transport."[89]

Against the threat of oil depletion and the dangers of corporate monopoly, the nuclear peril, as articulated by the coal industry, appeared to warn against the hazards of state economic capture. In the early days of atomic age politics, industry men and the leaders of the United Mine Workers, who had recently joined together in the National Coal Policy Conference to promote coal's place in US society, fought with nearly equal ferocity against both nuclear power *and* residual oil imports. Despite the experience of the 1920s, when the anthracite market collapsed, and

[87] Remarks of Thomas E. Murray at the Centennial Festival Banquet, St. Bonaventure University, New York, October 4, 1957. UMWPO Box 8, Folder 4.
[88] Ronald C. Tobey, *Technology as Freedom: The New Deal and the Electrical Modernization of the American Home* (Berkeley: University of California Press, 1996), especially 92-126.
[89] Federal Power Commission, *National Power Survey, Part I: Guidelines for Growth of the Electric Power Industry* (Washington, DC: US Government Printing Office, 1964), 77-80. The cause of decreased coal transport rates and coal prices is perhaps not so clear-cut. Other assessments included coal mechanization and the growth of strip mining as the source of declining coal prices.

overproduction flooded the market without absorbing the available mining workforce,[90] coal industry leaders—and coalfield Fordists within the UMW—believed that in a truly "free" and competitive domestic market, coal would not only continue to claw its way back as if from the dead, but would find a new role at the center of the US energy regime and thrive there, perhaps for hundreds of years.

The political economy of atomic power in its early years of commercial development looked very different from that of oil, and yet still manifested as threatening. At the same moment that the Eisenhower administration instituted the mandatory oil import quota program, the United Mine Workers' concern shifted to the Atomic Energy Commission, which had begun "reversing [its] policy of development of atomic energy by private business and will be urging greater government participation and subsidies." Union leaders discussed how develop a public stance to the problem: private industry, unable to "take over development of nuclear power," meant that if the influence of the atom continued to grow, "that the government will have to underwrite the major portion of the cost which is proving to be expensive and difficult."[91] Willard Owens in the UMW legal department carefully tracked nuclear advocates across the 1950s, particularly Thomas Murray, while the UMW officers "ripped" nuclear power for "squandering taxpayers' money" on an expensive technology that failed to live up to its promises.[92] Still, nuclear power's supporters, like Philip Sporn, AEC consultant and chairman of the American Electric Power Company, insisted that nuclear power was "destined" to be coal's "great competitor."[93] Fellow nuclear

[90] For background on coal's "sick" period in the 1920s, see Harold Kanarek, "Disaster for Hard Coal: The Anthracite Strike of 1925-26," *Labor History* 15, no. 1 (January 1974): 44-62; Alan J. Singer, "'Something of a Man': John L. Lewis, the UMWA, and the CIO, 1919-1943," in *The United Mine Workers of America: A Model of Industrial Solidarity?*; Melvyn Dubofsky, *John L. Lewis: A Biography* (Urbana: University of Illinois Press, 1986), 100-128; Robert H. Zieger, *Republicans and Labor: 1919-1929* (Lexington: University Press of Kentucky, 2014).
[91] Willard Owens to John L. Lewis, January 27 1959. UMWPO Box 8, Folder 4.
[92] See a collection of Murray's public remarks in UMWPO, Box 8, Folders 1 and 4; UMW President Thomas Kennedy, quoted in *Post-Herald* (Beckley, WV), October 5, 1960. UMWPO Box 8, Folder 4.
[93] Philip Sporn, "Atomic Energy—The Coming Great Rival of Coal." Remarks delivered at the American Association for the Advancement of Science Symposium on Coal in the United States, Philadelphia, Pennsylvania, December 27, 1962. UMWPO Box 6, Folder 10.

proponent and AEC member Thomas Murray argued that opponents of a national nuclear power policy had bogged down development, "as if the issue somehow were 'capitalism' vs. 'socialism,' or 'private power,' vs. 'public power.'"[94] Indeed, these were the very oppositions by which the coal industry framed the problem when they warned of "our rapid trend toward socialism."[95] The UMW used thinly veiled language, but often utilized the same perspective to frame the politics of fuel choice, and it offered Thomas Kennedy, Lewis's successor as UMW President, a framework to argue that government intervention in the electric market was keeping miners unemployed who "wish to work and would have an opportunity to do so" if atomic plants were not built which "simply cannot be justified from a competitive standpoint."[96] The result of such policies, the UMW Research Department suggested, would be:

> to create a powerful bloc, which, with the support and financial assistance of government, can literally do as it wishes in the achievement of its objectives. What coal will face is an industry which is tied closely to government and which carries the weight and prestige of government. It is difficult to imagine how coal or, indeed, any other section of our economy can successfully contend with such a force…The Atomic Energy Commission is asking for considerably more money, money which will be spent for new atomic plants, money which will be spent to subsidize the atomic energy industry, money which will keep costly and uneconomic uranium mines in operation for many years, money which will undercut the efforts that the coal industry is making to come into its own once more.[97]

In the beginning, then, the primary opposition to nuclear power from the UMW came on the basis of the future threat which it posed to the coal industry. A discursive "security"—a term fraught with multiple readings and subject to political manipulation, particularly amid the heightened tensions of the Cold War—was ultimately used to argue against nuclear power in similar ways to how security discourse was deployed against oil. Under threat in this argument was not a military installation, or even a civilian population, but the fate of free enterprise itself. This nuclear fear

[94] Remarks of Thomas E. Murray at the Centennial Festival Banquet, St. Bonaventure University, New York, October 4, 1957. UMWPO Box 8, Folder 4.
[95] Cloyd M. Smith, "Euphoria," *Coal*, August 1965. UMWJR Box 13, Folder 6.
[96] Thomas Kennedy to Sen. Jennings Randolph, August 22, 1961. UMWPO Box 8, Folder 6.
[97] Michael F. Widman, Jr., memorandum regarding "Civilian Nuclear Power—A Report to the President, 1962," sent to John L. Lewis (then UMW President Emeritus), Thomas Kennedy, W.A. Boyle, and John Owens (UMW Secretary-Treasurer), December 12, 1962.

looked quite different from the one which ultimately came to dominate Boyle's crusade against the atom and its age: the health and safety threats posed by the atom to American citizens.

In this initial anguish over the prospect of losing utility market share to nuclear energy, the UMW ultimately posed coal not only as beneficial to the coal regions as a source of employment, but as fundamental to Fordist industry and democratic governance, for which, they suggested, coal was particularly well suited as a fuel. This argument was bolstered by the portrayal of alternative fuels, like residual fuel oil or atomic power, as somehow responsible for the plight of the coalfields, which had been ravaged by unemployment from mechanization of the coal mines. Thus, the coalfield Fordists depicted oil and the atom as anathema to postwar American democracy—which centered white industrial men in its narrative of freedom—because those very same "proud men" who worked in the nation's mines were being denied access to gainful employment.[98]

Ascribing political tensions of mid-century energy policy to the inherent qualities of the particular source fuels, coal men made powerful claims about what they believed industrial society should look like and how it should be governed, even if they ignored other accounts that offered vastly different descriptions of what these inherent qualities were.[99] Coal was a known quantity, intelligible against the nation's already existing energy infrastructures. And due to its wide availability, both in some of the world's richest seams as well as less-exploited lower quality fuels, many in both industry and government hoped it would become a source for synthetic fuels traditionally derived from crude oil.[100] In so doing, then, they participated in a social geology that

[98] W.A. Boyle, Statement to the Mines and Mining Subcommittee of the House Committee on Interior and Insular Affairs, March 26, 1963. UMWPO Box 12, Folder 24.
[99] Coal men—both from union and industry—would almost certainly have been familiar with texts like Goodrich's classic study *The Miner's Freedom*, which suggested that the materiality of coal had played a central role in resisting mechanization of the industry even as Fordism triumphed elsewhere in the industrial economy. Carter Goodrich, *The Miner's Freedom: A Study of the Working Life in a Changing Industry* (Boston: Marshall Jones Company, 1925).
[100] For discussion of the early politics of synthetic fuels, see Vietor, *Energy Policy in America since 1945*, 44-63.

reinterpreted the meaning of various fuels based on a new historical context and changing and contested visions of modernity.[101]

Atomic Age Labor Relations

In the middle of the twentieth century, the imagined promise of the atomic age was hard to overstate. "The fissioning of the atom," wrote the Department of Labor's Atomic Energy Study Group:

> projected the world into a potentially spectacular future of abundance. It could mean the development of vast untapped natural resources, the conquering of disease, the provision of cheap power in underdeveloped and remote areas, and the application of atomic energy in the industrial arts for the betterment of society.[102]

Yet despite the many ways atomic fission *might* be used, the study group wrote in their report that "the most important realizable implication in view of the rapid depletion of conventional fuel resources," was the potential for nuclear power to "mak[e] possible the continued expansion of our industrial society"—in other words, make a political economy based on growth sustainable, nearly overnight, increasing the nation's fuel reserves "50 or more times."[103] The possibility of endless growth, called into question by the generation-old experience of the Great Depression, had been born again out of the mushroom cloud.[104]

The advent of nuclear power had so fundamentally changed the world, many believed, that changes in political economy would necessarily follow. Thomas E. Murray, a seven-year member of the Atomic Energy Commission said that nuclear power represented "a turning-point in the economic history of the world," and he called for "an imaginative new formula…worked out under full respect for the structure of the specifically American version of capitalism." This new formula

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[101] For a broader survey of this tendency in the mid-twentieth century, see John V. Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine* (Chicago: University of Chicago Press, 2000).
[102] Department of Labor Atomic Energy Study Group, *Labor Implications of Atomic Power* (Washington, DC: US Department of Labor, 1956), 1.
[103] *Ibid.*
[104] On growth and political conflict, see Charles S. Maier, "The Politics of Productivity: Foundations of American Economic Policy after World War II," *International Organization* 31 no. 4 (1977), 607-633.

would be an accommodation "to the nuclear facts of life," since "industrial atomic power now seems to be an indispensable condition of the future and the world." The stakes appeared so high that he concluded the development of the "friendly energies of the atom" was not only an economic turning point, but also a "political and moral duty…a demand of justice, a condition of freedom, and a sure basis of the domestic tranquility."[105]

The DOL study group on the atom communicated in more measured language, but their findings also signaled the potential for the atomic age to transform not only the economy at a national scale and politics on a world stage, but also the bargaining table. The deep connection between nuclear energy and national security had, since the days of the Manhattan Project, made the *work* of producing atomic power a fraught problem.[106] Organized labor in the atomic industry had been a contentious subject since the problem emerged at AEC facilities in the immediate aftermath of the second world war. When the Joint Committee on Atomic Energy gathered for hearings on the issue in 1948—after strikes had nearly broken out twice in Oak Ridge, the flagship AEC facility at the time—David Lilienthal remarked that he was glad he was not expected "to develop a formula for a difficult and complex problem." Senator Bourke Hickenlooper, chair of the JCAE and a Republican from Iowa, interjected: "I may say that if the formula could be suggested, we would be happy." Both understood they operated on new territory, suggesting that "exploration of the field at hand" would be necessary before labor policy at the facilities could be established.[107] In Lilienthal's view, both the urgency of the ends of the atomic program—"strengthening the country in terms of atomic energy, both militarily and industrially"—as well as

[105] Thomas E. Murray, Report to the Joint Committee on Atomic Energy on Completion of Seven Years as a Member of the Atomic Energy Commission, undated but circa 1957. UMWPO, Box 8, Folder 4.
[106] "Labor Policy in Atomic Plants," hearings before the Joint Committee on Atomic Energy, 80th Congress, 2nd Session, March 9, 1948; Sparrow, "Behind the Atomic Curtain," 120-122; J. Keith Mann, "The Emergency Is Normal: Atomic Energy," in *Emergency Disputes and National Policy*, Bernstein, Enarson, and Fleming, eds. (New York: Harper, 1955); Olwell, *At Work in the Atomic City*.
[107] "Labor Policy in Atomic Plants," hearings before the Joint Committee on Atomic Energy, 80th Congress, 2nd Session, March 9, 1948. 2-3. For another reading of Lilienthal's testimony and the problem of labor organizing in atomic facilities, see Sparrow, "Behind the Atomic Curtain."

the potentially disastrous consequences of a work stoppage in facilities which could not be quickly shut down, demanded continuity of production in a manner not currently provided for by national labor legislation. The atomic age was "radically different" from the "customary [circumstances] in American economic history."[108]

These comments were remarkable, especially given the still recent passage of just such a "formula" for US labor relations: the National Labor Relations Act, which had then been further modified by the 1947 Taft-Hartley Act, rebalancing the national system of labor relations to benefit employers by curbing the bounds of permitted union activity.[109] However, the unique nature of the atomic sector, according to Lilienthal, demanded "loyalty," that the AEC set wages and working conditions in order to facilitate consistency across the sector, and, most importantly, as an outgrowth of the other two, that strikes be avoided "by voluntary agreement…or by force."[110]

Despite what Lilienthal described as the "urgency" of atomic development making the prospect of strikes "unthinkable," labor problems in the atomic field persisted.[111] J. Keith Mann of Stanford University described the special labor relations of the atomic sector as "the emergency [being] normal," referencing the Taft-Hartley clause allowing for special government intervention in cases where national security was at stake. "[T]he awesome nature of the product," Mann described, had the potential to powerfully reshape not only "the employment relationship for those engaged in the atomic energy program," but also "generalized national labor policy." Because the "drama and ritual" of the traditional sites of "emergency disputes"—all coal-based industries—was well known, the atomic form of the labor relationship remained shrouded. Mann described the

[108] Questioning of David Lilienthal, "Labor Policy in Atomic Plants," hearings before the Joint Committee on Atomic Energy, 80th Congress, 2nd Session, March 9, 1948, 18.
[109] Melvyn Dubofsky, *The State and Labor in Modern America* (Chapel Hill: University of North Carolina Press, 1994); Irving Bernstein, Harold L. Enarson, and R.W. Fleming, *Emergency Disputes and National Policy* (New York: Harper, 1955).
[110] Questioning of David Lilienthal, "Labor Policy in Atomic Plants," hearings before the Joint Committee on Atomic Energy, 80th Congress, 2nd Session, March 9, 1948, 27.
[111] "Labor Policy in Atomic Plants," hearings before the Joint Committee on Atomic Energy, 80th Congress, 2nd Session, March 9, 1948. 1-3.

Atomic Energy Labor-Management Relations Panel as what ultimately made the atomic labor conflicts unfolding "among" labor, management, and the government distinct, and which gave form to the corporatist structure implied by Taft-Hartley.[112] Compared to industries like coal, where clear, if contested, expectations for industrial democracy were already firmly in place, the newness of atomic power and its centrality to a burgeoning defense economy allowed for a reimagining of labor relations for a new era.

As peaceful applications of atomic energy entered the broader economy and the civilian world, he noted that any "limitations imposed on labor-management relationships in this sphere may hold germs of contagion for which there is no ready immunization": the labor problem in the atomic sector might ultimately set new standards for nationwide bargaining. The implications threatened, since "industrial democracy is in a sense both a derivative and a correlative of political democracy." Ultimately, experimentation would be required since the explosions at Hiroshima and Nagasaki had ensured that the atomic age had come, "ever past the point of no return."[113]

Yet, despite the agonizing of experts over the problems of atomic age labor regulation, by the mid-1950s, AEC contractor sites employed 89,000 workers, and three-quarters of them were union members. Unprecedented problems of workplace security threatened had "prevented the exercise of normal labor-management relations," and the study group worried that labor practices—from bargaining to wage-setting—in the atomic industry could impact labor relations in "non-atomic private industrial establishments." The problem, they believed was "to obtain full freedom of collective bargaining in the AEC installations" and to allow "the development of appropriate working agreements…suitable to atomic operations."[114] Somehow, collective bargaining practices, and the labor rights which they negotiated, had to adjust themselves to a new

[112] J. Keith Mann, "The Emergency Is Normal: Atomic Energy," in *Emergency Disputes and National Policy*.
[113] Mann, "The Emergency Is Normal."
[114] Department of Labor Atomic Energy Study Group, *Labor Implications of Atomic Power* (Washington, DC: US Department of Labor, 1956), 81.

age where the banner of national security covered a greater number of workplaces at the same moment that technological innovation induced new forms of vulnerability for state security in the atomic age workplace. "[D]uring this transitional period of standardization of atomic industrial processes," the DOL study group called on unions to "maintain calm and judicial attitudes."[115] particularly with regard to work classifications. At the base of this assertion was the belief that the coming atomic industrial society was an unknown, something that the current structure of the labor movement could not accommodate. The Atomic Energy Labor-Management Relations Panel, used in the immediate postwar period as a substitute for NLRA collective bargaining, was similar in kind to the National War Labor Board established by FDR in 1942—except, of course, that it operated in peacetime. A workplace filled with atomic menace was always on the verge of war.[116]

This widened application of national security as a management imperative outside of war time might have emerged as a problem of the atomic workplace, but it would soon enough become a central rhetorical point of other sectors, including coal.[117] The changes in labor politics thus historically associated with the passage of Taft-Hartley, and considered as a key moment in the

[115] Department of Labor Atomic Energy Study Group, *Labor Implications of Atomic Power* (Washington, DC: US Department of Labor, 1956), 82.

[116] While the historical actors considered in this chapter would have almost certainly considered the high atomic age peacetime, this view was not internationally shared, and increasingly the characterization of this period as peacetime has come under scholarly scrutiny. Nikhil Pal Singh has challenged the characterization of the post-WWII period as "peacetime." He argues, "the period identified as 'a long peace' and an economic golden age was also an epoch in which the United States engaged in continuous and accretive wars all over the world—some named, almost all formally undeclared—whose toll of violence has been excluded from the balance sheet of moral, political, and material costs and benefits." Nikhil Pal Singh, *Race and America's Long War* (Berkeley: University of California Press, 2017), 3; also see Westad, *The Global Cold War*.

[117] While Peter Shulman has outlined the national security interest in fossil fuels, including coal, back to the nineteenth century, national security as management imperative appears to take a novel form in the context of the Cold War, one which certainly extended outside energy workplaces as fears of Communist infiltration sparked rumors and paranoia nationwide. Shulman, *Coal and Empire.* On rumors of enemies and the Cold War, see Ron Theodore Robin, *The Making of the Cold War Enemy: Culture and Politics in the Military Intellectual Complex* (Princeton, NJ: Princeton University Press, 2003); David Caute, *The Great Fear: Anticommunist Purges under Truman and Eisenhower* (New York: Simon and Schuster, 1978).

business offensive against labor, was also a legislative mechanism by which the logic of atomic management could spread into other sectors, and the "emergency" become "normal."[118]

Atomic Energy Commission: Friend or Foe?

As the growing atomic industry struggled with its labor problems, growing tensions between the UMW, the AEC, and Congress over appropriations for energy research exposed how a debate over the purported benefits of coal and the atom in fact revealed deep-seated unease about the political economy of energy in the postwar United States. Coal was not as antithetical to nuclear power as Boyle and other UMW officials liked to suggest. Nuclear sites, from Ohio to Washington state, often came with large coal contracts—often as much as 3.5 million tons per year.[119]

Boyle himself had spent a substantial part of the late 1950s working to secure coal production contracts from the Hanford Nuclear Site. Around the Hanford contracts, Boyle and his brothers had built a small patronage system which stretched across the bargaining table, facilitating the collaborative spirit coalfield Fordism was meant to imbue. One of Boyle's brothers—Jack J. Boyle—was president of the Mountain States Mining Company which supplied coal for the Hanford contracts. Another brother, Richard J. Boyle, was president of UMW District 27, which organized the miners who provided the coal for those contracts.[120] J.J. Boyle had first contacted the UMW Washington office regarding Hanford when they lost the bid to supply coal to Hanford by "ONE CENT PER TON." The result, according to J.J. Boyle, was that "ALL OUR MINERS

[118] For histories which locate Taft-Hartley in the business offensive against labor and the New Deal, see Fones-Wolf, *Selling Free Enterprise*, especially 32-61; Nelson Lichtenstein, "From Corporatism to Collective Bargaining: Organized Labor and the Eclipse of Social Democracy in the Postwar Era," in *The Rise and Fall of the New Deal Order*, 122-152; Phillips-Fein, *Invisible Hands*, especially 30-33.
[119] R.W. Cook (AEC Director of Production) to Thomas E. Murray, in response to a memo from Thomas Kennedy to John L. Lewis. July 2, 1952. UMWPO Box 8, Folder 1.
[120] The influence of the Boyle family across the western mountain coalfields would become a renewed topic of concern in the 1969 UMW presidential election, when these family ties across the negotiating table became associated with both the power of the AEC over the coal industry and the deaths of two miners in 1964 fulfilling Hanford contracts. Ben A. Franklin, "Boyle Controversy Grips the Miners Union," *New York Times*, August 31, 1969. *PQHN.*

ARE NOW UNEMPLOYED AND MINE CLOSED." A copy of the telegram also went to Louis L. Strauss, then president of the AEC, suggesting that the solution to the problem would require the UMW and AEC to collaborate to secure contracts that could get the region's miners back to work.[121]

These contracts articulated a vision of the atomic age in which nuclear power and coal co-existed and each providing their own form of security. Given the enormous growth of energy consumption across the nation and the projection that such growth would continue into the future, such a vision of collaborative growth could not have seemed outlandish. But the potential went further. AEC chairman Glenn Seaborg, fully gripped with atomic optimism, wrote to Chet Holifield, Chairman of the Joint Committee on Atomic Energy, imagining a deeply entangled relationship between these energies—one that perhaps could mutually constitute new markets for both coal and the atom in the postwar United States:

> Nuclear energy holds promise of being of great assistance to the coal industry. The scope of the areas in which nuclear energy could be of help is very broad, extending from the actual mining operation through the development of new uses and new markets for coal and coal products. For example, nuclear radiation may make it possible to utilize coal as the raw material in the production of various materials for use in industry and agriculture which are now produced from other sources. Similarly, the heat generated by nuclear reactions may speed the day when gasification of coal is an economic reality rather than a dream, or it may point to the way toward more efficient and more economic means of removing the coal values from their place in nature.[122]

Seaborg also indicated that a new relationship between coal and the atom could transform the work of coal mining, "showing the way to improvements in mining and processing operations themselves." Atomic technology, Seaborg felt, could be used to "improve efficiency of operation" in the nation's coal mines. "[R]adioisotopes gauges" could be employed to "determine quality and extent of reserves," to scientifically manage "burning and processing" in coal-fired plants, and

[121] J.J. Boyle to John L. Lewis, July 9, 1957. UMWPO Box 27, Folder 20. Boyle was the office staffer who responded to the telegram. W.A. Boyle to J.J. Boyle, July 9, 1957. UMWPO Box 27, Folder 20. The Hanford communications, mostly from the years before Boyle became president of the United Mine Workers, demonstrate how the corruption, nepotism, and the pursuit of coalfield Fordism that would come to define his tenure at the union's helm, went hand-in-hand.

[122] Glenn Seaborg to Chet Holifield (House Democrat from California), August 7, 1961. UMWPO Box 8, Folder 6.

perhaps to help calibrate—even automate—control of mining equipment. Perhaps most astoundingly, Seaborg went as far as to claim that the "radioactive isotopes produced by nuclear processes may well be instrumental in improving health and safety conditions in mining operations." These suggestions cut to the heart of key problems facing the mid-century mining workplace: mine explosions, pollution, the dangers emerging from the process of mechanization, and the concern for profitability in an industry still working to reverse a sharp decline in production. Radioisotopes, Seaborg argued, could be used to "lessen the chances of mine explosions," by reducing the "probability of static discharge." A radioactive tagging system might allow new tracking of "the flow of noxious gaseous and liquid mine effluent" that would aid in pollution control and assist in assessing the "integrity of roof support structures, hoisting equipment, and other critical equipment."[123] His suggestions pointed to a broader vision of how atomic power, once developed, might not be bound into a single industry, but would broadly remake the fabric of work in the United States. His research program for coal, notably, did not consider the development of coal and the atom as needing to be balanced, or of the atom as ultimately replacing coal, but instead that the atom would, like mechanization, remake the coal mining workplace. It would offer new forms of management and measurement that ostensibly would allow for an increased sense of control in the mines.[124]

Despite these gestures by Seaborg in the midst of the debate over Hanford inside the UMW, collaboration fell apart, and the Hanford Site—better remembered as an enclave of federal power and radioactive waste produced through displacement—thus became the focal point of an early

[123] Glenn Seaborg to Chet Holifield, August 7, 1961. UMWPO Box 8, Folder 6.
[124] Similar applications were imagined for other fossil fuels, most notably the oil industry. See the proceedings of the Atomic Industrial Forum, "Atomic Energy—the New Industrial Frontier," April 5, 1955 at the Mark Hopkins Hotel, San Francisco, CA. Particularly of note is Lloyd R. Zumwalt's paper, "Application of Radioactive Traces to Oil Production," 173- 181, which examines the deeper history of radioisotope tagging in oil wells, a practice which well preceded the development of the first nuclear reactor. *A Forum Report: Atomic Energy—the New Industrial Frontier* (New York: Atomic Industrial Forum, 1955).

confrontation between the United Mine Workers and nuclear power and its supporters over the energy future of the nation.[125] Tensions mounted even as the AEC announced its intention to begin a coal research program with $5 million dollars in government funding. Under the direction of Glenn Seaborg, the AEC hoped to launch a program at Hanford that would contribute to the "study, development, and design for nuclear processes which have application for improving and utilizing coal and coal products."[126]

The UMW vigorously opposed the research program. They believed that the public would come to see coal's future as tied to the construction of new atomic facilities, and the program constituted an "unwarranted intrusion" by the Federal government into the utility sector.[127] Boyle went as far as to say that the UMW would rather scrap the coal research program entirely than have it tied to the Hanford site.[128] The UMW leadership felt it could not "countenance trading research appropriations for coal in return for the construction of an atomic power plant," since the growth of nuclear power represented "a grave danger to the future well-being of the coal industry and the members of the United Mine Workers of America."[129] Senator Jennings Randolph (D-WV) was furious and demanded explanation: "How can anyone rationalize destruction of our country's whole atomic energy program, including its vital military preparedness elements, to defeat a single project which the individual and his organization oppose?"[130] The escalation of

[125] For more on Hanford including the relocation of residents of nearby towns and the displacement of indigenous peoples, see Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*; R.E. Gephart, *Hanford: A Conversation about Nuclear Waste and Cleanup* (Columbus, OH: Battelle Press, 2003); John M. Findlay, and Bruce William Hevley, *Atomic Frontier Days: Hanford and the American West* (Seattle: University of Washington Press, 2011); Michele Stenehjem Gerber, *On the Home Front: The Cold War Legacy of the Hanford Nuclear Site* (Lincoln: University of Nebraska Press, 1992). Patricia Nelson Limerick, "The Significance of Hanford in American History," in *Terra Pacifica: People and Place in the Northwestern States and Western Canada* (Pullman: Washington State University Press, 1998), 53-70.
[126] Chet Holifield to Thomas Kennedy, August 16, 1961. UMWPO, Box 8, Folder 6.
[127] Thomas Kennedy to Sen. Jennings Randolph, August 22, 1961. UMWPO, Box 8, Folder 6.
[128] W.A. Boyle, Statement on the Hanford Project, *United Mine Workers Journal*, August 15, 1961. In Kennedy's letter to Senator Jennings, Kennedy affirms that Boyle's position reflected the position of the UMW writ large. UMWPO, Box 8, Folder 6.
[129] Thomas Kennedy to Sen. Jennings Randolph, August 22, 1961. UMWPO, Box 8, Folder 6.
[130] Sen. Jennings Randolph to Thomas Kennedy, August 28, 1961. UMWPO, Box 8, Folder 6.

tensions also marked a turning point in how the UMW spoke of atomic power. Under Tony Boyle's increasing influence in the year before he ascended the presidency, the union focused not only on the fierce competition to fuel the growing utilities market, but also on the mortal dangers posed by nuclear power.

Tony Boyle: Coalfield Fordist, Anti-Atom Crusader

Figure 1.3: W.A. "Tony" Boyle waits to testify before the House Subcommittee on Interior and Insular Affairs at a hearing regarding the expansion of coal research, March 26, 1963. Photo Negative. UMWJR, Box 35, Folder 5.

Less than two months after assuming the presidency of the United Mine Workers of America in early 1963, Tony Boyle sat on Capitol Hill, ostensibly to testify before Congress on the need to appropriate greater funds for coal industry research and development. His statement to the House Mines and Mining Subcommittee, however, also laid out his approach to postwar governance in the coalfields and spoke more to the shifting balance among source fuels than the

narrow question of coal research efforts. The reinvigoration of the coal industry, which had only recently begun to recover after more than fifteen years of precipitous decline, was a matter of national concern, not just an industrial matter, according to Boyle. "Sometimes we hear that the unemployed miners should move from the mountains and into the cities where they might find employment," he said, but "these men have families whose futures are bound to the coal industry and its development in one form or another."[131] The governance of the coalfields was tied to the fate not only of the workers of the industry, but an entire region of the country—a region whose migrants had recently begun to cause unease in major Midwestern cities such as Chicago, Cincinnati, and Detroit.[132] In this simple turn of phrase, Boyle suggested that the solution to the "problem" of Appalachia—the poverty, social deviance, and backwardness that characterized the region for those in Washington and urban centers across the eastern half of the country—was in fact the very industry who had overseen a great deal of the region's uneven development by facilitating wealth extraction via absentee ownership.[133] Boyle's belief in the power of industry to rectify the inequalities it had created was matched only by his insistence that the deficiencies of the democratic promise might be redressed by increased coal use.

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[131] Statement of W.A. Boyle before the Mines and Mining Subcommittee, House Committee on Interior and Insular Affairs, March 26, 1963. Reprinted in full as part of "Expand Coal Research: Boyle." *UMW Journal*, April 1, 1963.

[132] Thomas E. Wagner and E. Bruce Tucker, eds., *Appalachian Odyssey: Historical Perspectives on the Great Migration* (Westport, CT: Praeger, 2000); Kathryn M. Borman and Phillip J. Obermiller, eds., *From Mountain to Metropolis: Appalachian Migrants in American Cities* (Westport, CT: Bergin and Garvey, 1994); Don Edward Merten, *Up Here and Down Home: Appalachian Migrants in Northtown* (Chicago: n.p., 1974); Harry K. Schwarzweller et al, *Mountain Families in Transition: A Case Study of Appalachian Migration* (University Park: Pennsylvania State University Press, 1971); Carl E. Feather, *Mountain People in a Flat Land: A Popular History of Appalachian Migration to Northeast Ohio, 1940-1965* (Athens: Ohio University Press, 1998); Roger Guy, *From Diversity to Unity: Southern Appalachian Migrants in Uptown Chicago, 1950-1970* (Lanham, MD: Lexington Books, 2007).

[133] Wilma Dunaway, *The First American Frontier: Transition to Capitalism in Southern Appalachia, 1700-1860* (Chapel Hill: University of North Carolina Press, 1996); Susan E. Keefe, "Theorizing Modernity in Appalachia," *Journal of Appalachian Studies* 14:1/2 (2008), 160-173; Dwight B. Billings and Kathleen M. Blee, *The Road to Poverty: The Making of Wealth and Hardship in Appalachia* (New York: Cambridge University Press, 2000); Ronald L. Lewis, *Transforming the Appalachian Countryside: Railroads, Deforestation, and Social Change in West Virginia, 1880-1920* (Chapel Hill: University of North Carolina Press, 1998).

As much as Boyle's testimony spoke to a vision of Fordist coalfield governance in which the fates of miners, company, and the nation were tied together, it also expressed the *anxieties* of coalfield Fordism. The progress that had been made with the growth of the utility market was "in great jeopardy" from government spending "to make atomic energy competitive with coal."[134] The questioning by members of the House Subcommittee on Mines and Mining, however, challenged the basic supposition that the atom presented an immediate threat to the revival of the coal industry. Representative Wayne Aspinall (D-CO) asked: "Mr. Boyle, you don't contend that nuclear generated electricity or energy at the present time is in any way competitive with coal, do you?" When so pressed, Boyle responded that although the atomic plants, such as they existed in 1963, did not directly compete with coal for markets, he *was* concerned, like Thomas Kennedy before him, with "the rate at which this government is spending money to make atomic energy competitive with coal," which "will advance it at such a rate that private industrial development…could not keep up."[135] In saying as much, he was squarely in line with the UMW position—which Boyle admittedly had helped to develop—but it was the turn his testimony took next that exposed how Boyle's ascendance to the head office of the United Mine Workers would shift the debate in that industry over atomic power. Boyle continued, unprompted by Aspinall:

> Yes, I think there is a great threat from atomic energy. I am not so concerned about the immediate problem of atomic energy taking over the coal markets, although we do have a number of those plants in existence today, But I don't think anyone has given enough thought and concern to the radioactive waste materials of this atomic energy and what is going to happen to the future generations.[136]

The shift in Boyle's focus was the product of his own obsession with atomic power, and it launched a multiyear crusade against the atom and the Atomic Energy Commission that was only slowed

[134] Statement of W.A. Boyle before the Mines and Mining Subcommittee, House Committee on Interior and Insular Affairs, March 26, 1963. Reprinted in full as part of "Expand Coal Research: Boyle." *UMW Journal*, April 1, 1963.
[135] *Ibid.*
[136] *Ibid.*

when open rebellion in the coalfields—in the form of the West Virginia black lung strike of 1969—forced his attention elsewhere.

The UMW's role in antinuclear politics at the height of Boyle's power shows how Boyle was motivated by a particular understanding of how coalfield power operated, one which was fundamentally shaped by his experiences during World War II, when he "represented the union on various government and industry committees, manpower councils, and war labor boards," and the twelve years he spent as a staff assistant to John L. Lewis in the years after the second world war.[137] At the core of his philosophy lay a commitment to stabilizing a particular formation of power relations in the realm of energy production, a Fordist vision that sought to marry growth in productivity with an industrial welfare that allowed the energy regime to operate as smoothly as an assembly line, with minimal class conflict.[138]

The "assembly line" vision of industrial democracy relied on a tenuous balance of power among labor, capital, and the state in order to function properly. Nelson Lichtenstein has shown how in the postwar Keynesian economy, this balance was carefully managed through the growth of a larger union bureaucracy, and by celebrating productive capacity while adopting a technocrat-like focus on "purchasing power" and "wage-price stability."[139] This focus on purchasing power made it relatively easy to quantify and calculate the extent to which workers could "buy into" the regime, and unions, including the United Mine Workers, regularly advised their members on how to do so. The *United Mine Workers Journal* featured a regular "Buying Guide," which translated consumer economics into easy-to-read language, and UMW members, like consumers across the

[137] Justin McCarthy, "W.A. Boyle Succeeds to Presidency," *United Mine Workers Journal*, February 15, 1963.
[138] This perspective reflected—halfway—the vision of Walter Reuther described by Nelson Lichtenstein of the need for a postwar labor accord. Lichtenstein, *The Most Dangerous Man in Detroit,* 220-221. Maier, "The Politics of Productivity."
[139] Lichtenstein, *The Most Dangerous Man in Detroit*, 221. On the growth of union bureaucracy and the institutionalization of undemocratic norms in the broader labor movement, see Lichtenstein, *Labor's War at Home,* especially 178-202.

United States, entered the postwar period purchasing ever greater numbers of appliances and cars.[140] If this "consumer's republic" was indeed able to help secure labor peace in the coalfields, a second set of relationships—energy relationships which fueled the whole system with particular fuels—was necessary for its success.[141] The UMW conceptualized the trajectory of these relationships as "beneficial to the coal industry and our national economy and therefore to the membership" of the United Mine Workers.[142] It was precisely this vision of industrial power that the atomic age threatened—in Boyle's mind—to detonate.

The early days of Boyle's administration appear to have coincided with the peak of coalfield Fordism's stability. Just three months after Boyle assumed the presidency of the UMW following the death of Thomas Kennedy, the National Coal Policy Conference (NCPC)—a joint union and industry organization formed in 1960 to advance the interests of coal in the United States—held their annual meeting. The 1963 annual meeting was of particular note because it was organized to honor former UMW president John L. Lewis, who continued his move into retirement by stepping down from his position as the NCPC chair, a position he would hand over to Joseph P. Routh, then chairman of the board of the Pittston Coal Company. Routh's ambition for the future of the NCPC was that it would be "a great beacon, a great light to the industrial relations of America," showing how "[l]abor, management, and capital realized that only through cooperating could they get ahead, that both prosper together and not alone, that literally they swim or they sink together."[143] The collaborative spirit that lent buoyancy to the occasion, however, nearly masked the architecture of power that underlay coalfield Fordism: powerful though all the parties were,

[140] Gordon, *The Rise and Fall of American Growth,* 331-428; Meg Jacobs, *Pocketbook Politics: Economic Citizenship in Twentieth-Century America* (Princeton, NJ: Princeton University Press, 2005).
[141] "Consumer's Republic" adopted from Cohen, *A Consumer's Republic.*
[142] Thomas Kennedy to Sen. Jennings Randolph, August 22, 1961. UMWPO, Box 8, Folder 6.
[143] Remarks by Joseph P. Routh, NCPC Annual Meeting, April 3, 1963. Reproduced in "A Report to the Membership: NCPC's Annual Meeting." UMWPO Box 192, Folder 13.

their power did not each operate in the same way.[144] Organizations like the NCPC helped maintain the balance of this structure.

The conflicts suggested by the American model of industrial relations co-existed with the jovial spirit of collaboration at the NCPC by reframing the industry as a household, and labor and management as a family. When Routh gave his opening remarks at the new NCPC chair, he spoke of Lewis not as an adversary nor merely as a friend, but instead compared Lewis, the one-time leader of the CIO, to his wife. "There have been times in the past that, of course, I have not agreed with [Lewis], but I have been married 38 years," Routh said, "and I have not always agreed with my wife. And I'll tell you a little secret. When I do not agree, I get as much hell as I used to get from Mr. Lewis in the days of yore."[145] The marriage analogy powerfully evoked a particular hetero- and cis-normative models of familial dependence, not to mention a powerful set of widely-used gendered narratives about the mechanisms of power within the institution of marriage. And much in the way that the narrative of the haranguing wife worked to mask the power structurally vested by the institution in men, by comparing his harried earlier relationship with Lewis to disagreements with his wife, he portrayed them as similar in dynamic. And even though marriage was far from the natural state of human life, the analogy to this particular form of state-sanctioned relationship called forth the power of "marriage…to naturalize some social relationships, and to stigmatize others as unnatural." Such analogy, carefully deployed, could make a particular and contingent set of labor-management relationships seem "natural" as they faced challenges from other sectors. It also underscored how even in an era of collaboration and despite efforts by UMW leaders to demonstrate the contrary, industry and labor were not equal partners.[146]

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[144] On union concerns about the asymmetry of earlier joint efforts in industrial governance, see Lichtenstein's *Labor's War at Home*, 82-109.
[145] Remarks by Joseph P. Routh, NCPC Annual Meeting, April 3, 1963. Reproduced in "A Report to the Membership: NCPC's Annual Meeting." UMWPO Box 192, Folder 13.
[146] Peggy Pascoe, *What Comes Naturally: Miscegenation Law and the Making of Race in America* (New York: Oxford University Press, 2010), 2. On the power of marriage in shaping politics and imagination, see Nancy F. Cott, *Public*

The advent of atomic energy, along with oil and natural gas, threatened to upset the balance of coalfield power because, as Consolidation Coal Company President George Love argued, they were "comparatively laborless fuels." In the case of oil and natural gas, which were available "in abundance" and "at ridiculously low prices," the threat to the balance of coalfield Fordism was immediate, and had already entered into the market.[147] The threat presented by nuclear power loomed in the future, promising to consume the electricity market as a whole. Ironically, then, it was the very opening of a new market driven by mass electricity consumption that turned natural gas, residual oil, and the atom into new threats. But the decision to pursue atomic power further than residual oil or natural gas was a choice, one which was made by Boyle. Before his ascendance to the union presidency, the focus of the UMW's efforts to influence energy policy had concentrated on oil imports rather than nuclear power and government subsidies. Boyle's statement on the need for expanded coal research to counter the threat from atomic energy marked a shift in UMW priorities.

Boyle saw himself as a coalfield Fordist waging war in—and against—the atomic age. Upon his inauguration as chair of the NCPC in 1966, he called for the group to "redouble its efforts to remove the atom from its privileged position…in our energy civilization." He chastised his counterparts in industry: "I am somewhat disappointed at the lack of an effective program to counter atomic energy by the coal industry, by the National Coal Association, and the National Coal Policy Conference. I do not think we have done all we can or all we should in this area. I shall try to step up our activity in this field."[148]He championed collaboration to meet Tegen and

Vows: A History of Marriage and the Nation (Cambridge, MA: Harvard University Press, 2010); on the troubled relationship of unions to masculine working-class identities, see Gregory Wood, "'The Paralysis of the Labor Movement': Men, Masculinity, and Unions in 1920s Detroit," *Michigan Historical Review* 30, no. 1 (2004): 59-91; Roger Horowitz, ed., *Boys and Their Toys? Masculinity, Technology, and Class in America* (New York: Routledge, 2001).

[147] Remarks by George Love, NCPC Annual Meeting, April 3, 1963. Reproduced in "A Report to the Membership: NCPC's Annual Meeting." UMWPO Box 192, Folder 13.

[148] W.A. Boyle, Remarks upon accepting chairmanship of the NCPC, March 7, 1966. UMWPO Box 46, Folder 21.

other utility men's vision: reduce labor costs, boost consumption, and increase productivity. However, he also saw this economic program as uniquely tied to a particular vision of working-class welfare in the coalfields—one that allowed Boyle to preside over its administration as part of a tripartite power-sharing arrangement between labor, the state, and the coal and utility industries. The central place that union leadership occupied in this particular structure of power also allowed him to embezzle large amounts of money from the union for his own personal use and political agenda.[149] His self-interest, framed by a set of political perspectives about the nature of postwar industrial relations—both gave him an early entry into the politics of nuclear power and limited his ability to imagine different avenues for his own political survival. He stands as a complex if not sympathetic character, on occasion "buffeted," as Boyle said, "by the winds of necessity," but certainly driven by his own obsessions.[150]

Boyle's Crusade

By summer of 1963, Boyle had developed a plan to launch an anti-atomic crusade which he seemed to believe would be his mark upon history. This crusade began with the intent of selling coal as the fuel of free enterprise; it ended with a multi-year campaign to mobilize UMW members against the health and environmental dangers of the atom.

Previously, most UMW research and action on nuclear power had been handled through the legal department, working to assess disputes about coal order contracts and their impact on the employment crisis in the coalfields. The UMW had mostly viewed nuclear as a potential source of coal contracts and perhaps the recipient of (enviably) unfair government subsidy that might

[149] The idea of a coalfield welfare contract is addressed more fully in Chapter 3. Also see Richard P. Mulcahy, *A Social Contract for the Coalfields: The Rise and Fall of the United Mine Workers of America Welfare and Retirement Fund* (Knoxville: University of Tennessee Press, 2001). Boyle was first convicted not of the Yablonski murders but instead of embezzling money to make illegal campaign contributions in the 1968 elections. Arthur H. Lewis, *Murder by Contract: The People versus "Tough Tony" Boyle* (New York: Macmillan, 1975).
[150] W.A. Boyle, Remarks upon accepting chairmanship of the NCPC, March 7, 1966. UMWPO Box 46, Folder 21.

challenge coal's dominance in the utility markets far in the future,[151] even though until 1963, the UMW leadership had accepted that the primary competitive threat to coal's postwar recovery was residual oil.[152] The original approach of Boyle's crusade was to focus on the threat of government subsidy of nuclear power to the free enterprise system, and Boyle promised he would "swear eternal hostility against any force which would unfairly and willfully…contrive to build an industry based upon perpetual recourse to public funds at the expense of free enterprise."[153]

Boyle was indeed an anti-atomic zealot. However, even as he grew increasingly distrustful of the Atomic Energy Commission and the potential impact of nuclear power on the coal industry in the late 1950s, others, including Willard Owens, director the UMW legal department and head of research on atomic issues, had begun to dismiss the threat posed by the advent of the atomic age. Following the second UN convention on the peaceful uses of atomic power, the rest of the international office appeared to breathe a sigh of relief. Owens drafted a report for the union's International Executive Board (IEB) on the proceedings. He sought to quell concerns, noting that while it was "difficult to assess" what would come of the technical papers filed at the conference, he believed that the "[p]redictions of 1955 were overly optimistic and the introduction of atomic energy will continue at a slow pace with a prolonged period of research and development." For Owens, the nuclear age appeared to arrive at a comfortable pace, and with little to fear for the American coal miner.

The primary US interest, he believed, lay not in domestic development, but in international programs to "fulfill its obligation to the rest of the world, particularly in the underdeveloped areas."

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[151] Michael F. Widman, Jr., Memorandum regarding "Civilian Nuclear Power: A Report to the President," December 12, 1962. UMWPO Box 27, Folder 11.
[152] Michael F. Widman, Jr., Testimony at the Public Hearing on Crude Imports, held by the Department of the Interior, May 11, 1961. UMWPO Box 13, Folder 16. Also see National Coal Policy Conference, Report to the Senate Committee on Interior and Insular Affairs on National Fuels and Energy Policy, January 1963. UMWPO Box 24 Folder 4.
[153] W.A. Boyle, Statement before the Joint Atomic Energy Committee on the Civilian Nuclear Power Program, March 4, 1964. UMWPO Box 27, Folder 14.

In fact, by his measure, the United States and the Soviet Union had little need to invest in domestic civilian nuclear power since "together," they possessed "over half of the known coal reserves" in the world. It was the "have-not" nations more generally which Owens viewed as "seriously deficient in the supplies of energy."[154] The project of the American century then need not interfere with the development of the domestic coal market at home. In fact, US support for nuclear development abroad might even increase domestic reliance on coal.[155]

When just three months later the Atomic Energy Commission announced it would be "urging greater government participation and subsidies," reversing a standing policy that focused on private sector development, Owens felt his earlier report vindicated. Getting the US government to "underwrite" atomic development, Owens believed, would "prov[e] expensive and difficult."[156] The question of public subsidy handed the UMW a powerful rhetorical weapon for the public sphere: free enterprise. Boyle latched onto free enterprise as a morally-charged framework for energy policy, echoing coal industry lobbying efforts from earlier in the 1950s that had declared coal was "the keystone of our entire economy," which had been built "through our competitive private enterprise system."[157] In a climate where the politics of free enterprise were being

[154] Willard Owens, Report on the Second United Nations Conference for the Peaceful Development of Atomic Energy, October 6, 1958. UMWPO Box 8, Folder 4.

[155] Henry Luce, "The American Century," *Life Magazine*, February 17, 1941. Owen's skepticism of the project of the American century was undeniable. Although he admitted a "direct relationship between large power consumption and standard of living," he believed that pumping, fissioning, or burning fuel into the Third World would have little impact. He subscribed to a racist vision of climatic determinism that an abundance of fuel would be wasted without "a temperate climate in which to develop them." Willard Owens, Report on the Second United Nations Conference for the Peaceful Development of Atomic Energy, October 6, 1958. UMWPO Box 8, Folder 4. It is unclear where Owens had developed these ideas—though Owens, a lawyer, could well have been introduced to them in his college education. Climatic determinism—sometimes called environmental determinism—had American roots in Jefferson's writings on racial difference and had persisted not only in scholarship on culture and development throughout the nineteenth and early twentieth centuries but had also been marshalled in support of fascist ideology. On the impact of climate determinism in the US visions of race, see Thomas Jefferson, *Notes on the State of Virginia* (New York: Norton, 1982); Jason Hauser, "'Scarce Fit for Anything but Slaves and Brutes': Climate in the Old Southwest, 1798-1855," *Alabama Review* 70 no. 2 (2017), 112-125.

[156] Willard Owens to John L. Lewis, January 27, 1959. UMWPO Box 8, Folder 4.

[157] Coal industry lobbying materials, undated (circa 1956), "An Economic Credo for Americans." UMWPO Box 10, Folder 3. Although they are unsigned, these materials were most likely created either by the National Coal Association or the National Coal Policy Conference.

employed to attack the gains of the labor movement made under New Deal policy, the UMW drew on this rhetoric to support its collaboration with industry.

But while it was true that Boyle's administration would have wholeheartedly agreed with the business community that free enterprise was fundamental to the American way of life, and threats to one constituted threats to the other, the "free" in free enterprise proved a malleable concept.[158] Using the language of free enterprise, Boyle and his closest allies—especially Rex Lauck and Justin McCarthy at the *United Mine Workers Journal*—presented coal as the middle way between the threat of heavy-handed government intervention in the economy through "unfair" subsidy of nuclear power, on the one hand, and heavily consolidated industrial power from the international oil companies on the other. (Figure 1.4.) If, as Boyle believed, coal was the ultimate representative of the American system of free enterprise, it was also representative of a particular vision of American freedom that would have been difficult to articulate in any other period of the nation's history.

However, as Boyle became increasingly acquainted with the dangers of nuclear power—both in the mining of uranium as well as the danger nuclear plants posed to the nation's cities—his efforts came to almost exclusively focus on the safety question of nuclear power: plants blowing up, miners dying of occupationally-contracted cancer, toxic waste polluting the oceans. As "the union delved into it [the study of nuclear power], it was found that such plants are hazardous and dangerous for this generation and future generations."[159] Thereafter, the primary focal point of the crusade shifted to focus on the safety dangers of atomic energy, and it became

[158] Elizabeth A. Fones-Wolf, *Selling Free Enterprise: The Business Assault on Labor and Liberalism, 1945-1960* (Urbana: University of Illinois Press, 1995), 32-57.

[159] Special Bulletin, "UMWA Expels District 50!" *United Mine Workers Journal* special edition, March 8, 1968. The UMW expelled District 50 from the international over its support of nuclear power. District 50 was comprised of affiliated locals—workers organized by the UMW but who were not directly employed in coal mining. While some worked in coal adjacent industries—particularly chemical production. Some also worked in the atomic sector through the AEC contracting system. While formally independent (District 50 had its own leadership), the two had deep financial ties, and the UMW exerted heavy influence over District 50. Discussed more below.

increasingly detached from the question of whether the atom could compete with coal. Instead, the use of coal was a moral imperative to save American citizens from the atom.

Figure 1.4: Zell, "Coal-By-Wire Is Cheaper," *United Mine Workers Journal*, November 1, 1965.

Boyle directed Rex Lauck in the office of the *United Mine Workers Journal* to begin writing articles on the dangers of the atom to include in the *Journal*.[160] Anti-atomic articles appeared in nearly every issue between late 1963 and 1969. Articles like the March 1968, "Pandora's Box of Poison," warned against the threat of radioactive pollution, while others mourned the preventable deaths of uranium miners from lung cancer caused by exposure to radon gas. (Figure 1.5.)[161] These articles encouraged the miners who read them to think about danger in new ways—as extending from the mining workscape and into the broader nation.[162] They also

[160] Rex Lauck to W.A. Boyle, July 29, 1963. UMWPO Box 27, Folder 12. This memorandum references a letter from Boyle to the *Journal* office from July 16, 1963 in which Boyle made the request of the editorial staff but this letter was not in the archives.
[161] "Pandora's Box of Poison," *United Mine Workers Journal*, March 1, 1968.
[162] On the particularities of risk on an electrified society, see Chauncey Starr, "Social Benefit Versus Technological Risk: What Is Our Society Willing to Pay for Safety?" *Science* 165 (September 1969), 1232-1238; Mary Douglas and Aaron Wildavsky, *Risk and Culture: An Essay on the Selection of Technological and Environmental Dangers* (Berkeley: University of California Press, 1983). This bore some comparison to Levy's description of how the risks of individual freedom were financialized in the late nineteenth century, but flowed through energy relationships rather

forged an environmental imagination that would in coming years be applied closer to home: to articulate how mining practices had poisoned their water supply, to understand occupational disease as a moral question for the whole nation, and to organize opposition to strip mining, slag heaps and gob ponds which destroyed their land and their ability to live on it.

Moreover, these articles drew additional power from the way they portrayed the federal government as responsible for arbitrating the risks of an energy regime—and as having failed that responsibility by renewing the Price-Anderson Act, which severely curbed liability for nuclear accidents for utilities and industry, while shifting the financial burden of this liability onto taxpayers—resulting in a double utility bill as portrayed in Figure 1.4.[163] Not only did UMW leadership see Price-Anderson as socializing unnecessary risk, it also capped liability at $560 million, a mere eight percent of estimated potential damages.[164]

These arguments powerfully captured the imagination of some miners like Joseph Grego, who wrote to President Johnson in October 1967 that he and the members of his local were "alarmed…about the threat to the health and safety of the public from proven harm of radioactive wastes from atomic plants subsidized by our tax money."[165] Edward Stearns wrote to urge Boyle to "stop the free flo of our tax money to private power companies" and the members of Local 7365 petitioned Congress "to stop all appropriation for the development of nuclear energy, excepting for national defense," and they announced they would join Boyle's call to boycott "Westinghouse Electric, General Electric, or any other manufacturer of atomic reactors."[166] Convinced that nuclear reactors would "pollute the already polluted atmosphere with radiation that would cause an

than finance. Jonathan Levy, *Freaks of Fortune: The Emerging World of Capitalism and Risk in America* (Cambridge, MA: Harvard University Press, 2012).

[163] "What's Price of Price-Anderson?" *United Mine Workers Journal*, June 15, 1965.

[164] James Jasper, *Nuclear Politics: Energy and the State in the United States, Sweden, and France* (Princeton, NJ: Princeton University Press, 2014), 43.

[165] Joseph R. Grego to Lyndon B. Johnson, October 26, 1967. UMWPO Box 34 Folder 6.

[166] Edward Stearns to W.A. Boyle, February 1968 (day obscured), UMWPO Box 34, Folder 7. Petition of Local 7365, District 8 (Brazil, Indiana) to Congress, notarized date stamp illegible, circa 1967. UMWPO Box 34, Folder 6.

increase in Leucemia [sic] and cancer a thousand fold and the death of millions," they wrote that they were "against the Government, any Company, or any person building Atomic Energy Plants at any time, any place, and for any reason."[167] Kerman Lovelace reported that "our men fear atomic plants may cause national disaster," in addition to the "ruin of coal miners' jobs and welfare fund."[168]

Miners' concerns about nuclear power also reflected growing concern with the environmental debts the nation had charged up through industrial development, and the risks associated with continued intensification of landscape exploitation.[169] Jess Ballard from Linden, Illinois wrote that he hoped Boyle's efforts "will awake Congress to its responsibility and duty to stop the development of civilian atomic power affecting the health and safety of the public, radioactive air and water pollution."[170] Even miners' wives wrote in, concerned about the claims made by the *United Mine Workers Journal*. Mrs. Clarence Kirkendoll wrote that "as a rule, I usually leaved the reading of the *Journal* to my husband, tho I glance at the jokes, recipes." The "Pandora's Box of Poisons" article, however, had captured her attention. She was "so amazed" that she insisted "everyone in the United States who has the ability to read should read it," and she thanked Boyle for "seeking an explanation and solution" to the problem.[171] Boyle appealed to her to "contribute to this humanitarian effort by bringing these articles to the attention of your many

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[167] *Ibid.*
[168] Kerman K. Lovelace to W.A. Boyle, February 20, 1968. UMWPO Box 34, Folder 6.
[169] Amy Larkin, *Environmental Debt: The Hidden Costs of a Changing Global Economy* (New York: Palgrave Macmillan, 2013); Douglas and Wildavsky, *Risk and Culture*; on the development of environmental politics in this period see Hays, *Beauty, Health, and Permanence*; Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (Chapel Hill: University of North Carolina Press, 2003); Zaretsky, *Radiation Nation*; Charles Levenstein and John Wooding, *Work, Health, and Environment: Old Problems, New Solutions* (New York: Guilford Press, 1997); Christopher C. Sellers, *Hazards of the Job: From Industrial Disease to Environmental Health Science* (Chapel Hill: University of North Carolina Press, 1997). Montrie has also recently argued for a "long" history of the development of American environmentalism, which he argues began far before the publication of Carson's *Silent Spring*. Montrie, *The Myth of Silent Spring.*
[170] Jess Ballard to W.A. Boyle, May 20, 1968. UMWPO Box 34, Folder 7.
[171] Mrs. Clarence Kirkendoll to W.A. Boyle, March 21, 1968. UMWPO Box 34, Folder 7. These women also fostered particular concern for their children—both living, unborn, and not yet conceived. Rachel Carson, *Silent Spring*; Zaretsky, *Radiation Nation.*

friends and neighbors."[172] Like the housewives who supplied many observations of dead birds and changing flora and fauna around their homes to Rachel Carson as she wrote *Silent Spring*, Mrs. Kirkendoll and other women around the country found that their social reproductive labors in the home fostered a particular awareness of and concern for the changes in their natural surroundings.

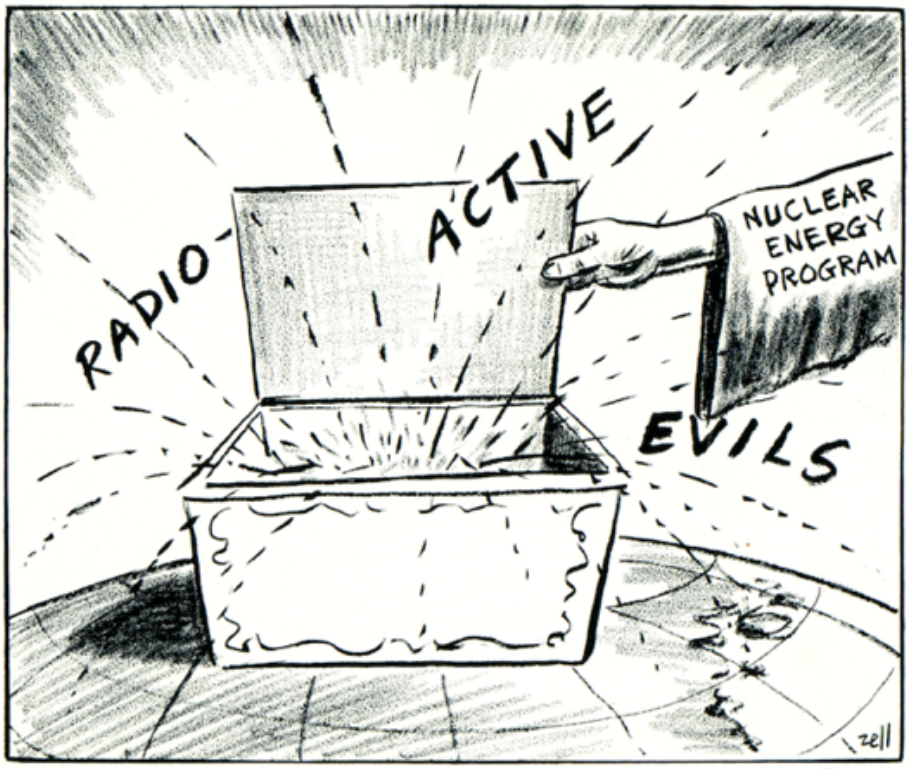

Figure 1.5: Zell, "Pandora's Box of Poison," appeared as the cover of a March 1968 issue of the *United Mine Worker's Journal*. Original drawing located in UMWJR, Box 35, Folder 3. The clothing on the arm of the figure opening the box, labeled 'nuclear energy program' looks similar to other depictions of the figure of death in other cartoons. The hand does not, for instance, wear a buttoned sleeve, work shirt, or a suit.

The fact that Boyle pursued this crusade with so much fervor while actively suppressing organizing for occupational health amongst coal miners and allowing other staffers to deal with pollution restrictions on coal plants in Washington DC was more than self-interested, however. It also revealed what he believed the primary weaknesses of coalfield Fordism to be, while also exposing how he believed those weaknesses might be overcome. Boyle directed locals to boycott

[172] W.A. Boyle to Mrs. Clarence Kirkendoll, March 25, 1968. UMWPO Box 34, Folder 7.

corporations involved with the construction of nuclear reactors, inculcating concern about nuclear power while building an industrial coalition that might, through collaboration, decrease prices and impact policy through intense lobbying. The effort to boycott these companies began to drive a wedge between the UMW and its affiliated locals in District 50; some District 50 members were employed by the boycotted firms. Boyle not only developed an antinuclear crusade as industrial policy but had sincerely come to fear the atom in its pursuit.

Graveyard Shift

Boyle's war against the atom, whether it was being fought with Congressional testimony or in the pages of the *United Mine Workers Journal*, relied narrative and visual tropes that resonated with miners. Sometimes the adaption of these images was so obvious that the artists and editors had simply superimposed new meaning over a nearly identical image. The two cartoons featured in Figure 1.6 capture the way visual meanings could be reappropriated in the pursuit of the anti-atomic crusade. In the first cartoon, titled "Hours of Peril," a miner prevaricates at the beginning of his shift, weighing whether he should descend into the "unsafe mine" for work.[173] In the second cartoon, "Graveyard Shift!" we see a nearly identical image.[174] The changes between the two images are narratively suggestive. "Unsafe Mines" has been replaced with "Uranium" and the darkness of the coal mine brightened, with lines extending from the mine mouth meant to suggest the perils of radiation. Additionally, the profile of the miner in "Graveyard Shift!" appears more skeletal, suggesting an inherent and ongoing danger to the nature of the work.[175]

[173] Zell, "Hours of Peril," original drawing of a cartoon which appeared in the February 1, 1962 edition of the *United Mine Workers Journal*. UMWJR, Box 60, Folder 6.
[174] Zell, "Graveyard Shift!" *United Mine Workers Journal*, October 1, 1967.
[175] For more on the emergence of futuristic danger, see Zaretsky, *Radiation Nation.*

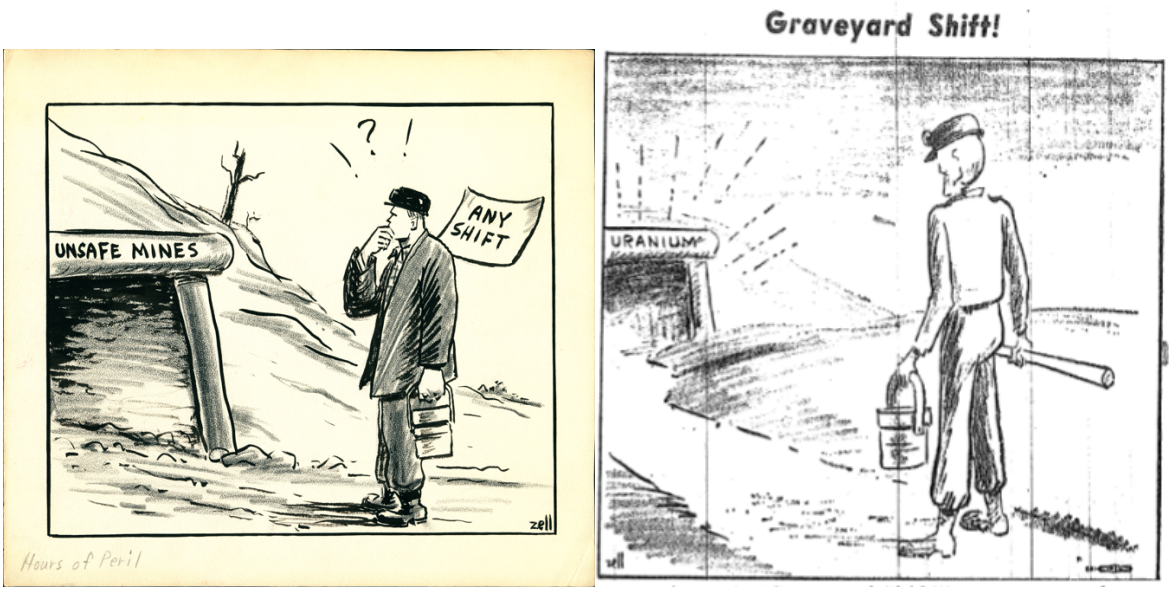

Figure 1.6: Comparison, "Hours of Peril" (1962) and "Graveyard Shift!" (1967). Zell, "Hours of Peril," original drawing of a cartoon which appeared in the February 1, 1962 edition of the *United Mine Workers Journal*. UMWJR, Box 60, Folder 6; Zell, "Graveyard Shift!" *United Mine Workers Journal*, October 1, 1967.

As much as Boyle's crusade against the atom was self-interested and bizarre, it managed to tap into real fears percolating across the coalfields about the future of miners—whether of coal or uranium—in a high-energy capitalist society, specifically the dangers they faced on the job. The pick-and-shovel days in the coal mines were over, replaced most notably the continuous mining machines. The transformation, noted journalist Jeanne Rasmussen, had "pushed health and safety to the edge of an abyss."[176] Yet the picture Boyle and his staff at the *United Mine Workers Journal* had painted of the uranium mining workplace appeared just as abysmal—"invisible death," at least six thousand men dying from radiation exposure.[177] The dangers of the uranium mining workplace were clearly ones with which miners could identify—the spike in lung cancer among the uranium miners could not have more closely mirrored a growing occupational health crisis across the Appalachian coalfields: black lung.

[176] Jeanne Rasmussen, "The Hot Edge of Hell," unpublished manuscript, undated. Jeanne Rasmussen Papers, Archives of Appalachia, Box 1, Folder 12.
[177] "Invisible Death: Is It Worth It?" *United Mine Workers Journal*, January 15, 1968; "6,000 Miners Dying from Atomic Exposure, Expert Charges," *United Mine Workers Journal*, May 1, 1967.

Yet this very connection, this common experience across which danger could be made legible and on which Boyle's anti-nuclear campaign drew strength also demonstrated the extent to which Boyle seemed incapable of observing the changes in his own industry. The *United Mine Workers Journal* reported on a speech by Leo Goodman, at the time the director of the Atomic Energy Technical Committee at the AFL-CIO. Uranium miners, he said, "must rise up and insist on the priority to which their role in society entitles them."[178] Instead, of being revered for their role in national defense and energy production, he claimed that their "widows cannot even get a measly workmen's compensation because the AEC's funds are used instead to create a national psychology that they have the safest industry in the country and besides no single person has ever been hurt."[179] In the very next column, the *Journal* editors tabulated that the fatal accident rate in the nation's coal mines was twenty percent higher than the year before and carefully worded reporting in the *Journal* tried to suggest that the demand to produce more coal at even lower prices didn't have to mean more danger. A January 1967 article applauded the example set by miners in Stirrat, West Virginia who managed to work accident free during a period of high productivity.[180]

Boyle's hyper-focus on atomic power missed a growing sentiment among miners, which saw their own work tied in new ways to danger and death. Journalist Jeanne Rasmussen, the partner of black lung activist Dr. Donald Rasmussen, recalled a striking encounter from her interviews with miners across Eastern Kentucky:

> He stood bent against the afternoon sunlight like a weathered split-rail fence. 'You a coal miner?' I asked nervously.
>
> 'Yup.'
>
> 'Are you retired?'
>
> A brown ribbon of tobacco skipped across the sidewalk. Eyeing me skeptically for a moment, he replied scornfully, 'No ma'am. Out here, we don't retire, we die.'[181]

[178] "6,000 Miners Dying from Atomic Exposure, Expert Charges," *United Mine Workers Journal*, May 1, 1967.
[179] *Ibid.*
[180] "Stirrat Miners Work Safely During Period of High Productivity," *United Mine Workers Journal*, January 1, 1967.
[181] Jeanne Rasmussen, field notes from Hyden, Kentucky, January 1971. Jeanne Rasmussen Papers, Box 2, Folder 32.

Boyle had formed a set of claims around safety that would ultimately be adapted by coal miners protesting their own working and living conditions, but he seemed unable to apply them himself. Even as coal miners shut down the West Virginia coalfields to demand black lung compensation, Boyle issued press releases which devoted two sentences to coal dust before turning to spend four paragraphs detailing the UMW position on safe levels of radon gas in uranium mines, where "failure to require ventilation [of radon gas]…had resulted in hundreds of cases of lung cancer," and he castigated the "neglect…by the government" of the dying uranium miners' widows.[182] Just days later, he would caution skepticism against "modern day prophets of doom"—referring to public advocate Ralph Nader, Congressman Ken Hechler, and activists in the UMW—who made nearly identical claims about coal.[183]

But this argument also relied on scaling up, to suggest nuclear power represented a society-wide level danger, something that threatened to detonate a nation, a way of life. The opposition to the Fort St. Vrain generating station near Denver, Colorado made plausible the apocalyptic future Boyle's crusade portended. Uranium mining had left a "shadow of death" across Navajo mining communities in the four corners region of the Southwest, where after "the biggest uranium boom the world had ever known was largely over…miners had been sent home, many to die slow, painful deaths." The landscape just hours southwest of Denver was a veritable "poisoned atomic wasteland" of polluted water, and unreclaimed mines.[184] As the efforts against the new nuclear generating plant continued, Boyle moved the 45th Consecutive Constitutional Convention of the UMW to take place in Denver, Colorado so the full weight of the union could be brought to bear to support the efforts of District 15.

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[182] Statement by W.A. Boyle, February 18, 1969. UMWPO Box 46, Folder 22.
[183] W.A. Boyle, testimony before the Senate Labor and Public Welfare Committee on Coal Mine Health and Safety, February 27, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, Ken Hechler, ed. (Charleston, WV: Pictorial Histories Publishing Company, 2011), 117-125.
[184] Eichstaedt, *If You Poison Us*, 54.

The bulk of the Legal Department report at the 1968 UMW convention centered on the effort to halt the Fort St. Vrain generating station.[185] The Legal Department, along with the Research and Marketing Department, had produced "specialized witnesses in the field of nuclear energy," culled "economic data," and made a presentation to the Public Utilities Commission. When they failed to succeed at the initial hearing, they filed an appeal, and pursued a second avenue through the board which was supposed to grant the construction permits—though the UMW seemed unlikely to get a fair hearing since the Atomic Safety and Licensing Board, which would hear the appeal, was "a three-man committee, all appointed by the Atomic Energy Commission." Despite the fact that its efforts had achieved nothing, the Legal Department announced it would continue to pursue its opposition in the coming years.[186]

The effort in Colorado was so important because it was meant to be a model that could be applied elsewhere—as nuclear reactors were planned closer and closer to large cities, and the political support for the Fort St. Vrain efforts and other legislative tactics came not from local Colorado politicians, but instead from politicians from the eastern coalfields—William C. Wampler of Virginia, James Kee of West Virginia, John P. Saylor from Pennsylvania, and Wayne L. Hays of Ohio. The political efforts failed nearly unanimously, despite repeated attempts to introduce anti-atomic legislation, increase legislative oversight of atomic development, and slow ongoing AEC projects. By 1968 the UMW was not able to effectively prevent or halt the building of a nuclear generating station. But the legal department's efforts had played an important role in

[185] This focus particularly stands out since Legal Department resources were also being diverted to a growing number of cases being filed against the UMW under the auspices of the Landrum-Griffin Act and the Sherman Anti-Trust Act. "Proceedings of the 45th Consecutive Constitutional Convention of the United Mine Workers of America," Denver, CO, 1968, 245-249.
[186] "Proceedings of the 45th Consecutive Constitutional Convention of the United Mine Workers of America," Denver, CO, 1968, 102-103.

stopping experimental underground atomic blasting to increase underground natural gas storage in Pennsylvania. These efforts, Boyle promised, were "only the beginning of our program."[187]

Figure 1.7: A demonstration against the Fort St. Vrain Generating Station, a project of the Public Service Co., undated, circa fall 1967. UMWJR, Box 52, Folder 12. The signs, right to left, read: "Put Public Safety Before Public Service Co.," "No Permit! But Work Begins on Nuclear Plant," "Don't Let Public Service Co. make Colorado a Poisonous Atomic Wasteland," "Atoms for Defense: Yes! Atoms for Killing Americans: No!" "Public Service Co. of Colorado: Who Will Pay for Atomic Accidents?" "Union Coal Miners Protest Dangerous Atomic Plant Near Denver," "Atomic Energy Poisons the Air, the Land, the Water," "United Mine Workers Oppose Platteville Atomic Power Plant."

Boyle's intentions to wrangle the atomic age into the lasso of coalfield Fordism, however, would never come to fruition. Indeed, by the time he proclaimed a bright future for coal to follow his anti-atomic crusade, the whole enterprise of coalfield Fordism had begun to unravel. The belief that Boyle could manage and collaborate his way to industrial peace, higher wages, and political

[187] "Proceedings of the 45th Consecutive Constitutional Convention of the United Mine Workers of America," Denver, CO, 1968, 78-84.

stability came apart with it. This unraveling was driven by the very changes in the energy sector that had brought coal back to life: the expansion of the utilities market and the changing structure of energy production. As it all began to come apart, the anti-democratic tendencies of coalfield Fordism became all the more apparent, aided by Boyle's own megalomania.

District 50

Tensions over the threats posed by atomic power came to a head in the early months of 1968 when the UMW's affiliated locals—composed of mostly coal-adjacent workers in clerical positions, construction industries, and chemical plants and organized under the auspices of the supposedly independent District 50—voted to support the development of nuclear power, and the participation of Dow Chemical in the atomic field. Boyle lashed out at his "thankless child"—a phrase which underscored the paternalistic nature of the UMW's relationship with its affiliated locals, and expelled them from the International.[188]

District 50, a formally independent district of affiliated locals, organized workers in a range of industries, many of them coal adjacent including chemical production and construction. Under the AEC contracting system, however, many of them also worked in atomic-adjacent firms, like Dow Chemical.[189] Although appearing to fall outside the purview of the day-to-day politics of the United Mine Workers, had "acted as a buffer… against the raiding tactics of craft unions," and had "brought employment opportunities to many thousands of mine workers" idled by mechanization by "employ[ing] them on road building and mine construction jobs," including domination in mining states of the building of state highways and Federal interstates. Moreover, during a period of substantial contraction in the UMW's working membership because of high unemployment, District 50 had brought millions in revenue to the UMW treasury and funded

[188] "UMWA Expels District 50!" *United Mine Workers Journal*, special edition March 8, 1968.
[189] James Nelson, *The Mine Workers' District 50* (New York: Exposition Press, 1955).

organizing campaigns. It had succeeded in organizing thousands of new members even as the AFL-CIO failed to break into many of the atomic age industries. John L. Lewis warned his successors to take care when addressing conflicts with District 50 since it was "of great importance" to the UMW.[190]

Despite its importance and relative success, District 50 represented a constant source of financial tension among the UMW leadership as in the early 1960s it fell into debt and required loans from the UMW that then went unpaid.[191] District 50 officers countered this claim by alleging that "many millions" in membership dues had been collected by the UMW and neither those members nor District 50 had ever received "any accounting whatsoever of the use of the funds." The leaders of District 50 claimed that the real source of tension which had been building since the early 1960s was its refusal to "submit to the dictates" of Boyle's administration.[192] This refusal to submit included acquiescing to Boyle's crusade against the atom, resulting in what Boyle described as a "basic and ethical conflict."[193] At stake, Boyle suggested, was nothing less than the safety of the nation:

> The United Mine Workers has taken a strong, aggressive, and positive position on the dangers and hazards of atomic energy for domestic uses…'District 50'—this thankless child that we created—is willing to risk the lives of every citizen in the country for the sake of a few members they have in atomic plants…For the sake of a few members in this organization or any other labor organization, I'm not going to jeopardize the lives of children and future generations nor will I be party to jeopardizing the lives of those who work in uranium. I will not jeopardize them for this pittance of dues that may be collected. I'm not that hungry for dues.[194]

Beginning in the early days of February, following the publication of an article in *District 50 News* supporting nuclear development, and persisting for months, Boyle received hundreds of letters and

[190] John L. Lewis to Thomas Kennedy, W.A. Boyle, and John Owens, December 27, 1961. UMWPO Box 191, Folder 10.
[191] The actual source of this debt was a matter of debate. The UMW claimed it was because District 50 had failed to make payments on loans that had been made for organizing efforts; District 50 claimed the UMW had expected too much in dues contributions. Memorandum detailing chronology of fiscal relationship with District 50, undated, circa 1966. UMWPO Box 191, Folder 10.
[192] District 50 News Release, April 30, 1968. UMWPO Box 191, Folder 16.
[193] "UMWA Expels District 50!" *United Mine Workers Journal*, special edition March 8, 1968.
[194] Boyle quoted in *ibid.*

telegrams in which locals and districts weighed in on the decision to discipline and ultimately expel District 50 and offered their own explanations why the miners in a particular area supported the move.[195] Some, like Local 2026 in Westland, Pennsylvania, focused on District 50's debt, and demanded "that all debts owed to the United Mine Workers of America be paid promptly."[196] Others voiced boiler-plate support for Boyle or worried that District 50's "propaganda for Dow Chemical" was equivalent to "helping companies put us miners out of a job."[197]

But these letters were overwhelmed by those which speculated on how much danger atomic power had placed them in. Some like Local 1243 equated membership in the UMW with an antinuclear stance: "If they don't support…your fight against nuclear energy, they should not be permitted to use the name of the United Mine Workers."[198] Lee Roy Foltz from Bulger, Pennsylvania said that District 50 "should have been dealt with severely," since they had endangered "their own fellow workers and the welfare of millions of other HUMAN beings and the natural resources of the nation."[199] The members of Local 1284 wrote to "request an aggressive opposition to the destroyer of our way of life—nuclear energy power plants" because they "hold in contempt District 50, Betrayer…for its unwise attitude favoring nuclear energy power plants."[200] Elmer Hall, the particularly perceptive recording secretary of Local 1513 in Southern Illinois noted that it was the particular benefits that had been supported by the coalfield Fordist regime. He worried their "welfare benefits are being jeopardized by nuclear energy…our members

[195] These letters and telegrams, it should be noted, were nearly unanimously supportive of the decision. Dissent was likely suppressed or went unvoiced at Boyle's penchant for vindictiveness and retaliation became clear. However, this correspondence, read within these limitations, remain illuminating. See UMWPO Box 34, Folders 4-16.
[196] Harry Rossi and John Kutchman, to W.A. Boyle, April 2, 1968. UWMPO Box 34, Folder 5.
[197] See the nearly identical text of letters including: Steve Panak to W.A. Boyle, April 5, 1968; Joseph Yablonski to W.A. Boyle, April 10, 1968. UMWPO Box 34, Folder 5; from the West, identical language in telegrams from Locals 7922, 9926, and 7714; Kerman Lovelace to W.A. Boyle, February 20, 1968. UMWPO Box 34, Folder 6.
[198] Tom Serra (President LU 1243) to W.A. Boyle, February 5, 1969. UMWPO Box 34, Folder 8.
[199] Lee Roy Foltz (LU 6754) to W.A. Boyle, April 10, 1968.
[200] Farrell Whitlow, President LU 1284, to W.A. Boyle, February 9, 1968. UMWPO Box 34 Folder 7.

are both alarmed and worried."[201] James Balsamelle agreed, "we foresee what [nuclear energy] will do to our welfare and pension plan."[202]

The host of telegrams and letters also demonstrated what appears to be a genuine intertwining of concern for miners' jobs with the safety of the broader community. "Don't they know," asked Local 1346, "that you and the United Mine Workers are fighting the building of the nuclear plants and are fighting to protect the American people from the fallout of such plants, are fighting to protect the security of mining industry and the United Mine Workers?"[203] Marshall Martin urged Boyle to "inform [the AEC] and the public that these plants may cause an atomic explosion," while Erne Bigham of Local 5134, who worried that District 50 was a "Frankenstein," and he begged Boyle to tell the Atomic Energy Commission:

> of the fears of the local miner concerning the increasing use of atomic reactors to generate electricity. These fears are not only for ourselves but for the multitudes living in the immediate zones that surround these plants. Our lives and our livelihood are being seriously threatened by the utter disregard for the safety and welfare of the population of this country.[204]

By 1965, coal industry observers felt that the coal industry had met "the challenge of the nuclear age."[205] Yet the persistence of Boyle's antinuclear crusade through the expulsion of District 50 demonstrated the depth of the atomic menace Boyle sensed in this new era. The atomic age threatened to reshape the labor relations which had underwritten the establishment of coalfield Fordism, and the competing fuels signaled not only market loss, but the volatility of the very coalfield order that was meant to ensure industrial stability. Boyle's mistake was to imagine that so long as the external supports to coalfield Fordism remained in place, it—and his regime—would remain intact, even if he overstepped his bounds as union president to counter dissent in and around District 50.

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[201] Elmer Hall to W.A. Boyle, February 13, 1968. UMWPO Box 34, Folder 7.
[202] James Balsamelle, to W.A. Boyle, February 9, 1968. UMWPO Box 34 Folder 7.
[203] Edward K. Bright (President Local 746) to W.A. Boyle, UMWPO Box 34, Folder 8.
[204] Erne L. Bigham to W.A. Boyle, February 9, 1968. UMWPO Box 34, Folder 7.
[205] Gerard C. Gambs, "The Coal Industry Meets the Challenge of the Nuclear Age," *Coal*, June 1965. UMWJR, Box 13, Folder 6.

In fact, the coming of the atomic age and the expansion of coal use for electric generation had rendered coalfield Fordism unviable on its own terms, as would soon become clear on November 20, 1968 when the deadly explosion of the Consol No. 9 mine ignited open rebellion across the Appalachian coalfields. In the year following the expulsion of District 50, as the UMW careened into a broader crisis over safety, union democracy, and national energy policy, Boyle sought to reimagine the union's "jurisdiction," suggesting that the UMW might focus its organizing efforts on "coal-consuming industries." He told a gathered crowd of thousands of miners and their families that "We want no more District 50's."[206] Instead of a new, affiliated dues roll, this proposal for a reimagined union jurisdiction was one meant to strengthen the withering bonds of coalfield Fordism, to appeal to an ideal of governance rapidly becoming untenable. Boyle insisted in the early days of 1969 that "this is no time for the demagogue."[207] He seemed unaware he prophesized his own fate.

Thus, beginning with his ascension to the presidency and ending with the crisis over District 50, the anti-nuclear politics of the United Mine Workers rose and fell with Tony Boyle and had little direct legislative or legal impact. Taken at face value, they appear a curious artefact revealing a union leader easily taken by fear of the future. And yet, this five-year anti-atomic crusade, when placed in the larger context of a shifting political economy of energy and a growing unrest over the dangers of energy production, cast in new light the process which pushed the United States toward an energy crisis by undermining the very set of relationships which had stabilized postwar energy production—and help us understand why, for the following decade, the coalfields would stand at the center of an energy crisis that was, ostensibly, about oil. Coalfield Fordism had quickly begun to unravel, a process that would be amplified just eight months after the expulsion

[206] W.A. Boyle, Labor Day Speech, September 1, 1969, Elkhorn City, Kentucky. UMWPO Box 46, Folder 23.
[207] W.A. Boyle, testimony before the Senate Labor and Public Welfare Committee on Coal Mine Health and Safety, February 27, 1969. UMWPO Box 46, Folder 22.

of District 50, when a massive explosion ripped through the Consol No. 9 mine near Farmington, West Virginia.

Chapter Two

Nobody Did This on Purpose
The Moral Economy of High-Energy Capitalism

Whether underground or in the nation's urban centers, blackouts portended instability.[1] For the miners working in the Consol No. 9 mine the evening of November 20, 1968, sudden darkness was a sign that something had gone terribly wrong. Of the ninety-nine men who entered the Consol No. 9 mine for the overnight "cateye" shift—referring to it as the better-known graveyard shift was considered bad luck—only twenty-one would return alive.

Several hours into his shift, Walter Slovekosky drove a load of coal up the west side of the mine with Smokey Stephens as they passed another crew returning with empty cars to reload. Lester Williard, one of the men on the returning crew, began to tease Slovekosky over the radio, the way the pair often did. Minutes later, as Slovekosky and Stephens reached their destination, they heard Williard's partner report in to the dispatcher with their location. Then the power went out briefly and came back on, but the men were not reassured by the returning illumination.[2]

Elsewhere in the mine, George Wilson was part of a crew operating a continuous miner when the power went out. "I taken, I expect, two or three steps when this thing came in on us," he recalled. "Just like that through the air and there was flying debris, rock dust, coal dust, and everything so intense you couldn't see…it just felt like my eyeballs was cut up from this flying debris." Lewis Lake recalled "mining coal as usual and all at once the power went off and I hollered at Shorty, 'What's wrong with the power?'…and then I knew it was something I had never seen in the mines before." Alex Kovar had been dealing with power issues all night—a DC breaker was

[1] Nye, *When the Lights Went Out*, 67-105.
[2] West Virginia Department of Mines, *Official Hearing: Coal Mine Explosion, Consol No. 9 Mine, November 20, 1968*, West Virginia Department of Mines, AR-1810. Accessed online. Stewart, *No. 9*, 67.

out at the slope bottom—but was above ground when "the ground trembled, then the lights dimmed and came back on."[3]

Notably, many miners were quick to point out there might have been many causes for the blackout; not all would have resulted in the death of nearly the entire shift. The loss of power suggested something was amiss, but relied on a broader narrative context to take on the quality of an omen, as it did when miners recounted the moment realized how much danger they were actually in. Darkness as the absence of light and the looming figurative darkness of impending disaster mixed together in the miners' statements to the West Virginia Bureau of Mines as it conducted a hearing in the aftermath of the explosion. The testimony of men like Lawrence Riggs—who recalled a coworker describing the scene at the Llewelyn mine portal as "dark, smoke, or dust" mixed recollection with wider cultural narratives.[4] The hellish scene was described by Ben A. Franklin of the *New York Times*:

> The first blast had burst up 600 feet through the portals and ventilation shafts, blowing the internal works of the mine to atoms…At the top, the main shaft became the muzzle of a mammoth subterranean cannon…For days, a boiling plume of poisonous black smoke alternatively belched from the shaft and then unaccountably reversed its flow and inhaled, bursting forth again with renewed detonations below.[5]

The "underground holocaust" continued to burn, even after attempts to seal the mine.[6] November 20 had been a frigid, dry night—perfect conditions for a methane explosion—especially in a seam that was known to be increasingly gassy, that had seen its methane emissions more than double in less than fifteen years from three million cubic feet of methane per day to around eight.[7] West Virginia Representative Ken Hechler quickly noted that most coal men and politicians were concerned less with methane gas, however, than with different number: the 9,600 tons of high-

[3] West Virginia Department of Mines, *Official Hearing: Coal Mine Explosion, Consol No. 9 Mine, November 20, 1968*.
[4] *Ibid.*
[5] Ben A. Franklin, "The Scandal of Death and Injury in the Mines: Nobody Knows What the Cost of a Century of Neglect Has Been," *New York Times*, March 30, 1969. *PQHN.*
[6] "78 Miners Entombed in Farmington No. 9 after Blasts Rip Workings." *West Virginian Times*, November 21, 1968.
[7] Stewart, *No. 9*, 44.

quality bituminous coal that the No. 9 mine had produced each day.[8] Its location in one of the highest-quality bituminous coal seams in the world had indeed secured the mine's continued existence in the face of repeated methane explosions: 11 dead in October 1916, 19 killed in January 1926, an October 1951 explosion which, miraculously, killed no one, a November 1954 explosion entombed fifteen in a "flaming pit,"[9] and a 1965 blast triggered by a "frayed wire or a spark from a dropped tool," killed four.[10] During World War II, inspectors looking for potential "Axis sympathies" instead found the greatest threat to wartime coal production instead came from "extremely dangerous mining practices."[11] In between the newsworthy disasters, the mine's deadly record was also stacked with safety violations, including failure to report gassy conditions during winter months—the most dangerous times of year due to the dryness of the air—and poor ventilation conditions which had contributed to methane buildup in mine tunnels in advance of the 1968 explosion.[12]

Industry, state, and union officials rushed to the defense of Consolidation Coal—the company that operated the mine as a division of Continental Oil—and the coal industry in general. Hulett Smith, Governor of West Virginia, naturalized the disaster, saying that "what has occurred here is one of the hazards of being a miner." Meanwhile, J. Cordell Moore, Undersecretary of the Interior stated that, despite the mine safety research which had been conducted by the Mine Safety and Health Administration under the umbrella of the Department of the Interior, stated that "we don't understand why these things happen, but they do happen."[13] UMW President Tony Boyle

[8] Ken Hechler, Statement before the General Subcommittee on Labor, March 19, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, Ken Hechler, ed. (Charleston, WV: Pictorial Histories Publishing Company, 2011), 137.
[9] AP, "Flaming Pit Entombs 15; New Blasts Shatter Seal; All Hope Lost in Blast." *Charleston (WV) Daily Mail*, November 15, 1954.
[10] Stewart, *No. 9*, 36.
[11] Stewart, *No. 9*, 15. Also see US Department of Interior, *Confidential Report on the Jamison No. 9*, 1943. Records of the Solid Fuels Administration for War, National Archives, College Park, MD.
[12] Stewart, *No. 9*, 37-64.
[13] "Coal Mine Safety: 9 Comments," from "The Hurricane Creek Massacre," January 26, 1971. MFDR, Box 46, Folder 15.

defended the company because "[t]his one of the better companies as far as cooperation and safety are concerned."[14] Consol, to Boyle, represented the future of the coal industry—an coal firm that almost exclusively supplied electric utilities and that was heavily invested in efforts like the National Coal Policy Conference which sought to maintain labor peace while boosting production and seeking new markets for coal.[15]

The efforts to mitigate the responsibility of Consolidation Coal for the disaster at the No. 9 mine represented more than an attempt to diffuse anger among rank-and-file miners. Indeed, it is hard to imagine that anyone—in any capacity—within the coal industry could have believed that such statements would diffuse coalfield anger. Instead, these statements are clearly directed elsewhere, perhaps even at the officials' own unease at where final blame for the disaster lay. Because while certainly one could cite the poor safety record of the particular mine as the "cause" of the explosion, this explanation also failed to satisfy because beneath the series of neglectful oversights, regulatory violations, and environmental dangers, the threshold that had been crossed was not that an explosion had occurred but that *too* many miners had been killed by it, more than was acceptable in the pursuit of energy security in any case. This assumption belied a moral economy of energy premised upon a certain level of acceptable mining deaths that had mostly gone unspoken but suddenly became the subject of fierce contestation. The sudden exposure of this transgression—and the wide net of complicity which it suggested—prompted unease. Could a moral challenge to the energy regime threaten the gains that mechanization had delivered to the industry? "Rescued by machines," CBS reported, coal mining was "thriving." And while "technology and production…raced ahead" miners feared a future where coal mining's long

[14] "Coal Mine Safety: 9 Comments," from "The Hurricane Creek Massacre," January 26, 1971. MFDR, Box 46, Folder 15.
[15] See the National Coal Policy Conference's reports to the membership, especially the year 1963 in which John L. Lewis, former president of the UMW, handed off leadership of the NCPC to Joseph P. Routh, president of the Pittston Coal Company. UMWPO, Box 192, Folder 13.

association with death grew even stronger as "miners go for the deeper coal where gases are under even greater pressure and the shifting earth is heavier above them."[16]

A fossil-fuel energized society rested upon what Tony Boyle described as "this inherent danger of explosion." As a systematic feature of high-energy capitalism, rather than an aberration, it was hard to fault one of the "better companies" for it.[17] The extent to which this danger had been naturalized and incorporated into the mining landscape could be seen in the warnings printed in the *United Mine Workers Journal* each fall which warned miners to take care in the impending "explosion season."[18] The naturalization of disaster embedded in coalfield landscape obscured the social relationships, industrial planning, and structural dependencies that gave the mining workplace national meaning. An official "high up in the Department of the Interior," echoed Boyle when he responded to Hechler's phone call demanding answers in the wake of the explosion. "Don't let an accident like this excite you," he told Hechler, "After all, nobody did this on purpose."[19] And yet, to miners, it appeared that this tripartite coalition was managing a system of coal production that killed them so the nation might have more electricity.

The UMW response to the Consol No. 9 explosion stood in stark contrast to the Boyle's anti-nuclear crusade. As the number of nuclear generating stations expanded in the late 1960s, the atom's BTU contribution to the American energy regime grew more than two thousand percent in less than a decade. Boyle continued to warn miners and, he imagined, the whole nation, about the

[16] Bernard Birnbaum, prod. "Danger! Mine!" CBS Television Network, February 11, 1969, 10:00-10:30 PM. MFDR, Box 77, Folder 12.
[17] "Coal Mine Safety: 9 Comments," from "The Hurricane Creek Massacre," January 26, 1971. MFDR, Box 46, Folder 15.
[18] These usually appeared in October and were catalogued by Ben Franklin, "The Scandal of Death and Injury in the Mines: Nobody Knows What the Cost of a Century of Neglect Has Been," *New York Times*, March 30, 1969. *PQHN.*
[19] This was most likely J. Cordell Moore, given that later in his life, Hechler recalled Moore saying something nearly verbatim to him on the phone in the wake of the explosion. Ken Hechler, Statement before the General Subcommittee on Labor, March 19, 1969. Reproduced in *The Fight for Coal Mine Health and Safety*, 137.

dangers nuclear power represented to the nation's cities.[20] The *United Mine Workers Journal*, at his direction, promoted coal-fired power plants with the caption: "This one won't blow up."[21] Still, the future of the atom remained unsure, and in 1968, coal still supplied nearly ten times as many BTUs as nuclear power to the American energy regime. The argument that coal represented the safe alternative to nuclear power suggested mine explosions—a problem for which UMW staff claimed they had "no magic solution," instead advising "complete and realistic cooperation," with the industry—were defensible in the protection of public safety against nuclear power.[22] Through this logic, the risks of energy politics were concentrated in the workplace in an effort not only to avoid a high profile nuclear accident, but to prevent the political fallout that would have accompanied it.[23]

As the nation leaned ever more heavily on electricity for social organization and government projections suggested that electricity consumption—already increasing at a rapid pace—would continue to double each decade, the need for coalfield stability was magnified. This rapidly growing electricity consumption helped the coal industry surge back to life.[24] It also was the moment that convinced many miners that they had to take their health and safety into their own hands, working against the union leadership. Electric power had corresponding human currents.

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[20] In 1960, nuclear power contributed 6 trillion BTUs of total energy consumption. By 1968, that number had increased to 130 trillion BTUs, an increase of 2,166.67 percent. US Department of the Interior, "Energy through the Year 2000," December 1972. HathiTrust.

[21] "This One Won't Blow Up," *United Mine Workers Journal*, May 1, 1967.

[22] Justin McCarthy, "Our Heartfelt Sympathy Is Extended to the Victims of the Mine Disaster," *United Mine Workers Journal*, December 1, 1968.

[23] While Three Mile Island remains the most well-remembered nuclear accident in US history, the journalist John Herling kept a list of accidents and near-accidents that cast a shadow over the AEC's insistence on the safety of nuclear power. Notably, however, the majority of these accidents were not the large-scale crises which Boyle decried, but instead more banal workplace exposures—plutonium "splashed on [an] employee" at Hanford; accidental "entry into hot lab" in Oak Ridge, Tennessee; misplacement of Cs 137 in Houston, Texas. John Herling Papers, Box 14, Folder 9, Reuther Library of Labor and Urban Affairs.

[24] Federal Power Commission, "Energy Sources for Generation, 1963-1980 (Projected)," in *National Power Survey* (1965); Charles River Associates, Inc., "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy. Part I: Profile of the Appalachian Coal Industry and Its Competitive Fuels." (Cambridge: N.p., 1973); Resources for the Future, Sam H. Schurr, and Bruce Carlton Netschert, *Energy in the American Economy, 1850-1975: An Economic Study of Its History and Prospects* (Baltimore: Johns Hopkins Press, 1960); on electricity and social cohesion, see Nye, *When the Lights Went Out*, and *Electrifying America*; Adams, *Energy and Structure*.

(Figure 2.1.) The coal mining workplace, as the site of displaced social energy risk, "where nature takes its revenge, where man pays for what he steals from the earth in life and blood,"[25] sat at the center of the paradox of coalfield Fordism, the fulcrum between the nation's energy producers and its consumers.

Figure 2.1: Pat Oliphant, "Remember with Gratitude All I've Done for You!" 1969. Clipped for President Boyle's information. UMWPO, Box 29, Folder 17. Particularly note the absence of electricity or other non-human power sources and the relationship between light and dark in the mine tunnel.

This coal-fired future had been made possible by new technical achievements—the mechanization of underground coal mining and the expansion of strip mining, the development of mine-to-mouth power generation (otherwise known as "coal by wire"), and growth of the grid—which allowed coal to be mined in large quantities at low and seemingly stable prices, and more of the negative environmental impacts of coal to be pushed out of sight of suburban populations increasingly concerned with problems of air and water pollution.[26] This displacement and

[25] Transcript, "The Cherokee Shaft: The Story of Mines and Men." ABC Broadcast, May 22, 1971. 8:30-9:30 PM EDT. MFD Archives, Reuther Library, Box 63 Folder 1.
[26] Dix, *What's a Coal Miner to Do*; Needham, *Power Lines*. For coal prices, see Energy Information Administration, and "Coal Prices, 1949-2011," *Annual Energy Review*. Accessed online. Also see Chart 5.1.

concentration of coal's impact only amplified the moral stakes of energy production as it made more pronounced the disparities between the benefits of electricity consumption and the human costs of coal production. Embedded in this new form of reliance—where coal functioned as the fuel of stability and illumination in a fragile political landscape—lay a moral conundrum: how many miners could acceptably die to illuminate the country's homes, suburbs, and offices, which had been increasingly designed to rely almost entirely on electric power?[27] The paradox of coal's resurgence drove the coalfields into crisis as miners rebelled against the energy regime that was killing them. The regime of coalfield Fordism proved incapable of responding to the scourge of black lung or mine disasters, even as it moved to modernize, restructured around automated production for electric power.

The UMW, though charged with representing the collective interest of miners, was under the leadership of Tony Boyle deeply committed to this energetic order not only because Boyle perceived it as supportive of the industrial relationships that allowed him to maintain a grip on power, but also because he had accepted the proposition that the fate of the coal industry, the place of coal in the American economy, and the jobs of American miners all relied on coal being a source of competitively-priced stability. Boyle's primary concern was that coal remain competitive with nuclear power, and he had crusaded against it from his first days in office. His efforts to castigate the atomic energy industry, the Atomic Energy Commission, and the politicians and labor leaders who supported the development of civilian nuclear power primarily focused on the threats that nuclear power posed to public safety and occupational health.

The high-profile mine explosion at the Consol No. 9 mine near Farmington, West Virginia cast in harsh relief the inadequacy of Boyle's fixation on nuclear power to address the problems of the mining workplace, which as King Coal roared back to life appeared to have less to do with

[27] Nye, *When the Lights Went Out*, 67-105.

a long-term crisis of demand than it did with the human cost of production. As such, reform-minded miners cast the real cause of the disasters not as methane gas—a natural part of the coal mine workscape which many felt could be adequately managed under the right conditions—but instead as a moral rot within the nation's new energy landscape. This insistence on the moral problem of coal production allowed them to easily connect the Consol No. 9 disaster with the other major occupational health crisis in the coalfields—black lung.

The UMW leadership prevaricated on both: appearing to side with the companies on the question of mine safety and insisting that black lung activists were more concerned with fighting Tony Boyle than they were with miners' lives. With the channels of coalfield power cut off to them, rank-and-file miners—along with doctors, politicians, journalists, and public advocates—increasingly voiced their disagreement through demonstrations, wildcat strikes, and the formation of new organizations, most notably the Black Lung Association (BLA), which led a three-week wildcat political strike that closed the West Virginia coalfields. Through it all, the leadership of the UMW worked to enforce a vision of energy politics that pitted coal in a fight for survival against the atom this energetic order, in the process subordinating miners' democratic rights to what Boyle perceived as their economic right to a job. This perceived tension between the "life" of the industry and the lives of miners was also reflected in the public sphere—sometimes, as by Herblock, satirically—and exposed a pitched debate over what the right to life meant in an high-energy economy.[28] (See Figure 2.2.)

If, as Boyle often considered, that the lives of coal miners depended in some measure on the economic vitality of the industry, this ability to partake collectively in industrial economic life entailed some measure of sacrifice, as evidenced in his testimony to the Senate Subcommittee on Labor in February 1969, in the midst of the biggest labor uprising in West Virginia since the 1930s.

[28] Herblock, "We've Got to Live, Don't We?" *Washington Post*, January 27, 1969. UMWPO Box 29, Folder 16.

Questioned by Senator Harrison Williams (D-NJ) about whether he "went in to protect" miners fighting not to work in unsafe mines, Boyle declined to affirm the Senator's statement, instead replying, "I put them back to work," implying that work was protection.[29] On the other hand, miners felt that the epidemic of black lung and the persistence of deadly workplace accidents in the only industry which could provide decent wages through most of Appalachia had deprived them of the freedom, in any meaningful sense, that was their right as US citizens. The *United Mine Workers Journal* declared in January 1968: "Old King Coal returns!"[30] but miners had no intention of working under the "feudal" system their fathers had in the years before unionization.[31]

Figure 2.2: Herblock, "We've Got to Live, Don't We?" *Washington Post*, January 27, 1969. UMWPO Box 29, Folder 16.

[29] W.A. Boyle, Testimony before the Senate Subcommittee on Labor, February 27, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 119.
[30] Cartoon Cover, "Old King Coal Returns!" *United Mine Workers Journal*, January 15, 1968.
[31] "The Cherokee Shaft: The Story of Mines and Men." ABC Broadcast, May 22, 1971, 8:30-9:30 PM EDT. John E. Johnson, dir. MFDR, Box 63, Folder 1.

The life or death stakes, and the perception that the meaning of democratic citizenship might be at stake in the outcome, forced a national reckoning with a system of energy relations that tied growing energy affluence among typical Americans to high death rates in the coalfields. Power ran along the lines of the grid, but the politics of electricity as well as being framed by technological development, exposed the moral problems of the postwar energy boom.[32] Moreover, the concern with which the nation and the United Mine Workers had addressed the occupational hazards of uranium mining at the moment many imagined an entirely nuclear future indicated to some that the nation might "bring the same concern to coal," as coal's importance to the American economy was "reasserted."[33] The explosion at Consol No. 9 forced the issue. The United States would be forced to reckon with the human costs of high-energy capitalism as unrest swept across the Appalachian coalfields.

The safety crisis in the coalfields came with life-or-death stakes from two directions. The first, black lung,[34] killed slowly; it made itself known to the victim by slowly taking away their breath, a death sentence as soon as the disease had progressed enough to be noticed. Moreover, black lung had been excluded from workers' compensation laws, meaning miners who contracted it and their surviving family had no legally defined right to compensation.[35] Mine disasters, on the other hand could strike without warning: a sudden buildup of methane, a slip next to a machine, a collapsing roof. Neither danger was new. Both had been known to coal miners for at least half a century.[36] But the landscapes of underground danger—the way that accidents happened and how

[32] Nye, *When the Lights Went Out*; Cohn, *The Grid*, and Gretchen Bakke, *The Grid: The Fraying Wires Between Americans and Our Energy Future* (New York: Bloomsbury, 2016).
[33] "Slow Death in the Mines," *Pittsburgh Post-Gazette*, February 19, 1968. Clipped and referred directly to Boyle by Budzanoski. UMWPO, Box 29, Folder 14.
[34] The medical term for this condition is coal workers pneumoconiosis (sometimes shortened as CWP). In the coalfields however, it is almost exclusively referred to as black lung. It is solely caused by the inhalation of coal dust. Alan Derickson, *Black Lung: The Anatomy of a Public Health Disaster* (Ithaca, NY: Cornell Univeristy Press, 1998).
[35] Testimony of W.A. Boyle to the Senate Subcommittee on Labor, February 27, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 117.
[36] For earlier histories of black lung, see Derickson, *Black Lung*; Arthur McIvor and Ronald Johnson, *Miner's Lung: A History of Dust Disease in British Coal Mining* (Burlington, VT: Ashgate, 2007); Alan Derickson, "Down Solid:

coal dust was produced in the process of mining, had been substantially reshaped by the process of mechanization. Safety legislation lagged behind industrial change, and old ways of "knowing" the mine and its dangers did not always provide safety in the automated mining landscape. Loud machines disrupted the aural traditions of work among miners, but also the aural ecologies of mining workscape—the sound of a safe versus dangerous roof might be masked by the sounds of other equipment, and feel of the roof had to be relearned by the roof bolters who now used new machines in their work.[37] The same machines produced greater and finer amounts of coal dust which might explode or which miners might breathe in, and automation allowed for new kinds of access to coal seams, changing the traditional patterns of mine construction.[38] The result, Ken Hechler noted, was that miners had "watch[ed] the grandeurs of science and technology bring a new life to millions of Americans, and gouge out more coal per minute…while [bringing] greater threats to the health and safety of the coal miner."[39]

Boyle's commitment to a system of coal production that appeared to have tacitly balanced national energy security with a certain number of deaths each year in the mines catalyzed a crisis of leadership within the United Mine Workers. Scholars and journalists have long pointed to Tony

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The Origins and Development of the Black Lung Insurgency," *Journal of Public Health Policy* 4 no. 1 (March 1983), 25-44; Barbara Smith, "Black Lung: The Social Production of a Disease," *International Journal of Health Services* 11 no. 3 (1981), 343-359; Barbara Smith, "Digging Our Own Graves: Coal Miners and the Struggle over Black Lung Disease," Ph.D. diss, Brandeis University, 1981. Accessed through US Department of Energy, Office of Scientific and Technical Information.

[37] Michael Guillerman describes the process of mechanized roof bolting at length in his memoir and recalls that although he feels he might have improved at the task over time, he was more than happy to be reassigned and never asked to work as roof bolter again because the job was so dangerous. Guillerman, 40-41. The concept of aural ecologies is adapted from the work or urban studies scholar Rowland Atkinson, who argues that "sonic ecology, a relatively persistent and chronologically ordered quality to sound in urban space…is made up of a shifting aural terrain, a resonant metropolitan fabric, which may exclude or subtly guide us in our experience of the city" (1905). This sonic ecology is "invisible yet highly affecting and socially relevant" (1905). I have shifted toward the use of "aural" rather than "sonic" ecology in this context because of the importance not of the sonic landscape in general, but of the critical importance of how miners' ability to perceive this sonic landscape with the advent of mechanization changes. Rowland Atkinson, "Ecology of Sound: The Sonic Order of Urban Space," *Urban Studies* 44 no. 10 (September 2007): 1905-1917. Also see R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester, VT: Destiny Books, 1994).

[38] Guillerman, 49-52.

[39] Ken Hechler, Statement before the House General Subcommittee on Labor, March 19, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 135.

Boyle's inability and unwillingness to confront the industry and government over safety issues in the mines following the Consol No. 9 explosion as the triggering event which spelled the "beginning of the end" for his regime, but have mostly framed this sequence of events as one ultimately rooted in corruption.[40] The focus on corruption powerfully captures Boyle's own megalomania, but tends to understate the ways in which Boyle's corruption overlaid with a particular vision of coal mining and coalfield unionism that increasingly diverged from the lived (and worked) reality of the nation's underground miners. Nothing better captured this growing divide than Boyle's unwavering attention to the dangers of nuclear power even as hundreds died in the mines, including in dramatic explosions like the one at the Consol No. 9 in November 1968. In emphasizing the corruption that framed Boyle's actions, we risk missing another important story about how Boyle, in challenging miners and the public to truly grapple with the dangers of atomic cornucopianism, had helped to reshape expectations around workplace safety in the mines.[41]

This chapter uses the Consol No. 9 disaster and the safety crisis it catalyzed to examine the moral economy of high-energy capitalism which lay behind it, and to then understand how this particular historical framework of moral claims based on particular relations of energy production and consumption further widened the political gap between Boyle's administration and the rank-and-file membership of the United Mine Workers. The underlying disparities of democracy in a high-energy system, the political externalities, illuminate high-energy capitalism in the postwar United States as a relatively fragile and contested system, subject to constant social renegotiation and moral reckonings—and one that had to change to survive and continue to grow.

This assertion challenges a basic assumption of most historical scholarship on energy, which links a model of endless growth with the rise of what Andreas Malm calls "fossil capital"—

[40] The landmark account of this crisis is Brit Hume, *Death in the Mines: Rebellion and Murder in the UMW* (New York: Grossman, 1971).
[41] On the genealogy of cornucopian ideology, see Fredrik Albritton Jonsson, "The Origins of Cornucopianism: A Preliminary Genealogy," *Critical Historical Studies* 1 no. 1 (Spring 2014): 151-168.

a system of energy inputs based on fossil fuels where the fossil fuels operate as an accessory in Marx's traditional conceptualization of the circuits of capital transformation.[42] While fossil fuels certainly enabled Wrigley's "path to sustained growth"[43] and capitalism relied on economic growth in order to maintain some level of stability, challenges like the moral challenges that accompanied deaths in the mines and the region-wide blackouts of the mid-1960s underscored that this seemingly "locked-in" system of exponentially increasing energy consumption required careful management and governance. For a system that relied so innately on a particular relationship between energy use and economic growth, and which was believed to be beyond questioning in the midst of the Cold War, it appeared after 1969 remarkably unstable, undermined not only by workplace activity or the limits of technological systems, but also by profound moral tension.

Danger, Darkness, Monstrosity

Boyle's claim to be fighting nuclear power in the name of public safety fit into a larger political discourse that linked labor and public safety in new ways. The labor threat to public safety was not the perceived public threat posed by labor skirmishes with the state, or even the Communist political threat in the context of the Cold War. Instead this threat relied on a new conceptualization of the relationship between labor and public safety as being mediated by the role that different kinds of work—especially in the public sector—filled in the nation's social life. By 1968, the growth of public sector unionism had forged a new perception industrial action's impact

[42] Malm, *Fossil Capital*, though a more succinct version of argument appears in "The Origins of Fossil Capital: From Water to Steam in the British Cotton Industry," *Historical Materialism* 21 no. 1 (January 2013), 15-68. Karl Marx, *Capital, Volume I* (New York: Penguin, 1992), 283-307.
[43] E.A. Wrigley, *The Path to Sustained Growth: England's Transition from an Organic Economy to an Industrial Revolution* (New York: Cambridge University Press, 2016). Also see E.A. Wrigley, *Energy and English Industrial Revolution* (New York: Cambridge University Press, 2010) and *Continuity, Chance, and Change: The Character of the Industrial Revolution in England* (New York: Cambridge University Press, 1990).

on "public safety." The editors of *LIFE* observed that, in the wake of a rash of public sector strikes, including postal and garbage workers, that the "public mood…with near unanimity…echo[es] the 48-year-old dictum of Calvin Coolidge—'There is no right to strike against the public safety by anybody, anywhere, any time.'" While the editorial unequivocally supported the right of public sector workers to unionize and bargain collectively—since "employees, public or private, have a right to a voice in the terms of their employment"—they argued that the unique vulnerability of the nation's urban centers to strikes demanded a transformation in the way that industrial relations were organized. "The threat to the union" posed by unruly strikes, they stated, "must be as great as the ransom which unions are in a position to demand of America's cities."[44]

Although the sentiment drew on an old well of anti-union arguments that painted unions and their members as threatening outsiders rather than members of the polity, the new sense of union's responsibility to alleviate the potential threats to urban centers through arbitration and agreeing to no-strike clauses also appeared profoundly shaped by the postwar growth of the welfare state and a belief in the powers of regulation to solve social problems.[45] The *LIFE* editors were particularly concerned about the threats posed by public sector strikes, but another "threat" to public safety loomed large: the threat of blackout. The great blackout of 1965 had demonstrated the vulnerability of urban social order which, concurrently with a wave of urban uprisings against racism and police brutality, suggested that darkness presented a real and present danger to the social fabric of the nation, and a threat against the basic rights of postwar citizenship.[46] The coal industry quickly held up its product as a simple and moral solution. (Figure 2.3.)

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[44] Editorial Board, "Strikes That Cannot Be Tolerated," *LIFE*, March 1, 1968, 4.
[45] Richard A. Harris and Sidney M. Milkis, *The Politics of Regulatory Change: A Tale of Two Agencies* (New York: Oxford University Press, 1996).
[46] For histories of race and the crisis of cities and suburbanization in the United States, see Thomas Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton, NJ: Princeton University Press, 2005); Kevin Kruse and Thomas Sugrue, eds., *The New Suburban History* (Chicago: University of Chicago Press, 2006); Janet L. Abu-Lughod, *Race, Space, and Riots in Chicago, New York, and Los Angeles* (New York: Oxford University Press, 2012); Peniel E. Joseph, *Waiting 'Til The Midnight Hour: A Narrative History of Black Power in America* (New

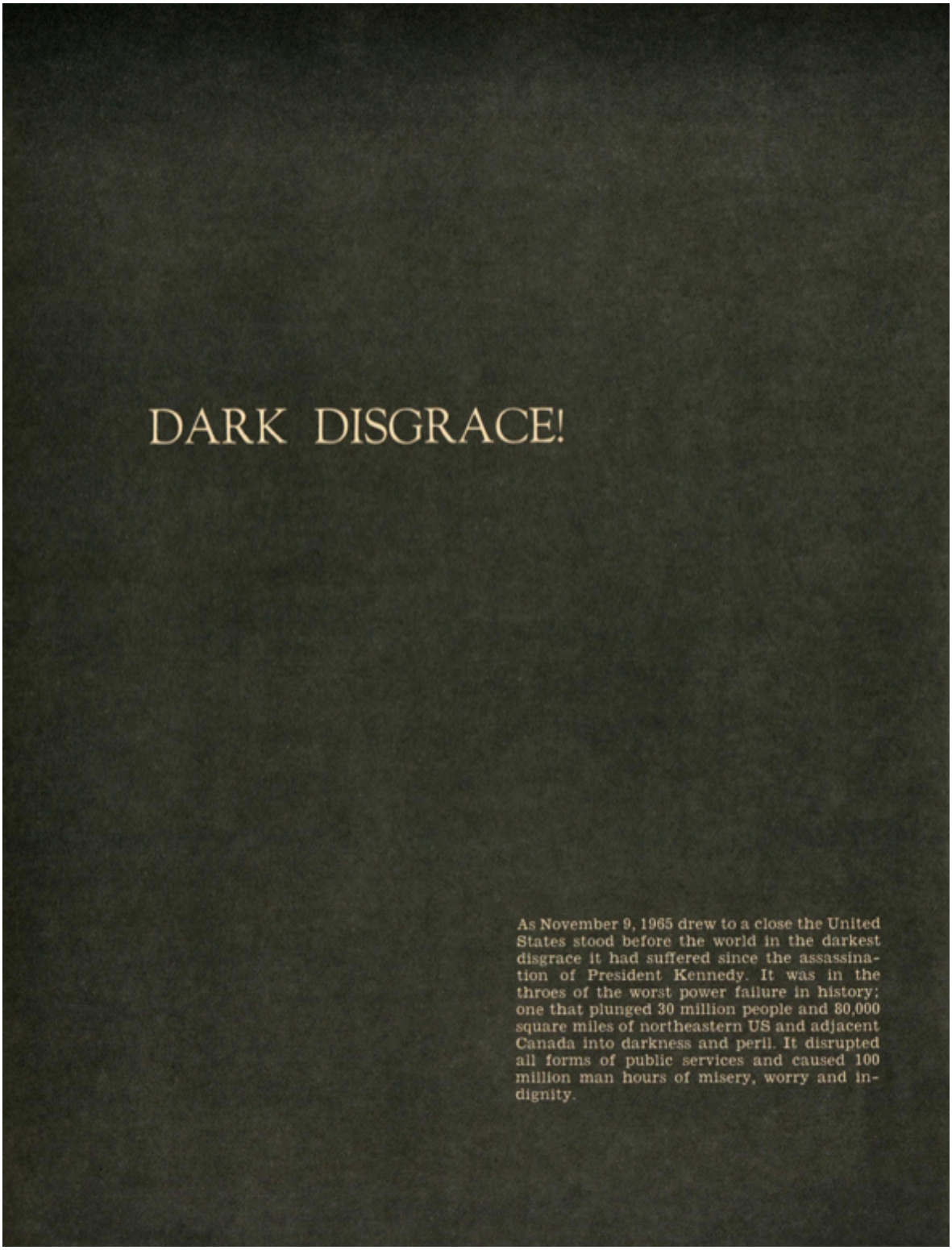

Figure 2.3: Dark Disgrace! *Coal,* January-February 1966. United Mine Workers Journal Records, Box 13, Folder 6.

York: Holt, 2007); Gerald R. Horne, *Fire This Time: The Watts Uprising and the 1960s* (Boston: De Capo Press, 1997); Robert E. Conot, *Rivers of Blood, Years of Darkness* (New York: Bantam, 1967).

The potential public risk of the blackout reflected a separate debate about whether energy represented a commodity or a service, and whether workers in various parts of the energy sector thus working in the production of a commodity or the provision of a service. Many in the American public believed that electricity represented a service, as necessary to modern American life as water or sewer services, even though nearly all electricity—particularly electricity generated by fossil fuels—was generated by the private sector.[47] But whether one ultimately felt that electricity was a service or a commodity, the paralyzing power of blackouts in the modern city was certainly real. Since the early twentieth century, perhaps no aspect of daily life in the United States had changed more profoundly than the use of energy, which had increased 642 percent between 1900 and 1968.[48] This growth in energy use came primarily from two sources: the expansion of electrification to include nearly all people in the United States and the mass consumption of the automobile.[49] Ironically, even as Americans began to rely on coal in new ways—as the primary source of electric power that illuminated cities and suburbs and ran appliances, energetically stabilizing the nation's increasingly fraught social relationships—this dependence was obscured by the very grid system that provided a new avenue for the growth of the coal industry, which as late as the 1950s, was thought to be in terminal decline. As one journalist put it, before 1968, "if any economist had predicted a rosy future for the coal industry, he might justifiably have been committed to an institution for the financially deranged." In a world where nuclear power was the

[47] Gretchen Bakke, *The Grid*.
[48] Energy Information Administration, "History of Energy Consumption in the United States, 1775-2009," *Annual Energy Review 2009*. Accessed online, May 14, 2018.
[49] Rome, *The Bulldozer in the Countryside*, especially 1-86; Christopher W. Wells*, Car Country: An Environmental History* (Seattle: University of Washington Press, 2012); Christopher F. Jones, *Routes of Power: Energy and Modern America* (Cambridge: Harvard University Press, 2016), 195-226; Huber, *Lifeblood*; David E. Nye, *Consuming Power*; Nye, *Electrifying America*; Nye, *When the Lights Went Out*; Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1985), especially 151-220; Wallace Scot McFarlane, "Oil on the Farm: The East Texas Oil Boom and the Origins of an Energy Economy," *Journal of Southern History* 83, no. 4 (November 2017), 853-888; Brian C. Black, "Oil for Living: Petroleum and American Conspicuous Consumption," *Journal of American History* 99 no. 1 (June 2012), 40-50.

"wave of the future…coal was doomed to be anachronism." But "suddenly…the coal industry ha[d] been reborn," as the lights in the nation's cities demanded ever more power.[50]

For all the ability of the blackout to bring a city to a halt, and for all the perils posed by elevators that ceased running or traffic lights that had gone out, the dangers of darkness were embellished by moral narratives of darkness that turned on racialized fears, anxiety over looming sexual improprieties, and deep-seated religious beliefs.[51] In the 1960s, a racist imagination of "mob"-darkened cities shaped fears of blackout. Raymond M. Momboisse, Deputy Attorney General of California and member of the Riot Advisory Committee to the President's Commission on Law Enforcement described a riot as an event of such "terror and horror" as to defy "a city torn, bleeding and in flames…a wild mob on the rampage," meant to call forth images of an unruly relationship between light and darkness rather than the ordered illumination of commerce and electric light. In an urban riot, "the law of the jungle prevails."[52] Further above and beyond the narrative of danger, the blackout was *offensive* to a population that had come to understand their rights as citizens in terms of energy consumption. Efforts like Johnson's "National Coal Week" in summer 1967 only amplified the moral stakes of coal production and consumption.[53]

Light and darkness had also come to be seen as a crucial aspect of industrial relations within a broader vision of a society always on the verge of a riot. Momboisse quickly applied his efforts to shape the policing of Black urban life to the industrial workplace. In his 1968 text on industrial

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[50] J.A. Engels, "Coal Industry Enjoys Rebirth," *Pittsburgh Press,* April 4, 1971. MFDR Records, Box 76, Folder 1.
[51] For a discussion of these relationship between illumination, race, sex, and fear, see Eric Van Hoose, "Native Sun: Lightness and Darkness in Native Son," *Black Scholar* 41 no. 2 (2011), 46.
[52] Raymond M. Momboisse, "Riot Prevention and Survival," *Chicago Kent-Law Review* 45 no. 2 (October 1968), 143-156. Although it appeared in a law review, this article might be better described as a field manual which continually swings between tactical advice and obsession with an imagined urban enemy. For more on Momboisse's influence in the conservative and deregulatory movement, see Ann Southworth, *Lawyers of the Right: Professionalizing the Conservative Coalition* (Chicago: University of Chicago Press, 2008); Jefferson Decker, *The Other Rights Revolution: Conservative Lawyers and the Remaking of American Government* (New York: Oxford University Press, 2014); Judith A. Layzer, *Open for Business: Conservative Opposition to Environmental Regulation* (Cambridge, MA: MIT Press, 2014).
[53] Lyndon B. Johnson, Proclamation 3789—National Coal Week, June 15, 1967. *APP*.

security, he suggested that lighting could be used for protection. "Protective lighting," Mombiosse wrote, provided a powerful "psychological deterrent," that was "inexpensive to maintain." The scale of protection could be adjusted by altering "the intensity or quantity of light and location of luminaires."[54] In a society still adjusting to the new centrality of electric illumination to ordering daily life, Momboisse spent pages detailing different types of lighting, how the different light sources could be powered, and their attendant vulnerabilities. Illumination lay at the heart of control—over insecurities, paranoia, structural vulnerabilities—much in the way that electric power had reshaped workplace management through other technologies.[55]

The concurrence of these moral and political narratives told a powerful story about the changing place of energy in American society, but in the coalfields, hours away from the nearest large city and largely out of the public eye except in discussions of poverty and social deviance, the narratives of light and darkness shifted, fundamentally reframed by the safety crisis which had the coalfields in its grip. In his assessment of illumination's potential to provide management advantage in industrial relations, Mombiosse had only considered how light could be used to help defeat a strike. What he hadn't considered was the opposite scenario: a strike that shut the lights off, likely because when blackouts had occurred during strikes before, at the end of World War II, they had been used as a measured negotiating tactic, usually by management to weaken the hand of the strikers. In other words, the lights were turned off rather suddenly "going out."[56]

The expansion of the grid gave new meanings to electric power and illumination and ushered in a "golden age" of the utility that remade the connections between energy producers,

[54] Raymond M. Momboisse, *Industrial Security for Strikes, Riots, and Disasters* (Springfield, IL: Charles C. Thomas, 1968), 97.
[55] *Ibid*, 98-111. Nye, *Electrifying America*, 185-237.
[56] Nye briefly discusses the blackout as a strike negotiation tool in the immediate postwar years, but does not consider the changes between these carefully planned blackouts and the threats to electricity supply that emerge in the 1960s amid urban uprisings, grid failures, and a general sense of national crisis. Nye, *When the Lights Went Out*, 61-66.

electric utilities, and consumer-citizens.[57] After all, utilities proclaimed that the place of electricity was established, with "no substitute on the horizon" because it was "the cleanest form of energy and is safe to use anywhere."[58] This vision of the future was entirely based on an assumption that the utility sector did and would continue to primarily burned coal. This dependence strong enough that even localized outbreaks of wildcat strikes during the negotiation of the 1968 national BCOA-UMWA contract threatened the ability of large companies like Island Creek Coal to "fulfill...commitments to our customers," who relied on their coal to generate electric power.[59] While scholars have long focused on the impact the growth of this technology had on social, political, and economic life, less attention has been paid to the moral economy of the electric society.[60]

In the coalfields, the moral contours of light and darkness twisted around the mine portals and tied the illumination of the nation's cities to the hundreds of deaths in the mines and the growing numbers of miners disabled and prematurely killed by black lung. This moral narrative pushed back against the prevailing moral narrative of high-energy capitalism, which focused on a general rise in living standards for the population of the United States to the exclusion of the

[57] Cohn, *The Grid*, 121-150. Also see Nye, *When the Lights Went Out*, 67-103. Richard Hirsh, however, notes that this very golden age also contributed to the development of technological stasis and ultimately industrial decline in the utility sector by the 1970s. Hirsh, *Technology and Transformation in the American Electric Utility Industry*; Richard A. Hirsh, *Power Loss: The Origins of Deregulation and Restructuring in the American Electric Utility System* (Cambridge, MA: MIT Press, 1999).

[58] A.F. Tegen, President of the General Public Utilities Corporation, "The Coal Producer and the Electric Power Industry," 38. Presented at the joint annual meeting of the Central Pennsylvania Coal Producers Association and the Eastern Bituminous Coal Association, Bedford Springs, PA, October 2, 1958. UMWPO Box 10, Folder 2.

[59] Telegram, Samuel Eameron to W.A. Boyle, October 5, 1968. UMWPO, Box 31, Folder 12. Also see R.L. Piercy to George J. Titler, September 30, 1968. UMWPO Box 21, Folder 12. These telegrams are noticeable because they stand out from the standard telegrams the BCOA operators used in the cases of wildcat strikes. Dozens of other telegrams demonstrate identical language clearly modeled off a BCOA template. The divergence of these telegrams suggests the intrusion of other concerns.

[60] Cohn, *The Grid*; Gretchen Bakke, *The Grid: The Fraying Wires between Americans and Our Energy Future* (New York: Bloomsbury, 2016); Nye, *When the Lights Went Out* and *Electrifying America*; Thomas P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: Johns Hopkins University Press, 1993); Peter Navarro, *The Dimming of America: The Real Costs of Electric Utility Regulatory Failure* (Cambridge, MA: Ballinger Publishing Company, 1985);

nation's sacrifice zones—those landscapes and communities placed on the altar of cheap energy.[61] High-energy capitalism in the United States was, as described by commentators at the time, a system of economic growth premised on industrial and domestic energy consumption that increased at roughly the same rate at GDP, [62] and which was predicated on the existence of such externalities. But rapid changes in the nation's energy regime to accommodate such growth had also thrown the moral economy of US energy production out of balance. The fierce battle over the shaping of a moral economy for the postwar world of high-energy capitalism explains why the safety struggles of the nation's coal miners so powerfully gripped public attention and illuminates the deep sense of unease that permeated a society of abundant and cheap energy in the years leading up to the energy crisis of the long 1970s. It also had a deeper lineage.

In many ways, the moral fixation of light and darkness represented a retooling of older imageries of capitalist monstrosity, images which McNally argues often present as "body panics" in a "society in which individual survival requires selling our life-energies to people on the market."[63] The darkness allowed these images of monstrosity to return to political conflict where they had mostly been banished to the place of literature, film, and rumors. For the average American, the coal mine, which miners worked to tie to the literal darkness of blackouts and a figurative moral darkness, might as well be a fictional landscape. Yet however removed the coal mines were from the typical American experience, the stories of miners like Michael Guillerman

[61] The concept of sacrifice zones has been widely applied in environmental studies and contemporary writing on ecological economics. While Parenti does not use the specific term of "sacrifice zones," the theme persistently arises in *Tropic of Chaos*. Christian Parenti, *Tropic of Chaos: Climate Change and the New Geography of Violence* (New York: Bold Type, 2011). Also see Naomi Klein, *This Changes Everything: Capitalism Versus the Climate* (New York, Simon & Schuster, 2014), 165-177; Steve Lerner, *Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States* (Cambridge, MA: MIT Press, 2012). Also see Jason Moore's concept of "cheaps" and primitive accumulation in *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (New York: Verso, 2015).
[62] Richard B. Mancke, *The Failure of US Energy Policy* (New York: Columbia University Press, 1974), 7-13.
[63] David McNally, *Monsters of the Market: Zombies, Vampires, and Global Capitalism* (Chicago: Haymarket Books, 2011), 3-4. The persistence of monstrosity is also examined by Luise White, *Speaking with Vampires: Rumor and History in Colonial Africa* (Berkeley: University of California Press, 2000), 9, and Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (Cambridge, MA: MIT Press, 2014).

recounting how they "could envision every sort of monster lurking in the darkness, ready to pounce,"[64] or Mr. Murray, who described working underground as "like beating the devil at a game of hell,"[65] fit into a narrative form which McNally describes as the "monster-tale" which would have been widely socially recognizable in the mid-twentieth century US to a population who eagerly consumed films like *Frankenstein* (1931)*, The Day of the Triffids* (1961), or even *The Slime People* (1963) who came "up from the bowels of the earth."[66] The power of these monster tales, McNally writes, emerges from the way they "disturb the naturalization of capitalism—both of its social relations and the sense of property, propriety, and personhood that accompany it—by insisting that something strange, indeed life-threatening, is at work in our world."[67] In this way, monster tales are not only expressions of current anxieties in a narrative form that ties them to historical anxieties, but they also serve as warning of "what may happen."[68]

But of course, there was one key difference between miners' experiences underground and the monster stories that had pervaded American culture since industrialization of course was that the miners' stories weren't fantasy, they were "fantastically real."[69] Drawing on the spatial disparities that had come to define "coal-by-wire" electrification—consumption concentrated in the cities and production tucked away in the Appalachian hillsides—the growing centrality of electrification to the American standard of life cast the artificial illumination of urban centers and suburbs as simultaneously natural and modern, while the coalfields and mining workplace

[64] Guillerman, 155.
[65] M. W. Minarcin, "Man Who Has Been There Tells about Being Trapped in Mine." *Independent* (Ashland, WV), July 24, 1972.
[66] McNally, 5. James Whale, dir., *Frankenstein* (Universal City, CA: Universal Pictures, 1957); Robert Hutton, dir., *The Slime People* (N.p.: Rhino Theatrical, 2001); Steve Sekely and Freddie Francis, directors, *The Day of the Triffids* (Los Angeles: Allied Artists, 2003).
[67] McNally, 5.
[68] *Ibid*, 9.
[69] McNally uses this phrase in a more abstract way—to refer to the apparent invisibility of market forces appearing fantastic while having real effects, that when viewed critically exposed absurdities and cruelties of a society that otherwise appeared natural. However, in the case of coal mining, another reading of this phrase presents itself that relies on the spatial disparities between the illuminated cities. McNally, 7.

represented the grotesque and fantastic. The entrance of black lung and mine disasters into the public sphere jarred the seemingly natural appearance that tied energy to affluence. Yet even as it sought to cast one world as a the new high-energy normal and another as a grotesque fantasy, the fact that the two worlds were bound together by coal-generated electricity shattered the binary between light and darkness and injected the tension with moral uncertainty over the culpability of ordinary people for coal miners' deaths. As McNally describes then, "the arena of monstrosity [becomes] a site of contestation."[70]

Yet for the language of monstrosity to become useful in the context of the coalfield safety crisis, McNally's examination must be expanded, not only because in this case monstrosity moved from the realm of cultural production into energy production, but because this particular form of high-energy monstrosity does not neatly follow his analysis of the appearance of monsters being fundamentally shaped by the abstraction of labor as a commodity sold off from the worker in pieces.[71] In the case of the coalfield safety crisis, the seeming ubiquity of this first abstraction of labor is then undermined by the scars of that abstraction, borne by miners but forcefully injected, through workplace organizing and political strikes, into the public sphere, outside "the hidden spaces in which bodies are injured and maimed by capital."[72]

The safety debate forced maimed bodies and the dark, dangerous labyrinths of the mines into public view. Yet the way that these images and narratives were marshalled in the public sphere was markedly different than in earlier periods of industrial coal production. Amidst the industrial revolution, images of disabled workers were meant to signify "proof of the evils of industrialism."[73] The bodies and the landscapes of energy production, usually afterthoughts in the

[70] McNally, 10.
[71] For an overview of this point, see McNally, 14.
[72] McNally, 4.
[73] Daniel Blackie and David M. Turner, *Disability in the Industrial Revolution: Physical Impairment in British Coal Mining, 1780-1880* (Manchester, UK: Manchester University Press, 2018), 2.

public mind, halted a world of abstractions that sought to hurtle the nation into a future of limitless energy, insisting on the importance on the place of darkness and the narrative afterlives of death.[74] It suggested a dark underbelly to modernity in which all were complicit, rather the image of a small bourgeoisie enjoying luxury while the masses toiled. Assessing the responsibility for the Consol No. 9 disaster, journalist Sander Vanocur observed that while "administrations for years of both parties…the coal operators, the state legislators…and the United Mine Workers union," were all at fault for the disaster, Americans could not ignore the extent to which "the rest of us are responsible," happy to allow the miners to labor out of sight.[75] The proportions in this case were reversed: electrification had allowed the costs of coal production to be foisted onto a tiny and geographically isolated minority while the majority of Americans drew a net benefit from it, even if access to electrification was still marked by the inequalities of race, class, and region. The entire system was premised, Vanocur noted, on the public's ability to forget the disasters.[76] This systematized forgetting cast Boyle's comments about the "invisible death" caused by radiation in a new light—one that pitted biological invisibility against social invisibility.[77]

Behind the fear of the blackout among most Americans lay an underlying expectation about where darkness belonged and where it did not, what invisibilities could be tolerated and those which could not be—much like *LIFE* suggested such a moral framework of "public safety" to adjudicate which strikes could be tolerated.[78] The costs of energy production, particularly in human terms, were quite high, but amidst a political situation inching ever closer to the brink of chaos and disorder, the continuance of illumination remained an essential component of American political

[74] Cline first suggested that the way miners narrated ghost stories—the "afterlives of their comrades"—had something powerful to tell us about the coal miner's ambivalent relationship with their own work. Cline, "Buried Bodies, Buried Treasure."
[75] NBC Television Broadcast, "The Condition of the Coal Miner," August 4, 1970. UMWPO Box 29, Folder 18.
[76] *Ibid*.
[77] "Invisible Death: Is It Worth It?" *United Mine Workers Journal*, January 15, 1968.
[78] Editorial Board, "Strikes That Cannot Be Tolerated," *LIFE*, March 1, 1968, 4.

power, ordering space, making time for economic growth, curbing the threats of rebellion, particularly from marginalized Black residents.[79]

Figure 2.4: Image from the 1969 black lung strike, Charleston, West Virginia, undated though circa February 1969. West Virginia State Archives, Black Lung Time Capsule.

These conceptions of darkness mapped onto majority-held religious beliefs about heaven and hell. If the nation's urban centers were meant to be a heaven-like high-energy utopia, a cornucopia replete with limitless energy, hell existed on the periphery, in the nation's coal mines. Miners striking for black lung benefits suggested as much when they drew signs that depicted a coughing devil saying "Don't send me any more miners! They're contaminating me with black lung."[80] (Figure 2.4) The imagery of hell, employed in such instances to provoke a deeper moral concern about the human costs of energy production, could also however, sometimes accurately reflect the experience of being underground, as it did for 99 miners who entered the Consol No. 9 mine near Farmington, West Virginia, on November 20, 1968.

[79] For more on the relationship between coal power and time, see Malm, *Fossil Capital.* Malm is more interested in the way that steam power allowed the compression of time in comparison to the use of unreliable water wheels, but his point that coal's role in the ordering of industrial time played a central part in the consolidation of capitalists power in the workplace has clear parallels to the way that coal's ordering of particular illumination patterns helped set the conditions for the consolidation of political power in a period of substantial unrest, whether from urban uprisings or in creating a new standard of public safety with which to curb labor activity. On industrial time, see E.P. Thompson, "Time, Work-Discipline, and Industrial Capitalism," *Past and Present* 38 (December 1967), 56-97.

[80] Photo from the black lung strike, undated (circa February 1969). West Virginia State Archives, Black Lung Time Capsule. Accessed online: https://www.theclio.com/web/entry?id=22876.

Close Down a Mine? Or Close Down a Man?

After the Consol No. 9 explosion, Tony Boyle said that "as long as we mine coal," there lay within the coal landscape, and all the attendant technological, political, and economic systems which grew from it, an "inherent danger of explosion."[81] And soon after, another explosion followed. But it was not the kind that Boyle had imagined hanging latent in the air. Instead, what exploded was a revived movement for coal mine health and safety that noted the context for miners' deaths had changed. Uniting disabled and working miners together in the same movement, the safety movement organized what one Black Lung Association leader described as "a violence boiling" beneath the surface of Appalachia, with coalfield politics uneasily stalled at a crossroads between the past and the future of their work.[82] "We are not the 1920s coal miner," said Josh Descaro, a member of UMW Local 1248, "We are not the man that goes in and drives a mule for his dust or his gas or no matter what…We are want to live! We want to live and have families and have a regular life just like anyone else that isn't a miner. We want to…consider our job as safe as a man that is a lawyer, or a doctor."[83]

But of course, a coal mine was much more dangerous than a law firm; indeed, it was by far the most dangerous industrial workplace in the United States whether injuries were measured by frequency or severity. The two next most dangerous industries—non-coal mining and meatpacking, well known for amputating injuries—registered accident severity rates at less than half of the coal industry, and the coal mines had accidents at nearly five times the national average.[84] The barriers to safety could be traced backward from the unwillingness or inability of

[81] "Coal Mine Safety: 9 Comments," from "The Hurricane Creek Massacre," January 26, 1971. MFDR, Box 46, Folder 15.
[82] The miner is described as a "union leader" in the transcript but is actually an unnamed representative of the Black Lung Association. NBC Television Broadcast, "The Condition of the Coal Miner," August 4, 1970. UMWPO, Box 29, Folder 18.
[83] Josh Descaro, interviewed in "The Cherokee Shaft: The Story of Mines and Men." ABC Broadcast, May 22, 1971, 8:30-9:30 PM EDT. John E. Johnson, dir. MFDR, Box 63, Folder 1.
[84] "Injury Rates in 1968," National Holmes Safety Council, 1969. UMWPO Box 11, Folder 24.

mine inspectors to enforce safety laws that were already on the books. In 1967, eighty percent of the nation's underground coal mines had operated in violation of the already existing Federal safety standards.[85]

Federal mine safety legislation first appeared on the eve of US entry in to World War II in 1941. A second Federal law providing mechanisms for enforcement of the 1941 act passed in 1952, and the law was expanded to cover all mines regardless of size in 1966.[86] But none of these represented a meaningful attempt to grapple legislatively or in regulatory terms with the mechanization of coal mining and its impact on health and safety among coal miners. The safety problems caused by mechanization had come to the attention of the DOI as early as 1963, prompted by two mine explosions killed fifty-nine miners within six months, President Kennedy wrote to Secretary Udall that "I consider such loss of life unacceptable" in the light of technological changes in the mining sector.[87] Udall convened a conference on the mine safety question in response, insisting that while the coal industry of the past may not have put human life first, that would have to change: "safety comes first. This has to take precedence over the rate of production or any other matters of importance."[88] Yet in many ways, this focus on disasters inadequately reflected how miners thought about mine safety. After the explosion at No. 9, the "safety movement" ultimately focused on what the *New Republic* described as "mining as a way of death"—less a story of individual deaths and disasters, and more focused on the structures and relationships that resulted in such devaluing of miners' lives.[89]

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[85] Lyndon B. Johnson to President of the Senate and Speaker of the House, Letter proposing the Federal Coal Mine Health and Safety Act of 1968. September 11, 1968. *APP.*
[86] W.A. Boyle to Stuart Udall, March 29, 1968. UMWPO Box 29, Folder 14.
[87] Udall quoted this letter in his opening statement to the subsequent conference. Proceedings, Federal-State Coal Mine Safety Conference, May 20, 1963. UMWPO Box 196, Folder 19.
[88] *Ibid.*
[89] Robert Coles and Harry Huge, "Black Lung: Mining as a Way of Death," *New Republic*, January 25, 1969. UMWPO Box 29, Folder 16.

Although mine disasters and black lung appeared from the outside to be completely different "ways of death," the fact that the two crises occurred together, tying together the interests of disabled miners with those still working underground, represented the way miners' understanding of the crisis was not about the type of disablement or disaster, but rather about a relationship between work and death that could be traced through across different arcs of time—the (shortened) lifetime of a miner who might narrowly escape death one day to over the next ten years contract the black lung which would ultimately kill him, the generations of miners through whose stories other miners came to interpret their own, the deep time they cut at each day in the coal seam, even a futurist timeline that looked forward to the ultimate moment of death, a death that seemed inevitably tied to coal.

Figure 2.5: "Well Balanced," *United Mine Workers Journal*, January 15, 1967.

The relationship between the growing demand for electricity, coal production, and miners' bodies appeared differently depending on one's vantage point: a cartoon that appeared in the *United Mine Workers Journal* (Figure 2.5) declared "Well Balanced" a miner walking on a tightrope with a full load of coal—one to represent "high production" the other to represent "low

cost." Balance, it would appear however, came at dangerous price, for alternatively one might look at the cartoon and see a miner teetering on a shaking high-wire—the movement clearly depicted by the lines drawn around his shoulders and the wire both in front of and behind him—to deliver coal to the cityscape below. He moves forward well balanced, perhaps, but precarious and his bodily well-being completely at the whim of prices and production quotas. He almost appears to be *chasing* the idea of coal by wire, the potential savior of the coal industry in the eyes of Boyle and his administration.[90]

West Virginia Congressman Ken Hechler saw things differently. The Consol No. 9 disaster, he later recalled, "galvanized me into action and really changed my entire life."[91] Although he had been warned not to "go blaming anybody or looking for scapegoats,"[92] by J. Cordell Moore, Assistant Secretary of the Interior, the acceptance by the DOI, industry men, and union leadership of the futility of working to end mine disasters enraged him. So when the widows of the men entombed in the mine confronted him to "do something about all this coal dust which coal miners breathe and gives them black lung, as well as contributes to explosions,"[93] he set out on a legislative fight that would consume most of his remaining eight years in Congress: a struggle to pass legislation that would finally protect what he described at the miner's "divine right to live, to breathe."[94] If the United States was to make claims on modernity and civilization, Hechler claimed, it had to address the "criminal" conditions in the nation's coal mines, and the responsibility he felt clearly fell to the "nation" as a whole which must "rise up and demand that strong and effective mine-safety legislation be passed by Congress."[95] He told Secretary Udall that

[90] "Well Balanced," *United Mine Workers Journal*, January 15, 1967.
[91] Hechler, *The Fight for Coal Mine Health and Safety: A Documented History*, 74.
[92] Ken Hechler's recollections on his arrival at the site of the Farmington disaster, reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 74-75.
[93] *Ibid.*
[94] Ken Hechler, Statement to a Meeting of Coal Miners at the Charleston, West Virginia Civic Center, January 26, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 93-96.
[95] Statement of Ken Hechler to Press, Press Gallery of the House of Representatives, November 25, 1968. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 77.

"We must move beyond being mere determinists…we can fuel the world's lamps without snuffing out lives in the process."[96]

The miners who were organizing for black lung action and compensation across the coalfields, however, felt unable to wait for legislation to reckon with the moral problems of energy production. Arnold Miller, then the leader of the newly formed Black Lung Association and himself on the verge of total disability, used the opening that had been provided by the Consol No. 9 disaster to push forward ongoing organizing for black lung compensation, supported by community welfare organizers.[97] Following a "marathon" six-hour hearing, members of the Black Lung Association threatened to close down fields if the law was not passed. Hundreds carried placards reading "No Law, No Work"—a slogan meant to echo the UMW maxim "no contract, no work."[98] On February 18, 1969, 282 miners from the East Gulf Mine in southern West Virginia walked off the job.[99] A week later, 12,000 miners, mostly in the state's southern counties where some of the richest bituminous coal in the world was mine, were on strike and two thousand of them marched on the state capitol in Charleston. Hechler was initially hesitant to support the strike, believing that working through the legislative process offered the miners the best chance of success. But after meeting with the miners in Charleston, he ultimately donated $1,000 of his own money to the Black Lung Association and threw his full support behind the strike.[100] As the strike gathered momentum, it spread into the northern sections of the state, and to neighboring states

[96] Statement of Ken Hechler at Secretary Udall's Conference, December 12, 1968. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 87.
[97] Ben A. Franklin, "Angry UMW Insurgent Arnold Ray Miller," *New York Times*, May 30, 1972; for a summary of the impact of community organizers who had come to the region amid the War on Poverty's VISTA program, see Derickson, *Black Lung*, 143-161. While the context of a broader welfare rights movement was critical to the success of early black lung organizing, it was a private industrial welfare system which had driven the grievances of disabled miners, leading Derickson to concluded that the success of welfare organizing in West Virginia came first in demanding private rather than public benefits.
[98] Ben A. Franklin, "West Virginia Miners Demand Black Lung Compensation Law," *New York Times*, February 12, 1969. *PQHN*.
[99] WV State Archives, Black Lung Time Capsule. Accessed online: https://www.theclio.com/web/entry?id=22876.
[100] Carter Taylor Seaton, *The Rebel in the Red Jeep: Ken Hechler's Life in West Virginia Politics* (Morgantown: West Virginia University Press, 2017), 217-219.

including Pennsylvania and Kentucky.[101] Soon, 40,000 miners had together idled every coal mine in the West Virginia and Federal Judge John Field said he had "no authority to order striking coal miners back to work."[102]

Tony Boyle was finally forced to respond to the crisis. He worked with his administration to draft proposed legislation which miners immediately rejected as too weak. His proposals for dealing with the problem revealed much about his approach to coalfield politics—to cling fast to a vision of the past and desperately try to adapt it for the atomic age. Boyle had clearly failed to grasp the new impact which a widespread strike might have in a high-energy economy so reliant on coal. His explanation for why he opposed calling a strike on the issue of black lung? Because he didn't believe that Congress would pass legislation "because I have shut down every coal mine in the United States and have a *little blackout here and there*."[103]

Moreover, Boyle's proposals suggested a desire to undo the changes of mechanization. As he debated legislative proposals with his research department, they noted that his approach "would have the effect of prohibiting the use of continuous miners," effectively attempting to put undo the mechanization which the UMW had supported only fifteen years earlier.[104] Members of his own administration pushed back against this proposal, arguing that continuous miners were involved in 50 percent of underground production in 1968, and represented a vital part of the industry's market competitiveness. In the nuclear age, the coal industry never stood alone, but instead among an increasingly tight-knit and uneven energy landscape. Ironically then, Boyle's attempt to undo mechanization—the very automation process which had put two-thirds of the nation's miners out

[101] Reuters, "12,000 Coal Miners Join Wildcat Strike," *New York Times*, February 26, 1969. *PQHN*.
[102] UPI, "Federal Court Says It Lacks Power to Halt Mine Strike," *New York Times*, March 2, 1969. *PQHN.*
[103] W.A. Boyle, Testimony before the Senate Subcommittee on Labor, February 27, 1969. Reproduced in *The Fight for Coal Mine Health and Safety: A Documented History*, 119-120, emphasis added.
[104] Memorandum, Lewis E. Evans and Robert E. Howe (UMW Research Department) to W.A. Boyle, January 2, 1969. UMWPO, Box 29, Folder 16. On UMW collaboration with automation, see Thomas, *Appalachian Reawakening*, 22-23.

of work—could mean "the jobs of [UMW] members would be placed in very serious jeopardy."[105] The tone of the debate among Boyle and his administration suggested more concern for black lung legislation's impact on coal's competitiveness than for the miners dying of black lung after a lifetime of work in the industry. Brennan, the head of the UMW Research Department, suggested that Boyle go to great lengths to assuage the fears of the "coal industry and the mining equipment manufacturers."[106] They seem to have agreed with a company doctor who reportedly told one miner to "not mention" his black lung because "you'll die faster from not eating than from coal dust in your lungs."[107]

Boyle and his administration seemed to recognize how such efforts were likely to appear to the majority of rank-and-file miners, and they went to great lengths in attempt to avoid the seemingly inevitable perception that by organizing meetings with industry leaders they were "fraternizing with the enemy."[108] Another key goal of their efforts was to discredit miners' advocates like Rep. Ken Hechler and Ralph Nader, who the Boyle administration characterized as "instant experts," more interested in removing Boyle from power than in solving the black lung crisis.[109] The strategy revolved around a special convening of "district officers and very selective rank and file representatives carefully chosen by the International leadership."[110] At this special conference, a delegate from the floor would propose a resolution securing Boyle's approach of

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[105] Memorandum, John Brennan to W.A. Boyle, January 3, 1969. UMWPO, Box 29, Folder 16.
[106] *Ibid*.
[107] Miner's testimony at a December 11, 1968 Department of the Interior conference, quoted in Robert Coles and Harry Huge, "Black Lung: Mining as a Way of Death," *New Republic*, January 25, 1969. UMWPO Box 29, Folder 16.
[108] Memorandum, John Brennan to W.A. Boyle, January 31, 1969. UMWPO, Box 29, Folder 16. Brennan would later go on to serve as President of the Bituminous Coal Operators Association, demonstrating the quality of relationship between Boyle's administration and the leadership of the coal industry.
[109] Boyle's administration and the *UMW Journal* made many, regular attacks on Hechler and Nader in this period, including to the Senate Subcommittee on Labor. W.A. Boyle, Remarks before the Senate Subcommittee on Labor, February 27, 1969. Reproduced in Hechler, *The Fight for Coal Mine Health and Safety*, 117-125. In early 1968, after Nader published an op-ed in the *New Republic* highlighting the black lung crisis, Brennan suggested to Boyle that they should refrain from publicly attacking Nader, instead trying to convince him that "he was most unfair in attacking us," in private meetings. Unsigned Note, February 2, 1968, and Memorandum, W.A. Boyle to Joseph P. Brennan, February 28, 1968. UMWPO, Box 29, Folder 14.
[110] Memorandum, John Brennan to W.A. Boyle, January 31, 1969. UMWPO, Box 29, Folder 16.

collaboration with operators and machinery manufacturers and creating a select committee which would work to redirect black lung activism in the districts.[111] As a last-minute attempt to grab hold of the increasingly restless situation in the coalfields, this effort would prove to be in vain. However, it reflected Boyle's inability to see the black lung crisis as anything but an indictment of his leadership, bargaining, and policy approaches—even as he had himself encouraged miners to think about the dangers of energy production in broader political terms during his anti-nuclear crusade.

The black lung crisis initiated the development of the Black Lung Association and led to a three-week political strike which closed the West Virginia coalfields, shaking the stalemate that had characterized the political battles over pending health and safety legislation. By February 25, public opinion on the strike had shifted dramatically from the beginning of February, from earlier calls for "sober thought and study," to address the problem of black lung to the *New York Times* assessment that "action on mine health and safety cannot wait…It is time for the miners to stop losing. Their record of defeat is written in blood."[112] On March 12, West Virginia Governor Arch Moore finally signed a landmark black lung bill that contained enough provisions for compensation to be accepted by the striking miners, and the dramatic three-week strike finally drew to a close, with tens of thousands of miners returning to work the next day.[113]

As a result of the strike, which had drawn strength from the changing place of coal in US society. West Virginia miners, who worked in the nation's richest coalfields, were now covered by a law that broadened the definition of occupational lung disease, ended "the long tyranny of radiology" by allowing clinical and physiological diagnosis, and met the miners halfway on the question of presumption of disease. While the Black Lung Association had demanded presumption

[111] Memorandum, John Brennan to W.A. Boyle, January 31, 1969. UMWPO, Box 29, Folder 16.
[112] *New York Times* editorial board, "Coal Miners' Revolt," *New York Times*, February 25, 1969. *PQHN*.
[113] AP, "'Black Lung' Bill Is Signed by West Virginia Governor," *New York Times*, March 12, 1969. *PQHN.*

of black lung after five years underground, the West Virginia state law presumed disease progression in miners who had worked at least ten of the previous fifteen years in dust-exposure jobs.[114]

Most keen observers could clearly see that the issue of mine safety was far from resolved however. According to Alan Derickson, "confused irresolution was the order of the day," as different elements of the law appeared to contradict each other.[115] The matter was unlikely to be settled in any meaningful sense until Federal mine legislation had passed. The power of the black lung strike, however, had derived from the fact that the "Black Lungers"—as the national media described them—had "a claim on the conscience of a nation in which coal remains a vital fuel."[116] In a moment of exponentially increasing energy consumption, that moral claim appeared unlikely to dissipate anytime soon.

Moral Economy and High Energy Capitalism

The coalfield safety crisis was notable for the role it played in catalyzing the efforts to reform the United Mine Workers and bring it under rank-and-file control, as well as for the role it played in expanding the role of federal regulation in the realm of public and occupational health and the transformative influence it had on patterns of compensation.[117] Another notable scholarly focus has been the Black Lung Association, which integrated disabled workers back into labor organizing in a way that would ultimately become a model for other organizations which organized disabled workers on issues of occupational health—notably the Brown Lung Association which

[114] Derickson, *Black Lung*, 161-163.
[115] *Ibid*, 162.
[116] *New York Times* editorial board, "The Black Lungers," *New York Times,* February 3, 1969. *PQHN*.
[117] Robert E. Botsch, *Organizing the Breathless: Cotton Dust, Southern Politics, and the Brown Lung Association* (Lexington: University Press of Kentucky, 1993).

emerged in the southern textile industry.[118] What has gone relatively unexamined is the way that the safety crisis reshaped and clarified the moral contours of the American energy regime.

E.P. Thompson used the concept of moral economy to expand our understanding of collective action beyond economic stimuli to include the moral contexts which shaped regular people's expectations of social behavior and which fulfill a "more complex, culturally-mediated function which cannot be reduced…back to stimulus."[119] While Thompson's use of the term was quite temporally specific and rooted in the tension between traditional forms of social governance and the advent of the market economy, the broader scholarly use of the term since Thompson's landmark essay speaks to the more general meaning the phrase has evoked since its emergence in the eighteenth century.[120] Historians of coalfield societies have adapted the moral economy framework to understand how mining communities have navigated problems like deindustrialization, showing how traditional expectations for labor practices influenced traditional measures of supply and demand.[121] Other scholars have focused attention on the ethics of energy consumption as a site for application of moral economy.[122] Yet despite this widespread usage near the edges of the safety crisis, the moral economy that miners leveraged in defense of their lives turned Thompson's notion of moral economy on its head: here, modern citizenship, with its particular vision of welfare, workplace rights, and emphasis on collective action, lent power to miners' moral claims, rather than a set of "traditional" social bonds.

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[118] Botsch, *Organizing the Breathless,* especially 59; Bennett M. Judkins, *We Offer Ourselves as Evidence: Toward Workers' Control of Occupational Health* (New York: Praeger, 1986). Botsch notes that the Brown Lung Association, despite the similarities in goals and even some shared organizing staff, ultimately looked much different in character than the BLA because of the much lower union density in textile mills.

[119] E.P. Thompson, "The Moral Economy of the English Crowd in the Eighteenth Century," *Past and Present* 50 (February 1971), 77-78.

[120] Norbert Götz, "Moral Economy: Its Conceptual History and Analytical Prospects," *Journal of Global Ethics* 11 no. 2 (2015), 163-64.

[121] Ewan Gibbs, "The Moral Economy of the Scottish Coalfields: Managing Deindustrialization under Nationalization, c. 1947-1983," *Enterprise and Society* 19 no. 1 (March 2018), 124-152. Also see Rebecca Gill and Daryl Leeworthy, "Moral Minefields: Save the Children Fund and the Moral Economies of Nursery Schooling in the South Wales Coalfield in the 1930s," *Journal of Global Ethics* 11 no. 2 (2015): 218-232.

[122] Robert Watt, "The Moral Economy of Carbon Offsetting: Ethics, Power, and the Search for Legitimacy in a New Market." Ph.D. Diss. University of Manchester, 2017.

The moral economy of high-energy capitalism in the postwar period grew from the energy workplace and the shifting relationship between danger, technology, and death. Inexorably connected to this relationship were the patterns of use connected to energy production, also in flux as the fuels mix shifted coal away from railroads and steel production and toward electrification. A central component of these relationships, discussed everywhere from the halls of Washington to the local union hall, was that electrification for the many appeared to require sacrifice by the few. The fact that this "sacrificial" cost was widely accepted as the cost of American modernity remains striking, though not exceptional.[123] The exceptional aspect of this moment was the historically contingent energy relationship on which these moral claims rested—electric power, increasingly generated by coal. This connection was not only metaphorical, or simply noted by commentators, but became a crucial aspect of industrial relations.

The Pennsylvania Bituminous Council of the Holmes Safety Association (HSA), an organization that represented the safety arm of the tripartite state-management-labor alliance but was heavily skewed toward state and management, was keenly aware that "an individual's productivity depends to a great degree upon the safe environment in which he works," and that as a result, management had a great interest in the effort to "eliminate unnecessary human suffering."[124] Of course, such a phrase suggested that there was a necessary amount of human suffering, and other documents from the association sought to measure it. Each month the newsletter documented the fatality and injury rates per ton of coal produced.[125]

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[123] This framework of sacrifice was used in the national media. See the transcript of "The Cherokee Shaft: The Story of Mines and Men," ABC Broadcast, May 22, 1971. 8:30-9:30 PM EDT. MFD Archives, Reuther Library, Box 63 Folder 1. The human cost of production had been a central theme of reformers throughout industrialization. See, for example, Louise W. Knight, *Citizen: Jane Addams and the Struggle for Democracy* (Chicago: University of Chicago Press, 2005). Also see Amiya Kumar Bagchi, *Perilous Passage: Mankind and the Global Ascendancy of Capital* (Lanham, MD: Rowman and Littlefield, 2005).

[124] "Management's Safety Views," Pennsylvania Bituminous Council Holmes Safety Association Newsletter, December, 1967. UMWPO, Box 11, Folder 23.

[125] Pennsylvania Bituminous Council, Holmes Safety Association, Safety Competition Reports, 1963-1967. UMWPO Box 11, Folders 22-23.

Despite the overarching attempt to portray safety as non-political, and absent of moral charge, the debates and contention over safety cut to the heart of some of the deepest problems of postwar democracy—individual responsibility versus collective action, the culpability of consumption, the ecological and energetic viability of the "American century" and the American standard of living that was to accompany it.[126] Morality and obligation forced themselves into the conversation: who was responsible for safe workplaces? Who was at fault for deaths? The commentary which accompanied the monthly safety "competition" numbers framed safety as a personal responsibility, though it couched this responsibility in terms miners would likely have regarded as Biblical rather than the neoliberal vision of personal responsibility that would ascend in coming decades. "No safety rule has ever been written," the Pennsylvania Bituminous Council of the HSA wrote in one newsletter, "and no management policy ever made that is as good as the Golden Rule. If this could be the keynote, accidents would be as obsolete as the bubonic plague."[127] The base of industrial safety, they concluded, was that "Each man…has a moral responsibility to make certain that his actions or lack of action does not [sic] expose his fellow man to possible injury."[128] Another cartoon depicted a "good" and a "bad" miner in side-by-side panels, culminating in a final panel (Figure 6) showing a miner crushed by a roof fall, screaming for help while the caption below read "I DID get hurt because I didn't do what I should. I put safety last."[129] Notably, the use of the first person in the panels, primarily used to get the reader to identify with the figures, in the case of the "bad" or unsafe miner, also reads as a confessional, and decontextualizes safety decisions from production demands, management pressures, or other

[126] Henry R. Luce, "The American Century," *Life Magazine*, February 17, 1941.
[127] Pennsylvania Bituminous Council HSA, "Am I My Brother's Keeper?" August 1967. UMWPO Box 11, Folder 23.
[128] *Ibid.*
[129] Pennsylvania Bituminous Council, Holmes Safety Association, "How About You?" January 1967. UMWPO Box 11, Folder 23.

factors that might lead a miner to "cut corners" on safety. Another newsletter noted that "There is only one safety post between me, the roof, and the undertaker, and that is the one I have to set."[130]

These safety interventions attempted not only to shift the blame for industrial accidents from management, or from the inherent danger of industrial processes involving explosive materials, onto individual workers, they also understated the extent to which safety underground was collective, for explosions barreled through tunnels, killing anyone in their path. Policies like "Safety, whether at work or on the highways, is in a large measure the responsibility of the individual,"[131] ignored the actual structure of work underground and appeared to deepen rifts between the state-management-union alliance which supported the safety competitions and the workers who were actually dying by the hundreds on the job.

Figure 2.6: Pennsylvania Bituminous Council, Holmes Safety Association, "How About You?" January 1967. UMWPO Box 11, Folder 23.

The impact of miners' organizing and workplace activity to confront the safety crisis was to inject a different vision of collective safety into the political debate, one which was so powerful

[130] Pennsylvania Bituminous Council, Holmes Safety Association, "Thought for the Day," January 1968. UMWPO Box 11, Folder 24.
[131] Pennsylvania Bituminous Council, Holmes Safety Association, "Comments," May 1968. UMWPO Box 11, Folder 24.

that it reshaped the social understanding of black lung as a disease. But this vision of collective safety also pushed back against management's narrative that safety was an individual responsibility by instead suggesting that mine deaths and injuries were instead a reflection of an imbalance of power relationship that dominated the coalfields and the American energy regime.

Accounting the Dead

The sense of moral unease generated by the nation's deadly regime of energy production required some form of accounting. If modern energy production would continue to result in some level of workplace injury and death, its defenders would have to explain why a certain number of deaths could be tolerated while a higher number could not be. Such thinking was evidenced in a March 1968 letter to Department of the Interior Secretary Stuart Udall, Boyle wrote that the "217 men who were killed in coal mines in 1967 is too high a price to pay for the production of coal. On the other hand…it is a far smaller price, for instance, than the 1,388 men who died in coal mine accidents in 1940, the year before the passage of the original Federal Coal Mine Safety Act."[132] Like many legislators, regulators, and industry men, Boyle appeared to pursue an acceptable number of dead coal miners at which the personal cost of their lives would equal the benefits remunerated to the nation in terms of electricity.

The fulcrum for these tensions over shifting energy relationships was workplace death—rapid deaths on the job or slow deaths from black lung—and so as the nation contended with an electricity supply perceived as suddenly destabilized, each interpretation of workplace death spoke to a broader perspective on the problems of energy production in the United States, ascribing structural meaning to individual stories that might otherwise have been explained in a particular

[132] W.A. Boyle to Secretary Udall, March 29, 1968. UMWPO Box 29, Folder 14.

location and context—the weakness of a particular roof in a mine with a lot of slate, one company's shooting practices.

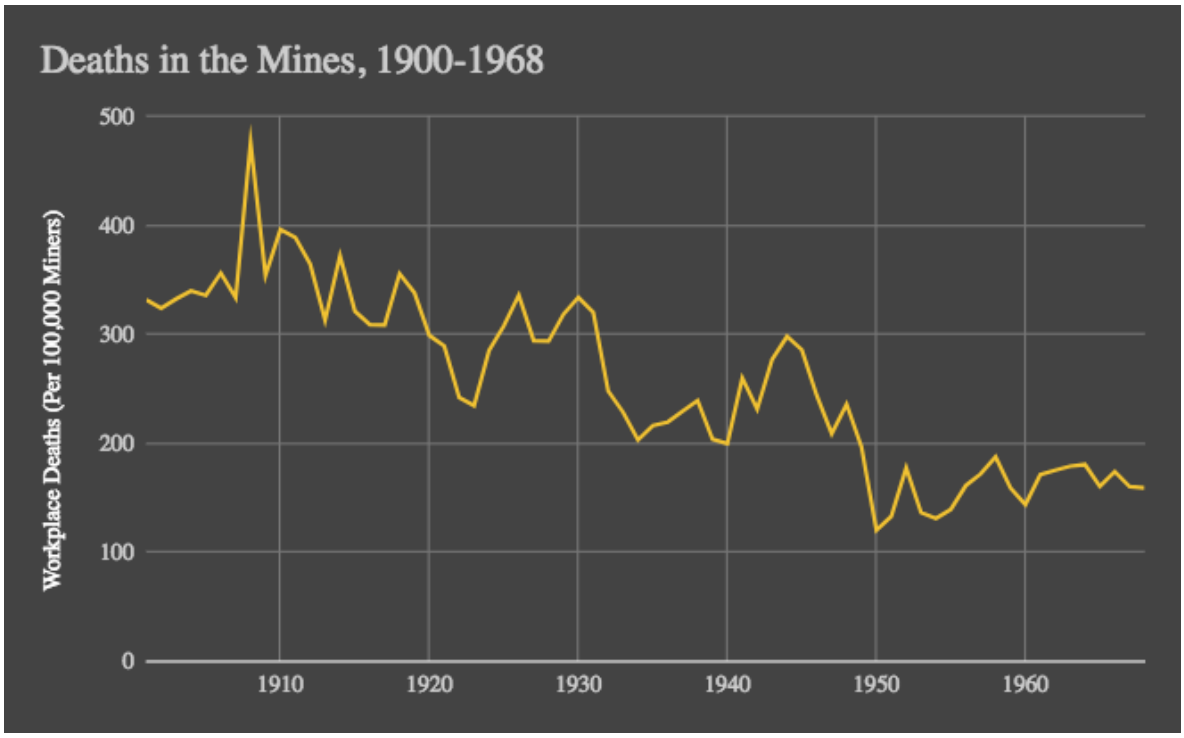

Chart 2.1: Deaths in the Mines, 1900-1968, expressed as deaths per 100,000 miners. Source: Mine Safety and Health Administration, "Coal Fatalities, 1900-2017." Accessed online: https://arlweb.msha.gov/stats/centurystats/coalstats.asp. The outlier year in this chart, 1907, represents the Monongah, WV disaster, which occurred in the same rich coal seam as the Consol No. 9 explosion, less than twenty miles from the Llewelyn Portal, and killed at least 362 miners—as well as children and other relatives the miners had taken to assist them on the job. Davitt McAteer, *Monongah: The Tragic Story of the 1907 Monongah Mine Disaster* (Morgantown: West Virginia University Press, 2014).

The death narratives conveyed by relatives speak to a perception of the structural relationship between coal miners and the industry. Following nearly every coal disaster, when loved ones begin to recount the last fateful hours of the dead, a familiar pattern begins to emerge. Before leaving for work, the dead prevaricate on the doorstep. They appear to sense the danger, and after a period of grappling, resign themselves to the unease, leave for work, and never return home again.[133] The near ubiquity with which this narrative emerges can be read in different ways. To the extent they reflect accurately the events of a particular day, these narratives appear to

[133] See for example the accounts of miners' wives portrayed in Barbara Kopple, *Harlan County, USA* (New York: Criterion, 2006) and Bonnie E. Stewart, *No. 9*. Similar accounts would emerge after later disasters, including the Hyden disaster discussed in Chapter 4.

suggest foresight, within a mining community they also suggested the utter pervasiveness of mortal danger, that on any given shift, such predictions might come true. But it is equally likely that these stories also reflect more an engagement with a social narrative as they do the actual progression of events, because the narratives remain so similar and so ubiquitous across this period.[134]

Yet while grappling with this constant presence of death and its impact on the safety movement, certain curiosities in the data require explanation. For while mining certainly had remained a deadly occupation, by all accounts and measures, the death rate in American coal mines had declined substantially since the earlier part of the century. (Chart 2.1) Indeed, with the advent of mechanization following World War II, the annual rate of coal mining fatalities on the job per 100,000 miners had fallen below 200 and remained there for the first time.[135]

Yet it was also true that the years following Boyle's assumption of the UMW presidency that the death and non-fatal injuries rates had appeared to marginally climb, including a fourteen percent jump in fatal accidents in 1965, and the Consol No. 9 disaster in 1968 pushed the numbers higher yet again.[136] While both fatal and non-fatal accident rates had dropped more than forty percent since the 1930s, amid the confluence of a union leadership that seemed to care little for miners' safety, the automation of the mining workplace which had resulted in a substantially reduced mining workforce, and the talk of a new role for coal as a source of national stability in a society increasingly dependent on electric power, even these small increases—increases that were powerfully countered by a long-term trend—portended a future of death built on a specific moral relationship between death and illumination.

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[134] For a broader survey on the interaction of death and the dead with culture, politics, and society, see Thomas W. Laqueur, *The Work of the Dead: A Cultural History of Mortal Remains* (Princeton, NJ: Princeton University Press, 2015) and Robert Pogue Harrison, *The Dominion of the Dead* (Chicago: University of Chicago Press, 2005).
[135] Mine Safety and Health Administration, "Coal Fatalities, 1900-2017." Accessed online.
[136] Between 1932 and 1964, the fatal accident rate fell from 1.77 per million-man-hours exposure to 0.94 per million-man-hours exposure (a 47 percent drop) and the non-fatal accident rate fell from 72.58 to 43.31 (a 40 percent drop). Annual Report, Division of Coal-Mine Inspection, Bureau of Mines, Department of the Interior, January 1967. Reproduced by the Holmes Safety Association. UMWPO Box 11, Folder 23.

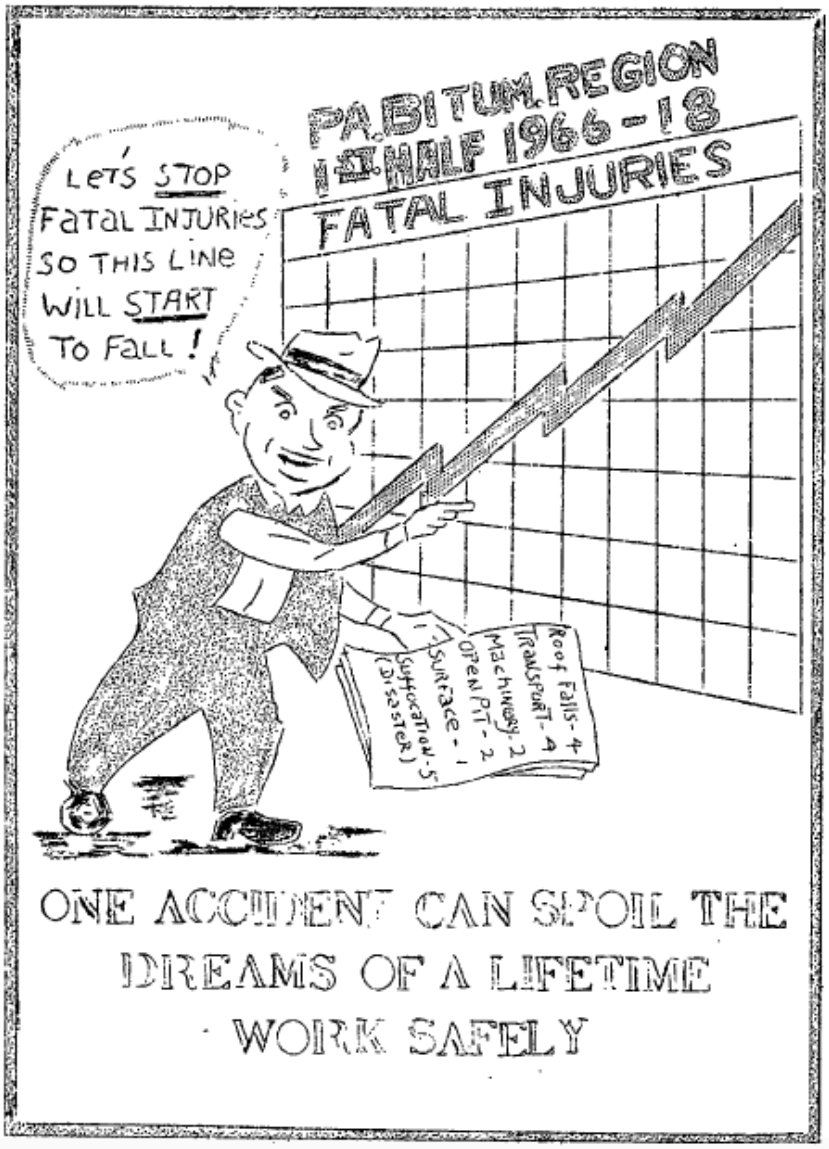

Figure 2.7: Pennsylvania Bituminous Council, "Work Safely!" July 1966. Compare the line depicted on the chart to the trend line in Table 2. Also note that the artist underlined "start," suggesting that even beyond the six months the cartoon is meant to depict the fatal accident rate had continued to rise rather than being in relatively steady decline for decades. UMWPO, Box 11, Folder 23.

The focus on these smaller increases in the context of a larger, longer-term downward trend was amplified by safety campaign literature that portrayed accident and death rates as rising rapidly, or which used small data sets—like month-to-month comparisons—to suggest that fatal

accident rates had increased as much as 161 percent between 1967 and 1968.[137] While the Safety Council regular underscored the word "ALARMING!" throughout its newsletters, the Department of the Interior praised the industry for having its safest year on record.[138] (Figure 2.7) The safety crisis, then, cannot be adequately explained by numbers. Instead it grew from a confluence of factors, including increased understanding of black lung's causes and pathology, a perception of indifference from officials and particularly union leadership, and, perhaps most powerfully of all, a new moral framework through which these accidents could be understood.

And yet, if these deaths were considered as human costs, the demands for safety of necessity raised the question of compensation. Miners efforts to make visible the human costs of energy production can be read as part of a broader movement to reckon with the unaccounted costs of industrial life in the mid-twentieth century. As wildcat safety strikes spread across the coalfields and new chapters of the Black Lung Association were organized, together working to secure a new Federal Coal Mine Health and Safety Act which would include compensation for black lung victims and their families, Karl William Kapp, one of the early ecological economists, wrote a new introduction to his book *The Social Costs of Private Enterprise*. In 1950, Kapp's text rearticulated the concept of *externalities*—the unaccounted costs of enterprise "borne by third persons or future generations."[139] Twenty-one years after the publication of the first edition of book, Kapp grappled with what he believed was a strange reversal: that concern for a narrow vision of ecological protection on the basis of capitalist externalities had outstripped concern for the:

> direct human costs of production and economic growth which find their expression in death and disabling injuries from industrial accidents and occupational diseases, as well as technological unemployment, poverty, and physical and mental burdens caused by rapid structural changes and uncontrolled economic growth.[140]

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[137] Pennsylvania Bituminous Council, Holmes Safety Association, Safety Competition Report for January 1968. UMWPO Box 11, Folder 24.
[138] Bureau of Mines, Department of the Interior, Press Release, "Coal Mining Fatalities Lowest Ever in 1967," January 26, 1968. UMWPO, Box 13, Folder 5.
[139] Karl William Kapp, *The Social Costs of Private Enterprise* (New York, 1971), vii.
[140] *Ibid*, x.

Kapp appeared to hope that the new edition of the text would prompt a turn toward what would later be called social ecology, which could account not only for securing the future of the environment, but also repairing the damage already done—ecological and social. "Even if we succeeded in purifying the air and water" in the narrow ecological sense, he wrote, "we would still not have come to terms with the important social costs that arise from the impairment of the human factor."[141] The implications of grappling with both the environmental and human costs of production, Kapp suggested, "may well turn out to be as far-reaching as some of the problems raised by nineteenth-century social reformers …who concentrated their attention on exploitation, poverty, and economic instability."[142] The external costs of energy production were of particular concern for Kapp, who recognized "their great importance for modern production," the incredible loss of life for which this sector accounted in the US economy, and the fact that the energy sources that supplied the American economy were non-renewable, and even the recovery of known reserves was fraught with social, technological, and geological problems.[143]

These tensions suddenly found themselves the focus of the legislative process, and the moral balancing came down to the amount of coal dust permissible in a working mine and the number of dollars a miner who had contracted black lung might receive. While the length of time it ultimately took for the Act of 1969 to pass has typically been read as the impact of the coal industry in stalling negotiations, to solely focus on the industry lobbying understates the concern over delineating the moral culpability of the energy consuming public that characterized much of the year-long debate over the bill. For far more than previous efforts to regulate mine, the 1969 concretized the public interest of the health of American coal miners—but it also sought to set

[141] Kapp, x.
[142] *Ibid*, vii.
[143] *Ibid*, 106.

limits on culpability by focusing on the long-term potential costs of black lung health and compensation programs.[144]

It was an act of legislation that in addition to delegating the task of ongoing regulation to the Bureau of Mines, charged that mine safety was a matter of politics as wells as technocratic adjustment, and thus, how much dust was allowed in a mining workplace would be debated in the halls of Congress first, belying the moral questions which clouded the public interest in stabilizing the workplaces that produced the energy for the majority of the nation's electric power. How many miners could acceptably die each year providing the rest of the country with light? How many cases of black lung could be tolerated to keep utility prices down? What benefits did the public owe disabled miners and the widows of miners killed on the job? "Just what is a human being worth?" Ken Hechler asked the General Subcommittee on Labor as it debated one version of the bill. "I hope this committee and the Congress ponder that issue seriously. And if we go back and sharpen our pencils, I am convinced we will do it."[145] That such questions were even considered—as the extensive comments and policy recommendations submitted by the National Independent Coal Operators Association debating the recommended acceptable dust levels and methane testing procedures show[146]—appeared to demonstrate that some level of "sacrifice" was considered acceptable. The debate demonstrated how important illumination had become to American life and exposed the weaknesses of a social system which relied on artificial and costly illumination for stability while charging up the social, physical, and environmental costs on miners, their communities, and coalfield ecosystems. Miners quickly identified this conflation of illumination

[144] House of Representatives Congressional Record, December 23, 1969. Reproduced in *The Fight for Coal Mine Health and Safety*, 270.
[145] Ken Hechler, Statement before the Congressional General Subcommittee on Labor, March 19, 1969. Reproduced in *The Fight for Coal Mine Health and Safety*, 144.
[146] National Independent Coal Operators Association, "Recommendations Concerning Rules and Regulations Governing Coal Mine Health and Safety as Found in Title 30, Part 75 of the Federal Register, Vol. 35, No. 61, Published March 28, 1970," 5-10. MFDR, Box 44, Folder 11.

with miners' health and safety as a new point of leverage where Tony Boyle had failed to do so, and they insisted, through walkouts as well as political organizing, that such a profound moral arrangement could not be entered into without their consent. Collective health and safety were implemented through collective action.

As the bill continued to grow stale, and the anniversary of the Consol No. 9 disaster came and went, President Nixon still threatened to veto the bill over the sticking point of how much black lung victims should be compensated, how much they were owed. Ken Hechler warned if Nixon followed through on the threat "there would be a nationwide strike," and the real costs of failing to secure compensation and future protection through legislation would quickly become apparent.[147] Nixon ultimately signed the bill on December 30, "behind closed doors," with no photographers, no ceremony—"almost surreptitiously," Ken Hechler observed, a move which seemed to perfectly encapsulate the unease that required tempering the "basic fact" that "any human being is worth more than a ton of coal," with the knowledge that the nation did, in fact, need coal even if it was deadly.[148]

From Safety Crisis to Democratic Crisis

Even after the passage of the safety law, the strikes continued. Many miners felt the electric utilities and the coal companies were conspiring to force miners to work in unsafe mines *in spite* of the passage of the landmark 1969 Federal Coal Mine Health and Safety Act, which had acted as a new scale on which coal production and miners' lives might be balanced, much like a man walking a high wire.[149] Industry collaboration was indicated, they believed, because it was industry collaboration that had in part helped open up the vast new market for coal in electric power

[147] Hechler, *The Fight for Coal Mine Health and Safety*, 269.
[148] Ken Hechler, Press Release: Behind the Scenes on the Mine Safety Bill, January 5, 1970. Reproduced in *The Fight for Coal Mine Health and Safety*, 274-278.
[149] Unfair Labor Practice, filed by Mike Trbovich against five coal companies and the UMW, June 29, 1970. MFDR, Box 60, Folder 25.

generation. Miners at hundreds of mines across central Appalachia walked off the job "because of their good faith belief that working conditions in the mines were dangerous and detrimental to their health and safety."[150]

These safety strikes were rooted in the individual mine conditions. Nick DeVince, a safety committeeman who worked at the Maple Creek Mine in Western Pennsylvania, observed that management had responded to the safety committee complaints of "100 shop wagons in the mine that were badly in need of repair...electrical cable [was] lying in a pool of mud and water," with an insistence that the "defects were not that bad."[151] Appeals to the union for help in addressing the problem went unrecognized, just as an appeal for help addressing a "dangerous water situation," had been discouraged the summer before.[152] DeVince testified the president of UMW District 5 had ordered him to go back to work, and that Lloyd Engle, the lawyer for the district had declined to represent him in court. "He asked me who was going to represent me. I replied that if no one was going to represent me, I would represent myself," DeVince said.[153]

The moral economy supported by this shifting political and economic place of coal in American life allowed miners to leverage the safety strikes that followed the Consol No. 9 disaster in new ways as new forms of self-representation. The way that this power extended beyond the sheer economics of the coal industry, and challenged the postwar tripartite governance of the coalfields became clear as judges attempted to adjudicate demands for injunctions against the strikers. As the safety walkouts brought the nation to brink what the courts called a "national catastrophe," the court recognized an argument from the UMW that "an injunction…is going to be an exercise in futility" because the International and the UMW districts had already issued

[150] Unfair Labor Practice, filed by Mike Trbovich against five coal companies and the UMW, June 29, 1970. MFDR, Box 60, Folder 25.
[151] Nick DeVince, NLRB Affadavit, October 16, 1970. MFDR Box 60, Folder 26.
[152] *Ibid.*
[153] *Ibid.*

orders to return to work—orders which had gone unheeded. Still the judge implored representatives from both industry and union to consider the broader implications of the walkouts—directly referencing Black rebellion in the nation's cities, student protests, and industrial security at steel plants. Finally, he implored: "Can't you see what would happen to the United States if all the coal mines were to shut?"[154] The vision invoked a speech by Lyndon Johnson just three years earlier as he declared National Coal Week, which valorized the coal which kept the "furnace of freedom" from running cold.[155]

By the late 1960s, the meaning of freedom had begun to expand. Richard Nixon too had adopted the idea that the "freedoms" which all Americans had the right to enjoy included "clean air, clean water, open spaces." These things were natural rights, and he declared they "should once again be the birthright of every American."[156] It was a reiteration of Hechler's divine right to breathe, and it placed both occupational and environmental health demands with a wider framework of rights that suggested extended back to fundamental democratic claims of American politics, tying political claims to a moral universe centered around the right to life.[157] Moreover, it represented a new form of moral connection between people who primarily interacted with the American energy regime as producers and those who overwhelmingly interacted with it as consumers, opening new democratic possibilities which had intensified energetically, ecologically, and socially, along one form of connection—electricity. This intensification of possibility, however, could also come at the expense of older forms of energetic connections and political association.[158]

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[154] Courtroom Transcript, *Consolidated Coal v. UMWA, et.al*, 1970, 167. MFDR Box 59, 16.
[155] Lyndon B. Johnson, Proclamation 3789—National Coal Week, June 15, 1967. *APP.*
[156] Richard Nixon, State of the Union Address, January 22, 1970. *APP.*
[157] John Dewey, *Freedom and Culture* (New York: G.P. Putnam's Sons, 1939), 162.
[158] Energetic connections of the earlier period would have been the agricultural communities and water-powered systems which sustained organic economies, or before the widespread use of electric power, the infrastructure which moved coal and lamp oil from source to site of consumption. Both required different social and economic relationships than an electrified postwar United States. See Christopher Jones, *Routes of Power.*

Amid possibility lie vulnerabilities, and the externalities of these new connections also rendered the regime of energy use in the postwar United States more unstable than it appeared at first glance. The moral economy of high-energy capitalism demonstrated that externalities, beyond their role in ecological economics, exposed a democratic crisis that had begun to unfold across the Appalachian coalfields. The reign of coalfield Fordism and its most enthusiastic spokesperson, Tony Boyle, appeared unable to manage the fraught moral problems of modern coal production. So, while the safety crisis was indeed the "beginning of the end" for Boyle and his old regime, the story was not only one of cronyism and corruption, and it extended far beyond the coalfields into every city and suburb powered by coal-fired electricity. Moral culpability for the crisis existed along a broad spectrum.

But tellingly, although miners had forcefully inserted themselves into the national debate over the "real" cost of mining and powerfully demonstrated the ways that the cost of high-energy capitalism persistently pushed against the bounds of a market economy—even one subjected to the "comprehensive new regulations" that characterized Nixon's approach to environmental policy—the power of these moral claims still appears to have been limited by the fact the nation appeared to believe that the debts that had been incurred not necessarily to the coal miners that powered their cities, but instead to a natural landscape which miners acted on as *agents* of the urban and suburban populations. In the special "The Cherokee Shaft: The Story of Mines and Men," the crisis of workplace safety represented the site "where nature takes its revenge, where man pays for what he steals from the earth in life and blood"[159]—notably, returning to the singular use of "man" to stand in for the collective energy consumers rather than the collective workers who dug the coal from the mines. This approach extended beyond the mines to include environmental policy in general. "We still think of air as free," Nixon said in his 1970 State of the

[159] Transcript, "The Cherokee Shaft: The Story of Mines and Men." ABC Broadcast, May 22, 1971. 8:30-9:30 PM EDT. MFD Archives, Reuther Library, Box 63 Folder 1.

Union address, “But clean air is not free, and neither is clean water…Through our years of past carelessness we incurred a debt to nature, and now that debt is being called.”[160] Miners once again appeared to exist outside of the democratic system, even as they played a central role in powering it. The coalfields, far from settled by this moral rebalancing, would instead threaten rebellion.

[160] Richard Nixon, State of the Union Address, January 22, 1970. *APP*.

Chapter Three

A Vision of the Future
Jock Yablonski in an Age of Energy Transformation

At a moment when energy industry restructuring combined with skyrocketing national energy demand had suggested a new role for the coal miner in American society, a power struggle erupted within the United Mine Workers. Joseph A. "Jock" Yablonski declared that "the coal miners in this country are damn sick and tired of having a national president of [their] organization that's in bed with the coal operators!" Yablonski announced he would run against incumbent Tony Boyle in the 1969 election for the UMW top office, the first such contested election in forty years.[1] His statement drew its power not only from being an oft-repeated claim of dissidents within the UMW, but also from the industry-wide changes had changed what it meant to be "in bed with the coal operators." As industry restructuring forged anew the social relationships of coal production, and as the crises of mine safety and black lung continued to escalate across the coalfields, to be "in bed with the operators" meant to co-sign the death certificates of miners who had been killed in explosions or roof falls, or who had withered and died of black lung. Together, industry restructuring and the crises of occupational health and safety threw the *ancien régime* of coalfield Fordism, which had governed the coalfields since the early 1950s, into crisis.

Indeed, Yablonski's announcement came on the heels of an incredibly turbulent seven months in the Appalachian coalfields which began with the Farmington disaster, a methane explosion at the Consolidation Coal No. 9 mine that killed 78 in November 1968. In early 1969, West Virginia's miners struck for three weeks to secure benefits for those afflicted with black lung disease. Wildcat strikes, undertaken in defiance of Boyle's administration, continued to plague the industry throughout the summer as miners rallied to the call to defend safety on the picket line. In

[1] Jock Yablonski, quoted in *Harlan County, USA*, dir. Barbara Kopple, 1976.

1969, the year of Yablonski's campaign, more than 66,000 miners—which accounted for nearly half of the nation's mining workforce of 146,000—participated in a wildcat strike, disrupting 4.8 percent of working time. By contrast, in the twenty years prior to Yablonski's campaign, wildcat strikes had not disrupted more than 0.6 percent of working time in a given year.[2] Coal supplies plunged and struggled to recover, threatening electricity shortages in the nation's cities, which relied on Appalachian coal for power generation.[3] The future appeared uncertain.

Only seven months later, murder appeared punctuate the rebellion: gun thugs, hired on Tony Boyle's orders and paid from the union coffers, murdered Yablonski, his wife and their daughter in their Clarksville, Pennsylvania home on December 31, 1969.[4] Kenneth Yablonski, a himself a labor lawyer who had assisted Jock's campaign, discovered his parents' and sister's bodies on January 5. The murders shocked the nation. Twenty thousand West Virginia miners walked off the job in protest the next day. [5]

The protest strikes spread. Miners levied demands about how the killing should be handled in their local meetings. A group of 150 miners in Monogah, West Virginia—site of the nation's worst ever mine disaster in 1907—said they would "shut down America's coal mines" until Boyle

[2] US Department of Labor, News Release. Fact Sheet on Collective Bargaining in the Bituminous Coal Industry, 1950-1970. MFDR, Box 64 Folder 19. On the number of miners participating in wildcat strikes, also see Paul Nyden, "Rank and File Movements in the United Mine Workers of America, Early 1960s—Early 1980s," in *Rebel Rank and File: Labor Militancy and Revolt from Below in the 1970s* (New York: Verso, 2010), 179.
[3] Michael K. Drapkin, "Coal Strikes Seen Being Settled Soon; Impact Expected to Be Felt for Months," *New York Times*, March 4, 1969, *PQHN*, and "Coal Strike Hits 12 Mines; Impact Seen Within Days: Walkout Began Over Firing of Five UMW Officials by Continental Oil Unit Dispute Said to Be Spreading," *Wall Street Journal*, August 19, 1969, *PQHN*.
[4] Brit Hume, *Death and the Mines*, 245-259; Paul F. Clark, *The Miners' Fight for Democracy: Arnold Miller and the Reform of the United Mine Workers* (Ithaca, NY: ILR/Cornell, 1981), 26; An intimate recounting of the long process of the trials over the Yablonski murder comes from Arthur H. Lewis, *Murder by Contract: The People v. "Tough Tony" Boyle* (New York: MacMillan Press, 1975). For broader context for the understanding of corruption that pervaded criticism of the labor movement at this time, see David Witwer, *Corruption and Reform in the Teamsters Union* (Urbana: University of Illinois Press, 2003).
[5] Ben A. Franklin, "More Miners Protest Slayings; Utilities Coal Stockpiles Wane," *New York Times*, January 7, 1970, *PQHN*; "Murder of a Miner May Bring Reforms," *New York Times*, January 11, 1970, *PQHN*.

and his associates submitted to a lie detector test about their role in the killings.[6] By the end of 1969, many miners saw the strike not only as a tool for solving workplace grievances or negotiating contracts, but as their best—often only—tool for political action. The murders elicited a powerful response because Jock Yablonski, in their eyes, was a martyr, not only for the causes which had spurred months of rebellion, but for a demand that seemed to come into sharper focus each day: union democracy.

Industry executives panicked. Because of hundreds of large, sustained wildcat strikes that had taken place throughout 1969, coal stockpiles were low; a maximum of two months' worth of fuel was on hand to power the nation's electric utilities. The intrigues of miners' politics suddenly became less distant—and all the more so because the problem could not be alleviated with the typical forms of concessions which workers won by striking. The strikes were political; they could only be solved through democracy and accountability in the union, from the industry, and from the government—the tripartite institutions which had governed labor relations like an iron triangle.[7] Such a concession proved much harder to make than the pay increases which had for years kept relative peace in the coalfields.[8]

Since the news of his murder spread across the nation in the early days of 1970, Jock Yablonski has been immortalized in the annals of labor history as a courageous martyr; with his rough, tanned skin and grizzly voice, he certainly made a compelling figure.[9] Indeed, so

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[6] Franklin, "More Miners Protest Slayings; Utilities Coal Stockpiles Wane," *New York Times*, January 7, 1970, *PQHN*; "Murder of a Miner May Bring Reforms," *New York Times*, January 11, 1970, *PQHN*. On the Monongah Disaster, see McAteer, *Monongah.*

[7] Andrew S. McFarland, *Cooperative Pluralism: The National Coal Policy Experiment* (Lawrence: University Press of Kansas, 1993); McFarland, "Interest Groups and Theories of Power in America," *British Journal of Political Science* 17 no. 2 (1987), 129-147.

[8] While this tension between the promises of post-war unionism and the demand for union democracy was rendered acute in the UMW because of the importance of coal for electric utilities, they were also representative of building tensions within the labor movement which had been building in the years since the Treaty of Detroit cemented the place of bread-and-butter unionism in postwar industrial governance. See Lichtenstein, *The Most Dangerous Man in Detroit*.

[9] "Death of a Miner," *New York Times,* January 7, 1970, *PQHN*.

immortalized has his story been that it has gone relatively unexamined. On one side, Yablonski stands as a fiery figure who challenged a ruthlessly corrupt administration and paid, along with his wife and daughter, the ultimate price: a tragedy, well suited for the true-crime books and made-for-TV movies which in their own way sought to cement the murders in public memory.[10]

Miners and their allies, meanwhile, pointed to a longer narrative in which the murders represent a turning point rather than an end. Joe Corcoran, UMWA spokesperson in the mid-1980s, describes an "evolution from that tragic set of events to a union that is the most democratic in the United States, where the rank-and-file ratify their contracts and have access to power."[11] Both of these narratives—one which ends with the murder and the other which begins with it—leave unexamined key issues that made up the substance of the fated 1969 campaign, the regional unrest from which Yablonski drew support, and the campaign's place in a sweeping change in the American energy regime that characterized the middle of the twentieth century.

There is another crucial way to examine the Yablonski campaign and murders: as the moment when the varied aspects of energy regime change—debates over the dangers of atomic power, the commercial viability of different energy sources, the use and future of workplace democracy, and the externalities of energy production like mine disasters, environmental degradation, and occupational disease—became viewed as pieces of the same larger problem: a problem of democracy.

The struggle for union democracy, far from being a simple power struggle over which bureaucrat would lead the UMW into the 1970s, instead became a debate over the new role that the new market for coal in electric utilities had opened for the United Mine Workers in American society. Boyle's autocratic hold on the union was tied to his outdated vision of the industrial world

[10] Trevor Armbrister, *Act of Vengeance: The Yablonski Murders and their Solution* (New York: Saturday Review Press, 1975); Lewis, *Murder by Contract*; Joseph MacKenzie (dir.), *Act of Vengeance* (New York: HBO, 1986).
[11] Quoted in Bill Steigerwald, "HBO's 'Act of Vengeance': Movie Shortchanges UMW Reforms," *Los Angeles Times*, April 19, 1986, *PQHN*.

and American society, and miners increasingly perceived it as undemocratic not only because it dispensed with democratic procedure but because it violated a broader conception of democracy with which miners felt they might meet the challenges of the future. These challenges had life and death stakes and could not be neatly classified as a labor problem, or a political problem, or a social or environmental problem. Industry leaders and state officials found themselves similarly unable to solve the crisis, which had begun in the coalfields but soon had national impact. At the center stood Jock Yablonski, a man who just the year before seemed an unlikely candidate to challenge the old order of the coalfields, and the thousands of miners who rallied to support him. Together, they forged a new vision of what democracy meant for the United Mine Workers.

The Crisis of Coalfield Fordism

When Yablonski announced his candidacy on May 29, he declared a breaking point had been reached.[12] Most commonly interpreted as a personal breaking point, beyond which it was impossible for him to continue a thirty-five year association with a union leadership that had "bred neglect of miners' needs and aspirations," Yablonski's transformation was also indicative of a larger shift among miners that had been occurring slowly for nearly a decade, but had accelerated following the explosion at Consol No. 9 in November 1968. This shift, driven by the mechanization of coal mining and the new disasters and occupational diseases which accompanied it, exposed for miners the deep connections between industry leaders, government agencies, and their union officials. The well-oiled connections, which mirrored industrial relationships in other major industries like auto and steel, could no longer produce the same industrial peace which had

[12] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32. Yablonski's political trajectory was not unique in Appalachian politics in the 1960s. In *Reformers to Radicals*, Kiffmeyer demonstrated how the Appalachian Volunteers, an organization of young people who sought to fight the War on Poverty in the Appalachian region became swept up in a broader political moment, radicalizing politically as they responded to the Vietnam War and the Civil Rights movement, and ultimately alienating them from the New Deal coalition which had initially supported them. Thomas Kiffmeyer, *Reformers to Radicals: The Appalachian Volunteers and the War on Poverty* (Lexington: University Press of Kentucky, 2008).

made them tenable in the first place. Miners saw company profits skyrocket while employment numbers plummeted, foreshadowing the long stagnation of wages among rising productivity that would come to characterize the American economy in the coming years.[13] The miners' contract, which had secured gains like holiday pay on a miner's birthday, was out of step with the more pressing concerns of a growing segment of the rank-and-file, which extended far beyond wages or holiday time, encompassing the health and safety crisis sweeping across the coalfields.[14] Driven by the increased incidence of methane explosions and roof falls that had characterized mining employment since the advent of union-supported mechanization, miners were walking off the jobs by the tens of thousands, disrupting coal production at rates not seen since the early 1950s. Their anger increasingly focused not only on the operators, but on their government and union officials who they viewed as complicit in the deaths of hundreds.[15]

That Yablonski not only aligned himself with this rebellion, but himself came to be seen as an outsider to Boyle's administration speaks to the depth of his break with the vision of unionism that had structured almost his entire adult life, a unionism which he described as "subservient to the coal industry in Washington."[16] Yet larger context must structure our understanding of this break; it remains inexplicable when Yablonski is examined as an individual. By all accounts, before his insurgent candidacy, Jock Yablonski comfortably filled his part of the UMW machinery, though he always aspired to higher office. He had been part of the union's leadership for more than three decades: first as a committeeman, then a local president. By the age of twenty-four he

[13] David Harvey, *A Brief History of Neoliberalism* (New York: Oxford University Press, 2005), 25.
[14] Boyle's supporters bragged about this particular clause of the 1968 National Bituminous Coal Wage Agreement while campaigning against Yablonski, as captured in Kopple, *Harlan County, USA*.
[15] US Department of Labor, News Release. Fact Sheet on Collective Bargaining in the Bituminous Coal Industry, 1950-1970. MFDR, Box 64 Folder 19. The black lung movement, which confronted the crisis of occupational health in the coal mines which had been exacerbated by mechanization, and the broader safety crisis are addressed in the chapter two.
[16] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32.

sat on the District 5 executive board and in subsequent years, his loyalty to John L. Lewis earned him a seat on the International Executive Board and the presidency of District 5. Despite an ill-advised run for the union's vice-presidency in 1966 without Boyle's support, a move which resulted in him being fired from his position as the District 5 president, Yablonski had served faithfully the Lewis, Kennedy, and Boyle administrations. Despite his 1966 misstep, as late as 1968, he was still part of Boyle's inner circle, and selected to open the UMW Constitutional Convention.[17]

Although certainly a man whose loyalty was driven by personal ambition, this ambition alone cannot explain his ultimate decision to challenge Boyle for the presidency or the breadth of the issues Yablonski raised as he campaigned across the coalfields. Indeed, Yablonski's personal transformation must be contextualized by the larger convulsion which his campaign represented inside the UMW, the coal industry, and atomic age democratic politics—all of which formed key components of the American energy regime. Yablonski's ill-fated campaign—on its own a thrilling story of personal loyalties, deadly betrayals, and stunning cover-ups—helps us to understand the larger changes in high-energy capitalism which fueled his campaign in the first place. Yablonski's campaign created meaningful connections among coalfield activists which would persist long after Boyle declared victory in a fraudulent election riddled with violence and intimidation. Moreover, it solidified the connections not only between people but between issues. Yablonski's campaign was a key point of convergence for several key challenges to Boyle's administration and the Fordist energy regime it propped up—mine safety, atomic power,

[17] Richard J. Jensen, "Yablonski, Joseph A. 'Jock'," in *Encyclopedia of US Labor and Working-Class History, Volume I*, Eric Arnesen, ed. (New York: Routledge, 2006) 1555; *Proceedings of the Forty-Fifth Consecutive Constitutional Convention of the United Mine Workers of America,* Vol. 1. (Washington, DC: United Mine Workers of America, 1968).

environmental degradation from strip mining, and the linked problems of democratic unionism and energy politics.[18]

To cast Boyle as the old regime and Yablonski as a potential new regime was not to speak of labor dynasties, but to define the *ancien régime* of Cold War energy, against a new potential regime—although in 1969 that potential represented more an amorphous imagining rather than a concrete program on the part of miners or a fully consolidated new labor regime on the part of industry. And although Boyle's regime was old, it could hardly be called anti-modern. Indeed, as previous chapters have shown, Boyle's vision of the future fit precisely into a postwar vision of American capitalist modernity: a world of high-tech machines, coal-powered luxury, and labor-management collaboration that fostered increases in both productivity and take-home pay. Boyle saw himself as Fordist waging war against the atomic age.

These two visions of modernity—Fordist industry and atomic power—despite the best attempts to build them side by side, proved increasingly incompatible. On a national scale, the promises of the postwar period collapsed almost all at once: the returns of Fordism could no longer provide the take-home gains they once had, the atom disappointed expectations deadline after deadline, and the promise of democratic government was plagued by the Vietnam crisis and racial tensions across the country.[19] Blackouts contributed to the sense of instability. The blackout of November of 1965 left much of the northeastern United States without power and cast doubts about the stability of high-energy American life and its attendant political systems. It suggested, as David Nye has described, "systemic weakness."[20]

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[18] For a survey on the politics of social movements, see Charles Tilly and Lesley J. Wood, *Social Movements, 1768-2012* (New York: Routledge, 2013). On the potency of "democracy" as an organizing framework for social movement politics, see Francesca Polletta, *Freedom is an Endless Meeting: Democracy in American Social Movements* (Chicago: University of Chicago Press, 2002).

[19] Stein, *Running Steel, Running America* and *Pivotal Decade*; Penny Lewis, *Hard Hats, Hippies, and Hawks: The Vietnam Antiwar Movement as Myth and Memory* (Ithaca, NY: ILR Press, 2013); Mary L. Dudziak, *Cold War Civil Rights: Race and the Image of American Democracy*, 2d ed. (Princeton, NJ: Princeton University Press, 2011).

[20] Nye, *When the Lights Went Out*, 70.

Yablonski's campaign pointed to another way in which the postwar social contract had been undercut across the coalfields: far from the cities that were the center of most blackouts, massive profits gains and productivity increases in coal production were achieved by men "working in inhuman conditions in the dark and underground… subjugated by King Coal."[21] Subjugation extended beyond labor exploitation at the mine face and took many forms—from "notoriously regressive or corrupt political figures" in the Appalachian region that prevented "tax reform, constitutional reform, and election reform" with UMW support to the unassessed costs of coal mining—externalities, they would come to be called—such as the "primitive" strip mining practices that had "robbed the coal miner of the rich, natural environment of his homeland."[22]

Bald-faced exploitation, however, hadn't faded away but had resurged with the coal boom. Revival in the profitability of coal production had, Yablonski recognized, changed the "economic environment" in the coalfields "from one of decline to one of growth" although a large number of miners—more than 113,000—remained out of work.[23] By the late 1960s, coal profits annually topped $500 million each year, and industry leaders faced a labor shortage which was in part driven by the safety crisis in the mines.[24] The difficulty of recruiting Appalachian youth like Kenneth Jones, a high school junior in 1967 who told *Wall Street Journal* reporter Norman Fisher, "I just don't trust those mines. They're dangerous,"—drove the coal industry to invest heavily in recruitment projects in area schools.[25]

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[21] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32.
[22] Yablonski campaign strategy paper drafts, circa spring 1969. MDFR Box 23, Folder 37.
[23] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32. Norman Fischer, "Manning the Mines: Coal Producers Face a Shortage of Miners Amid Production Boom," *Wall Street Journal*, September 6, 1987, *PQHN*
[24] Laurence D. Beck and Stuart L. Rawlings, "Coal: The Captive Giant, A Report on Coal Ownership in the United States," 9. Private Report, 1971. MFDR, Box 63, Folder 9; Fisher, "Manning the Mines."
[25] Fisher, "Manning the Mines."

A substantial part of the boom and its attendant profits was driven by the increases in productivity which by the mid-twentieth century were unheard of in other industries, but coal profits were spurred by government programs as well: "capital gains benefits, depletion allowances"—which compensated owners for the reduction in reserves at a particular mine site as a mechanism to encourage the heavy capital investment required to open a coal mine—"and grants for production research" that in 1969 reached $53 million.[26] Meanwhile, miners received a one dollar pay increase, and despite the wage gains, coal was cheaper by the ton during the mid-1960s than it was following the end of World War II.[27]

Boyle's pride over securing holiday pay for miners who worked on their birthday distracted from the fact that a rapidly growing pool of industry profits was increasingly concentrated in the hands of company owners. This concentration pointed to an increasingly asymmetrical balance of power between capital and workers in which the UMW leadership was ironically complicit as Boyle, like John L. Lewis before him, sought collaboration with industry leaders to "save" the industry by securing the new utility markets which had supported coal's revitalization. Because, as earlier chapters show, miners believed they had been disproportionately burdened with the costs of that revitalization—and that these costs had been externalized, charged up on their bodies, in their lungs, and against their land—increased economic exploitation easily translated into discussions about mine safety, black lung, and environmental protection.

Moreover, the perception that Boyle's corruption fit alongside a vision of industrial relations that relied on collaboration between companies, government, and the union, spoke to the ways that miners perceived the problem of corruption as emerging from a more general crisis of the coalfield's social contract. The social contract that ruled the coalfields had been enforced as

[26] Beck and Rawlings, 8.
[27] *Proceedings*, (1968), 44. Also see Memorandum on Soft Coal Mining, April 11, 1963. ARP, Box 6, Folder 6; Beck and Rawlings, "Coal: The Captive Giant."

much by the National Bituminous Coal Wage Agreement, the industry-wide labor agreement signed by President Lewis in 1950, as it had been by government programs that focused on the problems of poverty and underdevelopment—programs which had often excluded miners, who were higher paid than most residents of the Appalachian region. The importance of New Deal programs like Social Security were eclipsed by the importance of a different social welfare program—the union controlled Welfare and Retirement Fund.[28] As Richard Mulcahy notes, the coalfield's social contract was forged not between citizens and their government, but rather between labor and capital: "a disciplined workforce" that "follow[ed] the union's orders," and accepted mine mechanization in return for "a generous set of benefits" and financial control of the fund.[29]

This contract which traded labor peace for wages and healthcare could have potentially coped with a growing gap between company profits and miners' wages, but because it didn't extend to questions of safety and environment, and by 1969 was completely overwhelmed by the crisis of black lung, it found itself in the thralls of a crisis which had rapidly spread across the Appalachian coalfields. The crisis of democracy inside the UMW was an extension of this broader crisis of coalfield Fordism, and not only a crisis of corruption, as it has usually been portrayed. Thus, Boyle's corruption should be viewed as a part of a systemic crisis rather than its cause. Although certainly self-interested and self-serving, his embezzling of thousands of dollars siphoned from the union's coffers to the Democratic Party during the 1968 election also fit easily

[28] This interpretation builds on and complicates Klein's account of health security in the postwar period by introducing a middle-ground between employer-employee relationships and citizens and the New Deal. Jennifer Klein, "The Politics of Economic Security: Employee Benefits and the Privatization of New Deal Liberalism," *Journal of Policy History* 16 no. 1 (2004), 34-65.

[29] Mulcahy, xii-xiii. While Mulcahy provides a strong argument as to how the Welfare and Retirement fund emerged from the same social dynamics which produced the New Deal, the story of the Fund's decline is a mostly internal one that focuses on implications for welfare policy. The coalfield contract also mirrored a broader trend in industrial unionism at the time, most notable the "Treaty of Detroit," which traded off power at the negotiating table and limited the UAW's opportunity to strike in exchange for an employer provided set of social programs. Lichtenstein, *The Most Dangerous Man in Detroit*, 277-281.

into a system of government-industry-union collaboration that, typical of much Cold War unionism in the United States, all too often completely excluded rank-and-file miners from the table.[30] That the UMW-owned National Bank of Washington paid out profits to the bank's shareholders rather than diverting this money back to struggling pensioned miners certainly seemed unfair to the retired and disabled miners who in early 1969 still lived on just $115 a month, but it wasn't far out of step from other institutions that increasingly looked to financial mechanisms rather than social contracts to mediate conflict.[31]

Rebelling miners who observed the relationship between Boyle's administration and the Bank attacked not just corruption, because they could see crisis extended far beyond corruption; the entire social contract that had kept strike levels low for nearly two decades had been seriously undermined as a broad national framework of energy crisis—which had emerged six years before the 1973 oil shock—prompted industry restructuring that amplified the threats not only to miners' jobs, but also to their lives and land. As long as the brutal externalities of coal production—the social and environmental costs that remained un-assessed in determinations of energy prices and policy—continued to be neglected, the crisis would persist. The coalfield contract would continue to break down, and the nation's energy production would remain marked by volatility and uncertainty.

From the Appalachian coalfields, journalist Jim Lee, wrote, "[Y]ou see how John L. Lewis's dream of a welfare-state empire has crumbled."[32] Mine owners blamed the oil companies; union staff blamed automation. In reality, both were part of the same process of industry

[30] Lewis, *Murder by Contract*.
[31] Stein, *Pivotal Decade*, 1-50. Paul Nyden examined the UMW's relationship with the National Bank of Washington in an article he wrote in Jock Yablonski's memory in 1970: "Coal Miners, 'Their Union,' and Capital," *Science and Society* Vol. 34, No. 2 (Summer 1970), 194-223.
[32] John L. Lewis was the president of the United Mine Workers for forty years and a key architect of the Welfare and Retirement Fund. Jim Lee, Memo on Reporting Trip to Hazard, Kentucky, to Archie W. Robinson. April 8, 1963. ARP, Box 6, Folder 6.

reorganization that had seriously undercut the promise of the UMW's social contract. Yablonski and his supporters felt they could not simply present a new leadership slate promising to "clean house" at the UMW, but had to provide a new vision for the future of coalfield unionism; the social contract of the coalfields had to be rewritten for a new age, and this time, it would have to address not only social and labor issues, but the problems of energy crisis and ecological degradation—problems which they thought might be solved through union democracy.

Energy Politics and the Coalfield Contract

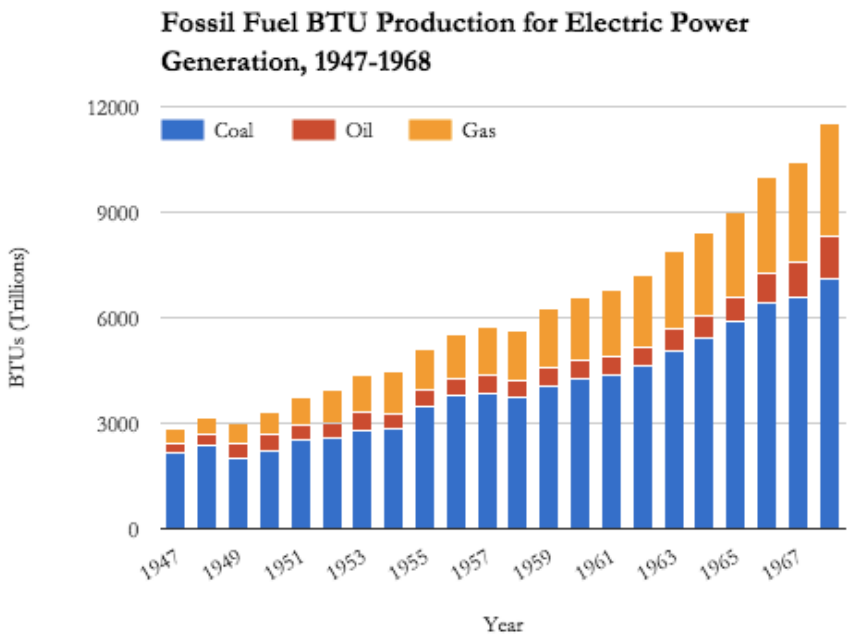

Chart 3.1: Fossil Fuels Used for the Generation of Electric Power Generation, 1947-1968. Source: Charles River Associates, Inc., "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy. Part I: Profile of the Appalachian Coal Industry and Its Competitive Fuels." (Cambridge: N.p., 1973).

The problem of the coalfield social contract was not confined to the coalfields as it seemed, but indicated an underlying problem of the nation's energy contract. The years of Lewis's coalfield social contract was also the same years as the coming of age of the United States' high energy economy. David Nye points to the transformation of "agriculture, transportation, industry, urban

life, the form of houses, and even the sense of the future" during these years.[33] During the earlier postwar years, the illusion of distance had separated the problems of the pensioners and the miners dying in explosions from the brightly-lit homes and offices they powered, sometimes hundreds of miles away.[34] Energy consumption grew, and nuclear research promised a future of abundant and cheap, perhaps even free, energy. But the nuclear plants in the late 1960s were mostly a promise for the future, and despite the changes in the industry that had increased the usage of residual oil and natural gas by utilities, the nation still relied on coal for the majority of their rapidly increasing consumption of electric power (Chart 3.1 and 3.2). The impacts of the coalfield crisis would be felt across the nation, especially if wildcat strikes continued to drain coal stockpiles. The combination of skyrocketing energy consumption and a crisis in the coalfields threw the assumptions of the high energy capitalism of the postwar period into question. The 1969 UMW presidential election represented rank-and-file miners first attempt to grapple with these problems in a larger way, and in the context of six years of Boyle's anti-atom crusade it would cause miners to question the union's position on the development of atomic power.

Boyle's crusade against the atom, from his first days in office, had capitalized on miners' dual fears of job loss and death by radiation. The anti-atomic crusade had relied on two key factors for its success: the illusion of meaningful competition between the development of atomic power and the utilization of coal resources, discussed in chapter one, and upon the real fears and anxieties which coal miners, like many Americans, felt about living in a world powered in part by atomic energy and polluted by radiation. Indeed, by 1969, atomic politics had been deeply woven into the

[33] Nye, *Consuming Power*, 187-215.
[34] Coal from Central Appalachia powered most of the East Coast and Midwest, including large cities like New York, Philadelphia, and Washington, D.C. during these years. Charles River Associates, Inc., "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy. Part I: Profile of the Appalachian Coal Industry and Its Competitive Fuels."

battle over the coalfield contract, particularly following the expulsion of the UMW's affiliated locals, organized as District 50, in early 1968.[35]

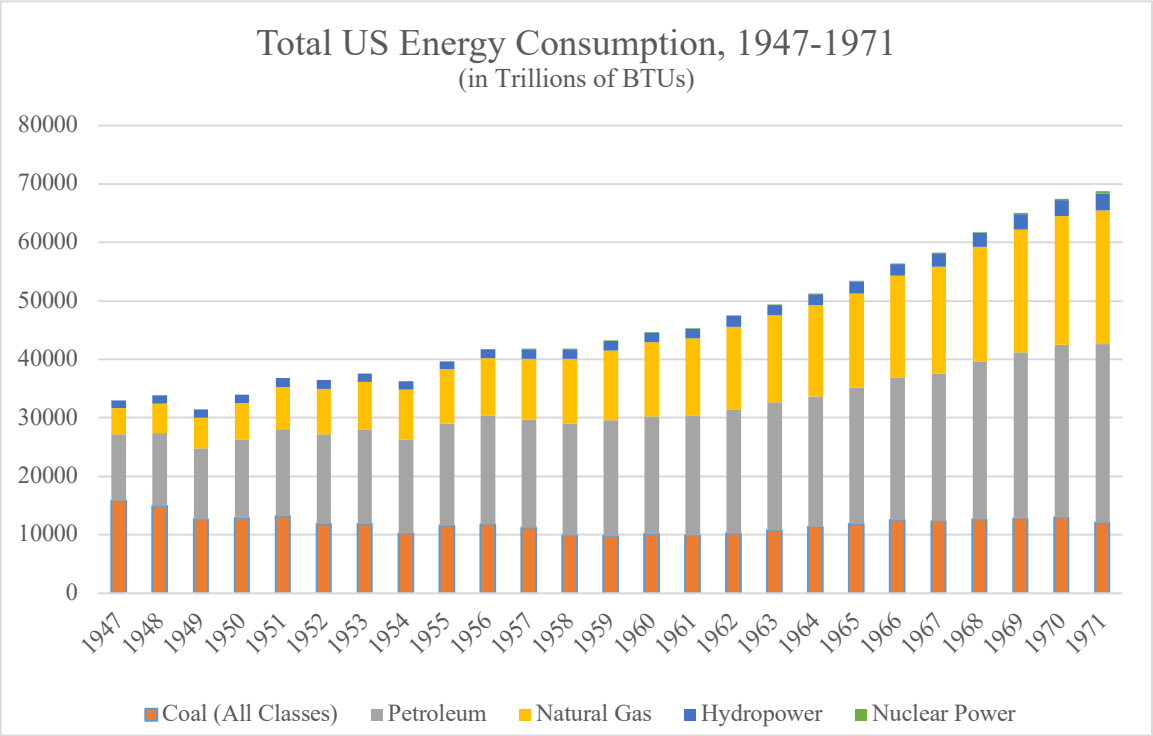

Chart 3.2: United States Total Energy Consumption by Major Sources, 1947-1971. US Department of the Interior, "Energy Through the Year 2000," December 1972. HaithiTrust Online. The differences between the trajectory of coal in this chart versus Chart 3.1, which focuses on BTUs delivered for the electricity sector, underscore the importance of the market for coal's survival in the postwar period.

These politics, however, were in flux amid growing environmental concern over the impact of pollution—including, but not limited to, radioactive pollution—in American politics.[36] But in the coalfields, general concerns about pollution and the dangers of radiation were impossible to isolate from the questions of union democracy, environmental destruction, and workplace safety that together had thrown coalfield Fordism into crisis. The atomic age politics that led to Yablonski's campaign in the first place, were thus remade amid coalfield unrest, as Yablonski's own transformation on this question shows. In 1968, Yablonski telegrammed Boyle along with his fellow officers in Local 1787, California, Pennsylvania to support Boyle's fight against atomic

[35] "UMWA Expels District 50!" *United Mine Workers Journal*, special edition March 8, 1968.
[36] Hays, *Beauty, Health, and Permanence*; Montrie, *The Myth of Silent Spring*; Rachel Carson, *Silent Spring*.

power: "We, the officers and members of Local Union #1787…support you 100% in the fight against District #50 and the atomic energy plants that are being built to-day…Our total membership will be solidly behind you in this program."[37] Yablonski's local was hardly alone in the sentiment. Hundreds of locals wrote in to Boyle to voice their opposition to the nuclear power plants and thank Boyle for opposing them.[38] The letters and telegrams illuminated the wide range of anxieties miners felt over the development of atomic power, and represented the beginnings of the extension of environmental consciousness into the coalfields. Local 1082 wrote that they were "experiencing earthquakes and tremblers" which might "dislodge" a proposed nuclear power plant being considered for their region. The combination, they feared, might prove deadly: "the dislodgement of the proposed nuclear plant at Platteville could create another Hiroshima catastrophe."[39] The nuclear fear that drove the statements certainly leant itself to the imagining of large-scale catastrophes. Members of Local 7365 wrote that "heads of State, scientists, educators, leaders in business and commerce" were "tampering with forces of nature they lack the prudence, knowledge, ability, and wisdom to control…why pollute the already polluted atmosphere with radiation that would cause an increase in Leucemia [sic] and cancer a thousand-fold and cause the death of millions?"[40]

Other locals directly connected the fight against atomic power—and by extension, District 50—to the problems facing the social contract. In February 1968, Wayne Woodruff, the president of Local 1228 telegrammed Boyle pledging "full support" for the campaign "to protect our jobs, our welfare fund and the health of all people from dangerous atomic energy plants." With

[37] Joseph A. Yablonski (President), Michael Encrapera (Vice President), and Jack Peters (Secretary-Treasurer) to W. A. Tony Boyle, April 10, 1968. United Mine Workers President's Office Records (Hereafter UMWPO), Eberly Family Special Collections, Pennsylvania State University, Box 34, Folder 4.
[38] UMWPO, Box 34, Folders 4-16.
[39] Resolution on Atomic Energy, UMW Local 1082, November 25, 1967. The local then mailed the resolution to Boyle. UMWPO, Box 34, Folder 9.
[40] Statement on Atomic Energy, UMW Local 7365, circa February 1968. UMWPO, Box 34, Folder 4.

exasperation, the telegram concluded, "Why doesn't District 50 join us?"[41] Robert Patterson of Local 793 wrote that proposed atomic plants were "a hindrance to our health and welfare"—a reference to the viability of the Welfare and Retirement Fund, which relied on the old structure of the coal industry for its viability.[42] Local 1964 framed Boyle as the protector of miners' security. They pledged "100%" support for Boyle to "protect the mining industry and our security by the fallout and hazards caused by these nuclear plants."[43] Increasingly, the welfare of miners included not only the concerns of the coalfield's social contract, but also implied that the union should lead the fight to protect them from a broader set of dangers, including environmental, broadly represented by nuclear power.

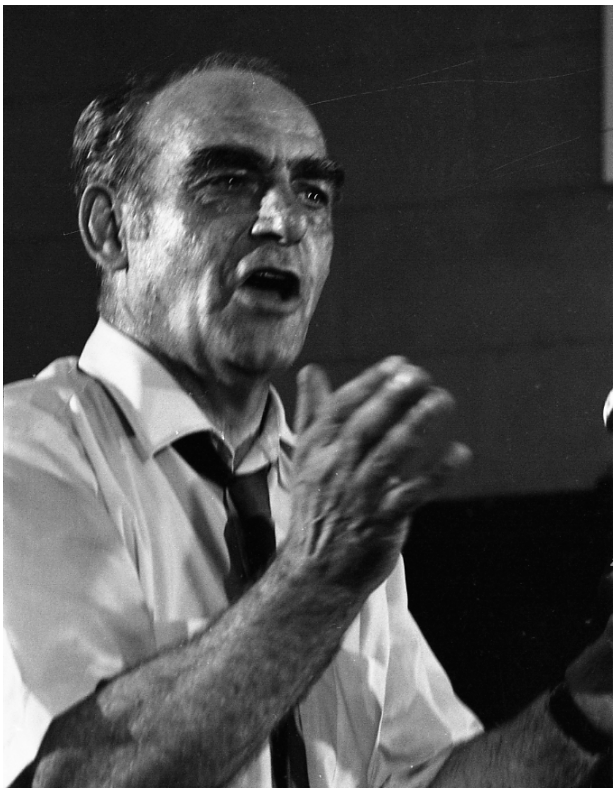

Figure 3.1: Jeanne Rasmussen, Jock Yablonski Addresses Coal Miners at a Campaign Rally. Jeanne Rasmussen Papers, Box 3, Folder 16.

[41] Telegram, Wayne Woodruff, President of UMW Local 1228, to W.A. Boyle, February 8, 1968. UMWPO, Box 34, Folder 4.
[42] Robert Patterson to W.A. Boyle, February 14, 1968. UMWPO, Box 34, Folder 8.
[43] Louis Gallo, Financial Secretary of Local 1964 to W.A. Boyle, February 16, 1968. UMWPO, Box 34, Folder 8.

By September, in response to increasing unrest across the coalfields, Yablonski's thinking on the problem of energy began to shift as he delivered the opening address to the United Mine Workers Constitutional Convention, held that year in Denver, Colorado, where he moved from an exclusive focus on the atomic energy industry to the broader problems of energy production, including the increasing buy-up of coal companies by the oil conglomerates. The focus of miners, he thought, should shift from the targeting of the AEC to the oil and gas companies who, "on the verge of breaking through scientifically in the production of gasoline from coal, petroleum chemicals from coal, and pipeline gas from coal," would seek to "hold down" the UMW "from being able to get their rightful share" of the potential profits these processes could ensure for the industry. The looming conflict suggested once again that the postwar model of union-industry relations appeared to be meeting their limits. He also noted that the oil and gas companies were as complicit in the creation of dangerous environmental conditions as the AEC.[44] Meanwhile, Boyle kept his focus firmly on the Atomic Energy Commission throughout the Convention.[45]

In earlier years, the anti-atom crusade had helped to rally support for Boyle, as the mass of telegrams and letters show. Miners, in the early months of 1968, overwhelmingly supported the expulsion of District 50 after the non-mining affiliated locals which comprised its 225,000 members voiced support for the development of nuclear power. Miners perceived the support for nuclear industry development as a threat to miners' jobs, their health, and the environment that made the potential financial risks of expelling such an enormous number of members worthwhile. But ultimately, the expulsion of District 50, although still bound up with the changes in the energy regime, came to represent the rigidity and autocracy of Boyle's rule rather than a nuclear threat.

[44] Jock Yablonski, Address as Temporary Chairman, transcribed in *Proceedings* (1968), 5-6.
[45] Report on Atomic Energy, transcribed in *Proceedings* (1968), 78-85.

Yablonski played a key role in this reframing. In his Labor Day statement, Yablonski reframed Boyle's expulsion not as a valiant stand against the development of nuclear power, but as yet another affront to democracy inside the UMW: "Boyle claims he took the action against District 50…because of its endorsement of atomic energy plants. But the real reason for the expulsion was that District 50's officers challenged Mr. Boyle's dictatorial authority over them."[46] He changed his position of the question of District 50—and on what the development of nuclear power meant for unions in the energy sector Boyle's actions, Yablonski pointed out, demonstrated that the administration was less serious about building the union's power in the sector. Such a commitment would require organizing workers in energy and coal-related industries; District 50 had added a quarter of a million members to the union's base.[47]

Still, Yablonski stopped short of actually endorsing nuclear power. Instead, his campaign literature focused on the ways in which the anti-atomic fight had undermined the fight for health and safety in the coal mines. One campaign leaflet, titled "A Test for Coal Miners," asked miners to answer the question "Why does Boyle crusade against atomic energy?" and provided three potential answers: "He knows a little more about it than mining," "He wants to be a headline grabber," and "He has all the miners' problems solved."[48] The shift, while far from a reversal, was enough to win the support of the estranged District 50, who editorialized their support of Yablonski the next week.[49] As the campaign continued, Boyle would suggest that Yablonski's campaign was not only being run by "outsiders" but in fact, was the creation of the oil and gas interests.[50] He refused to concede that the anti-atomic crusade that had formed such a central part of his administration's thinking about the American energy regime had, in fact, backfired. The American

[46] Statement by Joseph A. Yablonski, September 2, 1969. MFDR, Box 23, Folder 33.
[47] *Ibid.*
[48] Yablonski Campaign Literature, "A Test for Coal Miners," 1969. MFDR, Box 23, Folder 35.
[49] "The Time Has Come for a Major Change," *District 50 News*, Wednesday, September 10, 1969. MFDR Box 23, Folder 34.
[50] Jock Yablonski, Statement, November 7, 1969, Washington, DC. JHP, Box 8, Folder 17.

energy regime was indeed changing, but not in the way that Boyle had predicted in the growth of an all-powerful atomic menace.

The problem, instead, centered on the emergence of new energy conglomerates, to which Yablonski had alluded in his speech to the 1968 UMW Convention. As the campaign progressed and the stock of evidence that industry consolidation was well underway grew, Yablonski even suggested that far from confronting the problem, Boyle might have exacerbated it. He pointed to the recent decision by a federal jury that had found the UMW guilty of conspiring with large coal companies—like Consolidated Coal, which had been acquired by Continental Oil in 1966—to run smaller scale operators out of business. Yablonski eviscerated the behavior of the UMW leadership, calling it a "flagrant" violation of the Sherman Anti-Trust Act that directly impacted miners' working conditions.[51] The case exposed the complicity of the union's leadership with the coal companies and also linked the ongoing problem of deadly safety violations at companies like Consol directly to the restructuring of the industry. According to Harry Moses, director of US Steel's mining division, in the early years of the conspiracy, which dated back to 1950, the UMW "joined [the industry] without reservation in all our efforts to combat the influences of competitive fuels, government interference, and unreasonable safety regulations."[52] Moses's testimony demonstrated how the problems of industry structure, government regulation, and working conditions were intimately linked by this collaboration. While Consol and the UMW were found to have violated the Sherman Anti-Trust Act, the landmark legislation that barred anti-competitive industrial behavior, the vision that drove Consol's efforts to consolidate coal production away from

[51] Yablonski to the UMW International Officers, November 18, 1969. JHP, Box 11, Folder 17. The case was appealed and the decision affirmed in *South-East Coal Company v. Consolidation Coal Company and United Mine Workers of America* 434 F2d 767 (1970). This strategy by Yablonski is particularly striking given the broader context described by Witwer where anti-trust legislation had been used to target labor's organization activities even when they appeared to fall inside the bounds of the law. Witwer, *Corruption and Reform in the Teamsters Union*, 2-3.
[52] Quoted in David S. Walls and John B. Stephenson, eds., *Appalachia in the Sixties: Decade of Reawakening* (Lexington: University Press of Kentucky, 1972), 79.

smaller companies fit very well into an ongoing—and legal—effort by oil companies to consolidate an energy industry from the disparate fuel based industries. The conspiracy between the UMW and Consolidated Coal might have been remedied by the courts with hefty fines—$7,300,00 paid to South-East Coal, half from Consol, half from the UMW[53]—but broader industry consolidation, which undermined safety standards as well as the union's political and negotiating power, proceeded within accepted legal parameters.

Yablonski's Social Contract: A "Broader Vision of a Union's Responsibility"

The social contract of the coalfields failed to yield returns. The relationships of energy that had allowed for massive increases in national energy consumption was in flux and were being challenged as miners contested the modernization regime that had led to a spike in workplace deaths and occupational diseases. Yablonski, thus, could not just present a potential new leadership of a union, free of Boyle's corruption. He had to project his own vision of the future, a new social contract for the coalfields, and in this he was successful. The mission he set out for himself as he declared his candidacy was bold; it confronted the crisis of the coalfield's old social contract with an eight-point plan for union reform constructed on a "broader vision" of a union's social role.[54] It included a safety platform to confront Boyle's "profuse mouthfuls of fatalism," and sought to not only expand the UMW safety division's research program, but also to ensure broader public investment in mine safety. This program would be achieved both through the passage of new state and federal regulations, Yablonski envisioned, but also had to be enshrined in the contract: the union needed to "assure that every labor-management contract from now on contains all possible

[53] Walls and Stephenson, 78.
[54] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32.

safety and health protections, and a special coal operator safety fund for advanced safety improvements beyond the law."[55]

The appeal to miners' understanding of the labor contract as the primary vehicle by which safety might be enforced had several implications: first, it drew on their firsthand experience of—at best—lackluster enforcement from the Bureau of Mines on existing mine safety laws; it also sought to connect with their frustration over the reticence of the federal government to pass an updated version of the Federal Coal Mine Health and Safety Act which accounted for the dangers of widespread mechanization; finally, it appealed to a shared memory of the UMW as the driver of social policy in the coalfields, a memory which while certainly rooted in fact was also inflated in the reformers' imagination. Moreover, this vision of democratizing the coalfield social contract relied on further pulling the mechanisms for remedy and regulation into the private sphere—outside of the public institutions which, for all their limitations, were meant to mediate issues of democratic concern—at the very moment when incipient industry consolidation and restructuring threatened to undermine the UMW's negotiation power.

So widespread was this concept of the UMW as the maker of policy in the coalfields that two people whose lives were structured around legislative reform—Rep. Ken Hechler (D-WV), a staunch supporter of Yablonski and advocate of new mine safety legislation, and Ralph Nader, the crusader for consumer-protection regulation—submitted a letter to the Congressional record in spring of 1969, shortly following Yablonski's announcement of candidacy. "Without a strong, efficient, democratic Union, the mine workers are left *without defenders, without representatives who will fight for their health, their safety, and their dignity in labor management relations.*"[56]

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[55] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32.

[56] *Cong. Rec*. 91st Congress, 2d sess., June 4, 1969, Vol 116, No. 89. Nader's letter was originally dated May 22, 1969. Emphasis added.

The letter presented the union as the only vehicle by which the miners might ensure a safe workplace. As such, it represented an olive branch to miners who no longer believed regulators had their best interests at heart, but it also underscored the incredibly high stakes of the reform effort which by early summer was coalescing around Yablonski's campaign.

The campaign would likely have enjoyed substantial success on the safety platform alone. The right to life stood at the heart of what miners thought should constitute the social contract for the coalfields, and the success of the black lung strike in February had demonstrated that miners' safety concerns could translate directly into political power with the ability to impact national energy policy. The link between workplace safety and the nation's energy future went far beyond Boyle's rather dubious contention that coal mines presented a safe alternative to the uranium and plutonium mines which supplied nuclear plants. It called into question the nature of democratic decision-making: who decided what made a workplace unsafe? Yablonski and his supporters' answer was clear; miners best knew when to make that call, so safety had to remain a strikeable issue.

Was coal really safer than nuclear power? In the wake of 78 dead in the Consol No. 9 mine, Yablonski hedged on this question; he opposed Boyle's crusade against the atom but stopped short of endorsing nuclear power.[57] How would Americans move toward an energy economy that didn't "take revenge" on the workers at the mine face, that eliminated the "toll of 200 or more human lives as a sacrifice each year"?[58] The answer to this question remained far from clear, but Yablonski's campaign gained steam, drawing in mass meetings of miners—like those at the Robena mine in Masontown, Pennsylvania, who turned out more than seven hundred strong to

[57] "A Test for Coal Miners." Yablonski campaign literature. MFDR, Box 23 Folder 35.
[58] Transcript of "The Cherokee Shaft: The Story of Mines and Men." ABC Broadcast, May 22, 1971. 8:30-9:30 PM EDT. Produced and written by Stephen Fleischman, directed by John E. Johnson Jr., narrated by Frank Reynolds. MFDR, Box 63 Folder 1.

"overwhelmingly roar" their support for reform. The nation's union coal miners made it clear they would have a say in the future of the American energy production.[59]

As the campaign progressed, the link between workplace safety and energy production continued to be a programmatic weakness for Tony Boyle—who had suggested in the wake of the Consol No. 9 explosion that as long as the American energy economy used coal, there would always be miners who died while producing it.[60] Miners like Stanley Kaczmarczyk lashed out at Boyle. Kaczmarczyk, who considered Boyle equally responsible as Consolidation Coal for the explosion that killed seventy-eight workers, used the Boyle administration's failure to even recover the men's bodies to call his leadership into question. "If Boyle was any kind of leader," he wrote, "he should get after Pitts Consol and the US Bureau of Mines to get those human beings out of that tomb."[61] The link between mine safety and the energy economy also became a personal liability for Boyle as the campaign progressed. Reports emerged that one of Boyle's brothers, Jack Boyle, had owned a coal mine in which four miners had been killed in a roof fall that followed unaddressed safety violations; the mine supplied the Atomic Energy Commission's projects at the Hanford site in Washington state. Another of Boyle's brothers, Richard J. Boyle, was the president of UMW District 27, and was in charge of reporting unsafe conditions in Jack Boyle's mine.[62] Here again, miners connected Boyle's personal corruption to the structural problems they faced as the energy regime restructured itself to cope with the dual problems of labor and energy shortfalls. The recently expelled membership of District 50 also pointed out how the scandal certainly put "Boyle's fanatic opposition to atomic energy" in "a new light."[63] A broadside for the Yablonski

[59] James A. Wechsler, "Lonely Rebels," undated notes. MFDR, Box 23, Folder 25.
[60] Boyle made the comment despite Consolidation Coal having been hit with more than fifty safety violations for the No. 9 mine at Farmington. Compilation of comments on coal safety, 1971. MFDR, Box 46, Folder 15.
[61] Letter, Stanley Kaczmarczyk of Shadyside, Ohio, to Editor (Newspaper Unspecified). Copy also retained in the MFDR, Box 83, Folder 10.
[62] Ben A. Franklin, "Boyle Controversy Grips the Miners Union," *New York Times*, August 31, 1969. *PQHN.*
[63] Editorial, "The Time Has Come for a Major Change." *District 50 News*. MFDR, Box 23, Folder 34.

campaign featured a cartoon (Figure 3.2) which depicted Boyle's corruption and nepotism in a gassy cloud illuminated by the lamp of a miner holding his nose, suggesting that the corruption, nepotism, and dictatorship were, like methane gas, the deadly byproduct of larger forces at play.

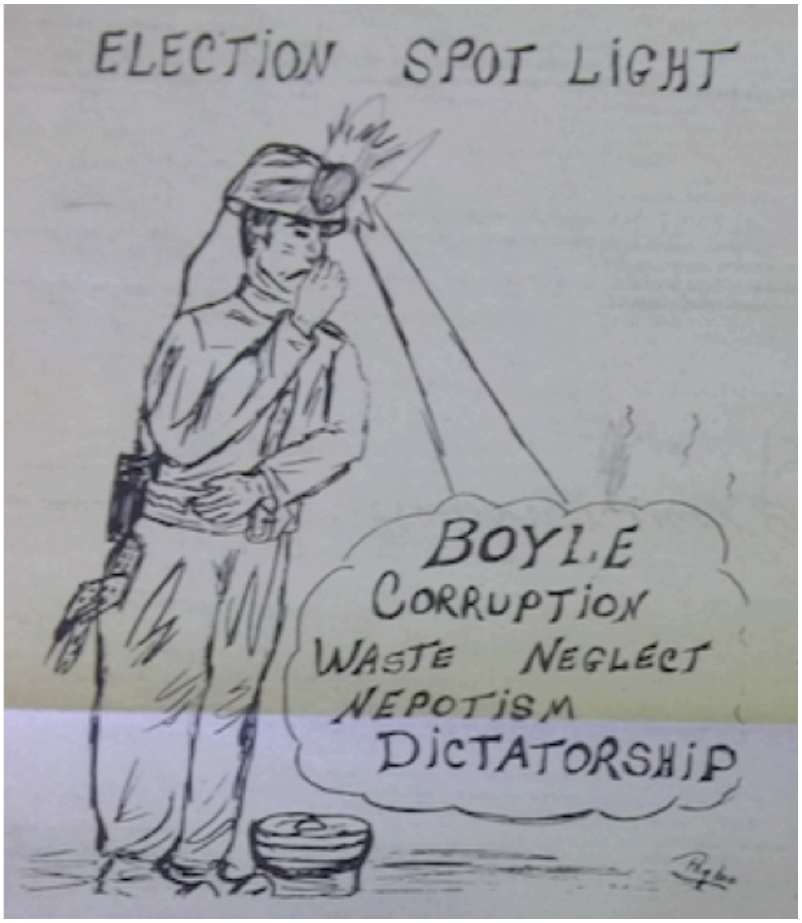

Figure 3.2: "Election Spotlight." Jock Yablonski Campaign Broadside, undated, but likely produced in September or October, 1969. RJP, Box 1, Folder 3.

Indeed, the safety platform opened up a range of other demands: in order for the safety platform to be enforceable and effective, local unions needed the autonomy to respond to safety problems as they arose as well as the consolidated national power which gave them the power to set industry-wide working conditions with a national contract, and they needed an updated grievance procedure that met the needs of the changing mining workplace. Yablonski called to "modernize the antiquated grievance procedure." A strong grievance procedure, he argued, could help to minimize the wildcat strikes which by the end of 1969 had substantially drained the nation's

coal stockpiles, which commentators warned would take months to recover—and only if the miners stayed at work.[64] While it seemed at odds with confronting the consolidating power of the energy companies, reformers felt that democracy was a key element of industry stability and would ultimately serve them better than the iron grip that Boyle had kept over the union.

But the rebalancing of power also extended beyond the workplace: his platform of social responsibility, like the safety platform, drew on some of the arguments Boyle had made during his anti-atom crusade. It framed the UMW as not only a union concerned with workplace issues but a broader defender of all working people and their interests. Yablonski also suggested that the energy industry had a social responsibility too, and that if the miners didn't force them to honor it, this responsibility would be neglected: "No longer will this union tolerate the coal industry's control over the state and local government to the detriment of the coal miner," Yablonski declared.[65] This approach to the problem of a growing asymmetry of power between energy workers like coal miners, the industry, and government, however, was not simply an act of balancing a scorecard. Indeed, it was guided by its own, union-directed vision of regulation, welfare, and management:

> Every union should have a vision of the future. Our union must realize that its responsibilities include adequate payment for work done, adequate compensation for injuries, adequate corporate investment in healthful and safe working environments, and adequate retirement benefits. But the union's responsibility goes beyond this level of achievement. Unions represent men and women who are part of communities, are citizens of states and a nation. The public environment affects the well-being of miners and their families. What good is a union that reduces coal dust in the mines only to have miners and their families breathe pollutants in the air, drink pollutants in the water, and eat contaminated commodities? What good is a union that achieves an acceptable wage rate and then condones the reduction of that wage by frauds and abuses in the marketplace and waste or corruption in government?...I pledge [coal miners] this broader vision of a union's responsibility.[66]

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[64] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32. On stockpiles, see Michael K. Drapkin, "Coal Strikes Seen Being Settled Soon; Impact Expected to Be Felt for Months," *New York Times*, March 4, 1969, *PQHN*; and "Coal Strike Hits 12 Mines; Impact Seen Within Days: Walkout Began Over Firing of Five UMW Officials by Continental Oil Unit Dispute Said to Be Spreading," *Wall Street Journal*, August 19, 1969, *PQHN*.

[65] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32.

[66] Press Release, "Statement by Jock Yablonski, Member of the International Executive Board of the United Mine Workers of America, Announcing His Candidacy for President of the United Mine Workers of America," May 29, 1969. MFDR, Box 23, Folder 32. Notably, this adds production to Hays consumption-based formulation of environmental politics. Hays, *Beauty, Health, and Permanence*, 3-5.

Keenly aware of miners' relatively unique position in American political economy, as both the producers and consumers of energy, Yablonski imagined the UMW as the maker of a new coalfield contract.[67] This contract could potentially encompass the broad concerns of miners and their families and fight for a new energy future that included ending environmental destruction, fostering a role for miners in democratic politics, and regulating the industry leaders that sought to defraud miners at every turn. This reformulated vision of the social wage would remain with a substantial portion of the rank-and-file membership of the UMW long after the Yablonski murders in December 1969. Most strikingly, this vision of a new energy-social contract emerged at a time when most Americans still looked to the government for industry regulation and the provision of social welfare.[68] It inevitably raised questions about who was most capable to determine the needs of production and the conditions of the coalfields. Moreover, it also linked these debates over workplace power and political regulation to a growing set of concerns around pollution and environmental quality before the passage of the major environmental legislation for which the era is remembered: the Clean Air Act amendments of 1970, the Clean Water Act (1972), and the founding of the Environmental Protection Agency (1970).

[67] Most scholarship of environmental politics in this period has focused on consumption, following the model set with Hays, *Beauty, Health, and Permanence*. A growing body of scholarship has focused on labor environmentalism—either on the job, or in the ways that workers experienced the environmental politics of consumption but less attention has been paid to workers in their position at the nexus where the identities of producer and consumer are experienced simultaneously.

[68] In her study of the energy crisis in the 1970s, Meg Jacobs points to a slew of letter-writing to President Nixon in the early months of the energy crisis as evidence that Americans still expected the President to "do something" about the problem. Studies of women and racial minorities in the labor force during this period show that many turned to federal regulatory commissions to protect their rights at work even as they participated in their unions (where they had them). Jacobs, *Panic at the Pump*; Katherine Turk, *Equality on Trial: Gender and Rights in the Modern American Workplace* (Philadelphia: University of Pennsylvania Press, 2016); Nancy MacLean, *Freedom Is Not Enough: The Opening of the American Workplace* (Cambridge: Harvard University Press, 2008). For a broader view of economic citizenship, and the relations between Americans and their government on this issue in the twentieth century, see Meg Jacobs, *Pocketbook Politics: Economic Citizenship in Twentieth Century America* (Princeton, NJ: Princeton University Press, 2007).

Figure 3.3: A miner riding a donkey looks into the enormous bucket of a loader used for strip mining at the Hanna Coal Company, 1967. UMWPC, Eberly Library, Box 170, Folder 15.

An End to Environmental Mayhem

Miners are rarely remembered for their progressive stances on environmental politics. Yet Yablonski's vision for the UMW provided a vision of environmental protection more than a year before the founding of the Environmental Protection Agency and Clean Air Act, and more than three years before the Clean Water Act. In part, the emergence of an environmental consciousness among coal miners in these years derived from the fight against black lung, which had declared "the right to breathe" as a right of both labor and citizenship.[69] But environmental concerns were also advanced by the perception of environmental crisis in the coalfields—the "environmental mayhem" that Yablonski sought to end.[70] While certainly coal mining and usage had made clear and powerful environmental impacts since it was first popularized for industrial use in the eighteenth and nineteenth centuries, the Appalachian coalfields faced a new set of environmental problems as mechanization restructured the industry and strip mining became a more widespread practice.[71] The new machines underground—the continuous miners in particular—accelerated the plague of black lung and devastated miners and their families. The above ground machines, the massive augers and loaders had more immediate impacts which could be seen from miles away and tasted in the water. Towering hundreds of feet in the air and usually requiring only one or two people to operate, the stripper machines stood in as a physical monument to the displacement of mining labor and its replacement with destroyed hillsides.

The process of strip mining was indeed disruptive. Working with only a small crew—leaving the rest to watch from the hillsides—operators first cleared brush, trees and scrub materials from the land, then removed the topsoil and rock that blocked access to the coal seam using heavy

[69] Ken Hechler, Remarks to a Meeting of Coal Miners, Charleston, WV, February 26, 1969. Richard Jensen Papers, Box 1, Folder 6. For more on black lung, see chapter two.
[70] Yablonski campaign strategy papers, undated. MFDR, Box 23, Folder 37.
[71] In *Fossil Capital*, Malm demonstrates the environmental and atmospheric concerns that accompanied early coal use in Britain. Kander, Malanima, and Warde, in *Power to the People*, also demonstrate the deep dialectical relationship between the environmental impacts of energy sources and the social forces which structure them.

equipment.[72] The crew then set large explosives to fracture the coal seam, over the course of this process, destabilizing hundreds of millions of years of geological sedimentation. Once the coal was removed—at a much lower recovery rate than was possible in traditional underground mining, usually only thirty to forty percent compared to the eighty-five percent possible in traditional underground mining[73]—the overburden and topsoil was dumped back in without much ceremony, leaving a "barren moonscape" in its wake.[74] Boyle's administration fiercely supported the expansion of strip mining, even as miners expressed disquiet with the expansion of the practice, and even questioned if the men working in the strip mines should be allowed into the UMW. The strip mine workers, they argued, were "a different kind of cat."[75]

Arnold Miller, at that time a leader in the West Virginia Black Lung Association, remained skeptical of the claim that it was necessary to accept the environmental destruction to prevent job loss: "These workers are predominantly from out of state," he said, pointing out that strip mine workers would not have to live day to day with the decimated hillsides and polluted drinking water. "They are skilled heavy equipment operators who would have no trouble finding work." Miller also pointed out that "the only recreation mountain people have is hunting and fishing and strip mining wipes it out…don't talk about regulating strip mining to me, just stop it."[76]

Other miners noted that the same concern for the jobs of underground miners had not accompanied union-supported mechanization the decade before.[77] Moreover, because strip-mined coal was substantially cheaper by the ton than coal mined underground, companies actively closed underground mines in order to open stripping operations. Ed Mallacoat, who had been in

[72] Strip mining thus furthered the process of automation in the mining workplace that had begun with underground mechanization. Dix, *What's a Coal Miner to Do?*; Thomas, *An Appalachian Reawakening.*
[73] Jerry DeMuth, Notes from Interviews, 1971. JDC, Box 1, Folder 3.
[74] Jerry Demuth, "Coal's Hollow Prosperity," draft circa January 1971. JDC, Box 1, Folder 4.
[75] Jeanne Rasmussen, "Strip Mining Means Fast Profit, Ruined Land," *Miner's Voice*, February/March 1971. JDC, Box 1, Folder 4.
[76] Jerry DeMuth, Notes from Interviews, 1971. JDC, Box 1, Folder 3.
[77] Jeanne Rasmussen, "Strip Mining Means Fast Profit, Ruined Land," *Miner's Voice*, February/March 1971. JDC, Box 1, Folder 4.

the mines since 1946, was moved from a deep mine to a strip mine in 1968: "Strip mining is destroying the land," he said, "but it's the only work there is. So you're hurting yourself whatever way you go."[78] Charles York, a factory foreman, worked fourteen and fifteen hour days rather than go to work in a strip mine—the only other job available near his home. "I can't see strip mining, tearing up the country for just a few dollars."[79]

Although it would become much clearer in its articulation in the following years, the concept of environmental protection deeply linked to workplace safety and economic security that emerged from Jock Yablonski's campaign challenged the concept of environmental protection we typically remember as pervading the United States in the middle of the twentieth century, particularly following the 1962 publication of Rachel Carson's *Silent Spring*.[80] While typically seen as emerging from the postwar mix of widespread car ownership, nuclear fear, and the tension between suburban affluence and impoverished cities and rural areas, mid-century environmentalism and environmental policy-making often excluded blue-collar workers, especially those in the dirtiest jobs—coal and oil among them.[81] And while miners were certainly not immune to nuclear fear that pervaded the United States during the Cold War, for miners and

[78] Jerry DeMuth, Notes from Interviews, 1971. JDC, Box 1, Folder 3.
[79] *Ibid.*
[80] Rachel Carson, *Silent Spring* (New York: Houghton Mifflin, 2002). Also see Christopher McGrory Klyza, *Who Controls the Public Lands? Mining, Forestry, and Grazing Policies, 1870-1990* (Chapel Hill: University of North Carolina Press, 1996).
[81] The American relationship between energy cycles and the environment had its own peculiar history in addition to the broad similarities we can find with Malm and Kander, Malanima, and Warde. It was at once a colonial project as well as a project of capital expansion and political development. Strung through with notions of the religious sublime, as well as a deep cultural commitment to the individual's place in nature, a longstanding concept of an American environment that balanced the ethic of improvement with the draw of the wilderness was further transformed by the growth of suburban lifestyles and the development of new urban centers that would have been unsustainable without massive, intricate systems of logistics and energy delivery. For an overview of this history see: Jedediah Purdy, *After Nature: A Politics for the Anthropocene* (Cambridge: Harvard University Press, 2015); Paul S. Sutter, *Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement* (Seattle: University of Washington Press, 2002); Rome, *The Bulldozer in the Countryside*; Hays, *Beauty, Health, and Permanence*; Needham, *Power Lines*; Cronon. *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 2003) and *Nature's Metropolis: Chicago and the Great West* (New York: W.W. Norton and Company, 1992); David E. Nye, *The American Technological Sublime* (Cambridge: MIT Press, 1996); Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1996) and *Railroaded: The Transcontinentals and the Making of Modern America* (New York: W.W. Norton and Company, 2012); Shane Hamilton, *Trucking Country: The Road to America's Walmart Economy* (Princeton: Princeton University Press, 2008).

their families, who often lived in view of the new strip mining operations, national anxieties about nuclear fear began to be displaced by the very close and present threats posed by the torn-apart mountains. In her 1968 song "Black Waters," Jean Ritchie captured this fear:

> The hillsides explode with the dynamite's roar,
> And the voice of the small bird is heard there no more,
> And the hillside comes a-sliding, so awful and grand,
> And the flooding black waters rise over the land,
> Sad scenes of destruction on every hand,
> Black waters, black waters run down through our land.[82]

The imagery implied threats of Biblical proportion; the image of the black waters rising rather than cascading downward from the dams evoked the great flood that according to myth was supposed to wipe out life on earth, cleansing it anew. What was supposed to be cleansed in Ritchie's metaphor—and by whom? Ritchie's lyrics proposed that while the response of the land might be supernatural, the earth or the deity who ruled it angry with the abuse of its riches and purity, it was also in the power of the people who lived in the mountains to end the "poisoning" of the ecological relationships that had long defined mountain life—relationships which included work and recreation, commons and private ownership:

> In the summer come a nice man saying everything's fine,
> My employer just requires a way to his mine,
> Then they tore down my mountain and covered my corn,
> Now the grave on the hillside's a mile deeper down,
> And the man stands a-talking with his hat in his hand,
> While the poison black waters rise over my land,
>
> Well I ain't got no money, not much of a home,
> I own my own land, but my land's not my own,
> But, if I had ten million, somewheres thereabout,
> Well, I'd buy Perry County and throw them all out,
> And just sit down on the banks with my bait and my can,
> And watch the clear waters run down through my land.[83]

Yet these ecological relationships did not exist in isolation. The scarring of central Appalachia's mountains and the polluting of its waters were tied to a larger energy economy, to a nation whose

[82] Jean Ritchie, "Black Waters," 1968. JDC, Box 1, Folder 3.
[83] *Ibid.*

appetite for energy had grown rapidly across the preceding decade; national energy consumption looked on track to double again within the next decade.[84] Increased consumption didn't necessarily produce big gains in employment—thanks to mechanization—but it did exacerbate the environmental inequalities of the energy economy. Tom Bethel and Michael Kline's "Strip Away" (1969) drew attention to strip mining's ties to the energy economy, to the nebulous energy market prices which obscured the externalities of energy production, and the ways in which the expansion of strip mining exacerbated already existing regional inequalities:

> Strip away, big D-9 dozer, coming for to bury my home,
> I'm getting madder as you're coming closer, coming for to bury my home.
>
> Well I looked up a spoil bank and what did I see?
> Coming for to bury my home,
> The Island Creek Coal Company pushin' down my trees,
> Coming for to bury my home.
>
> They're going to turn our mountain homeland to acid-clay,
> Coming for to bury my home,
> To make a cheaper rate for the TVA,
> Coming for to bury my home.[85]

To destroy the homestead, such a potent symbol of how Americans characterized their own peculiar idea of independence and such a key component of American policy making, suggested that strip mining was not only an affront to miners in their lives as workers, but also as citizens of a nation. Mountain households were disposable in the name of low energy prices for consumers. The "primitive practices" and "destructive techniques" of strip mining had, according to Yablonski, "robbed the coal miner of the rich, natural environment of his homeland."[86] The mechanized coal industry ensured that coal was readily available to generate the electricity that

[84] The Federal Power Commission documented the extraordinary growth of energy demand, predicting in 1964 that energy use would double within a mere decade. Federal Power Commission, *National Power Survey* (1964).
[85] Michael Kline and Todd Bethell, "Strip Away," alternatively credited as "D-9 Dozer," set to the tune of "Swing Low Sweet Chariot," in *Voices from the Mountains: The People of Appalachia, Their Words, Their Faces, Their Songs*, Guy Carawan and Candie Carawan, eds. (Athens: University of Georgia Press, 1996), 36.
[86] Yablonski campaign strategy papers, undated. MFDR, Box 23, Folder 37.

ran the nation's cities, but coalfield residents paid a hefty price: "a terrible legacy of polluted rivers and streams, ravaged hillsides, and hideous slag heaps."[87]

Demands for conservation and reclamation quickly emerged as potential solutions to the growing problem of strip mining. Although nascent in Yablonski's campaign, his environmental plank, which proposed using the UMW's "vast financial resources and political influence in support of conservation and restoration projects in the coal region," was both legible to outsiders to the energy industry and at the same time, transcended this discussion. It focused on the central importance of recreation—hunting and fishing, in the Appalachian case—and the long-held ideal of agricultural improvement, particularly salient to a world embarking on the Green Revolution. The degradation of regional agriculture was so severe, according to Harry M. Caudill, author of *Night Comes to the Cumberlands*, that it had resulted in "myriads of men, women, and children who sit on the front porches of shacks and houses gazing with listless unconcern at the world…graveyards peopled with the living dead."[88] But like much of Yablonski's campaign, it was an early, and messy, expression of the changes being wrought in the coalfields by the midcentury transformation of the American energy regime.[89]

Although Yablonski called for an "end to environmental mayhem," what became clear over the course of 1969, as miners, their families, and their communities struggled with the ecological devastation caused by strip mining, was that the extent of environmental mayhem that had to be

[87] Yablonski campaign strategy papers, undated. MFDR, Box 23, Folder 37.
[88] Harry M. Caudill, *Night Comes to the Cumberlands: A Biography of a Depressed Area* (Boston: Little Brown and Company, 1963), 346. Caudill's portrayal of Appalachia was overly narrow and pathologized poverty, but captured what many believed the stakes of Appalachian politics to be. Along with Jack Weller's *Yesterday's People*, it remained a touchstone for national perception of the region and the power of the delinquency narrative persists, as with the publication of J.D. Vance's *Hillbilly Elegy* (though Vance's work, it should be noted, lacks the political economic analysis which many Appalachians appreciated in Caudill's work, even if they challenged other portions of his analysis). Bruce Tucker, "Harry Caudill and the Problem of the Past," *Journal of Appalachian Studies* 9 no. 1 (Spring 2003), 114-146; Jack Weller, *Yesterday's People: Life in Contemporary Appalachia* (Lexington: University of Kentucky Press, 1965); J.D. Vance, *Hillbilly Elegy: A Memoir of a Family and Culture in Crisis* (New York: Harper, 2016). Stephen L. Fisher, "Some Final Thoughts," in "Roundtable: Persistent Misconceptions: Rehabilitating Jack Weller, Reevaluating Harry Caudill," *Appalachian Journal* (October 2017), 118.
[89] Yablonski campaign strategy papers, undated. MFDR, Box 23, Folder 37.

confronted was only just becoming clear as stripping became more central to the future strategy of the energy industry. Additionally, as reports of Boyle trying to rig the election spread, the miners who had thrown their lot behind Yablonski found their attention drawn to trying to defend the democratic process of the union's presidential election.

"Democracy or Else": The 1969 Election and Its Aftermath

Figure 3.4: "The United Mine Workers Election Results Are Now In…," January 1970. Originally printed in the *Los Angeles Times,* the cartoon was syndicated throughout the coalfields. MFDR, Box 23, Folder 25.

The true outcome of the 1969 election will likely never be known. On December 11, 1969, Boyle declared victory after receiving 75,680 votes in the official tally—63.4 percent of the total.[90] Following the announcing of the results, Elmer Brown, Yablonski's running mate, suggested in a letter to Senator Harrison Williams, who sat on the Committee on Labor and Public Welfare, that, in fact, as many as eight percent of eligible voting miners may have actually cast their ballots for Yablonski in an election marred by inconsistencies. Brown demanded that Williams use $250,000

[90] Ben A. Franklin, "Boyle Declares Victory in Mine Union Race," *New York Times*, December 11, 1969, *PQHN*.

to investigate the election and its results.[91] Still the race was the narrower than the last contested election in the UMW, which had taken place forty-three years prior in 1926.[92] The real election result, some argued, was more conclusive: the murder of Jock Yablonski less than three weeks after Boyle declared victory. After the initial shock at the discovery of the bodies wore off, many considered the crime the logical outcome of the year's events, and the years of corruption by Boyle's administration. A widely syndicated newspaper cartoon (Figure 3.4) captured the sentiment. Linking Yablonski's death to the safety strikes which had so seriously depleted the nation's coal stockpiles, the cartoon suggested that alongside the imposing memory Yablonski's fiery campaign, the coalfield crisis remained unsolved. In the wake of the Farmington explosion, which had entombed men in the bowels of the earth well beyond the initial explosion, the imagery in this cartoon suggested that other bodies might lurk in the mine's snaking turns.

Rumors of interference by Tony Boyle and his supporters in the election began as early as the nomination process. The American Civil Liberties Union (ACLU) outlined Boyle's infractions in early September:

> Among the serious charges alleged were the misuse of union funds and the employment of union staff in Boyle's campaign for re-nomination; intimidation of and attempts to bribe administration opponents by men on the UMWA payroll; a physical assault on Yablonski himself; and illegally held nomination meetings, and other illegally adjourned (when Yablonski supporters turned out to be in the majority.)[93]

Later, Chip Yablonski, a labor lawyer and one of Jock Yablonski's sons, submitted a formal list of at least eight-six polling violations, including the levying of death threats against Yablonski's polling observers.[94] The infractions against the democratic process sharpened the dissident's critique of the problem of democracy in the coalfields and convinced some that the model of union-government-industry collaboration was nothing more than a deadly cocktail. Yablonski's murder

[91] H. Elmer Brown to Senator Harrison Williams, December 1969. MFDR, Box 23 Folder 10.
[92] Ben A. Franklin, "Boyle Declares Victory in Mine Union Race," *New York Times*, December 11, 1969, *PQHN*.
[93] ACLU News Release, November 19, 1969. MFDR, Box 23, Folder 1.
[94] Joseph A. "Chip" Yablonski, Election Day Violations, Appendix G, December 1969. MFDR, Box 23, Folder 17.

only reinforced this perception. "One can only conclude that the Government is working with Tony Boyle and the coal operators, and against the interests of coal miners," an exasperated H. Elmer Brown, Yablonski's running mate, wrote to Senator Williams. Brown then cast the problem of democratic elections as intimately tied to the problems of mine safety and occupational health: "Why is it," he asked, "the health, safety, and lives of working people are always put second to the profits of coal operators?...We want our rights and we are prepared to fight, even if it means closing the coal fields this summer."[95] Where democracy had failed miners at many levels—from a union election stolen by Boyle and his ilk to a representative government that failed to protect them—they saw the strike as their best choice to have a say over their lives.

And then, less than a month after Boyle had declared victory, Kenneth Yablonski, Jock's son and a labor lawyer, found his father, mother, and sister shot to death in their Clarksville home. Although Yablonski was dead, however, the opposition only continued to grow, prompting District Judge Edward Dumbauld to compare Boyle to Macbeth, quoting Shakespeare to him in court: "Now does he feel his title / Hang loose about him, like a giant's robe / Upon a dwarfish thief."[96] Following Yablonski's funeral, a group of miners who had ardently supported the reform campaign launched the Miners for Democracy caucus in a "school-house classroom."[97]

The campaign to reform the UMW continued, because the 1969 election had come to symbolize not a choice between two candidates, but instead became seen as a referendum on the coalfield crisis, a choice between the deadly shadow of the past, and Yablonski's "vision of the future." If the UMW was going to adapt to the challenges of the future, democracy in the union

[95] H. Elmer Brown to Senator Harrison Williams, December 1969. MFDR, Box 23 Folder 10.
[96] 338 F. Supp. 924 *Barnes & Tucker Co. v. United Mine Workers of America, District No. 2, United Mine Workers of America, et al*. Civ. A. No. 71-1110. United States District Court, W. D. Pennsylvania. February 16, 1972
by Joseph L. Rauh, Address to Miners for Democracy Convention, Wheeling, West Virginia, May 27, 1972. JHP, Box 11, Folder 20. Quote is Shakespeare, *Macbeth*, Act V, sc. 3, lines 20-22.
[97] Joseph L. Rauh, Address to Miners for Democracy Convention, Wheeling, West Virginia, May 27, 1972. JHP, Box 11, Folder 20.

would be needed to oust Boyle. But the problem of democracy for miners at the dawn of the 1970s extended beyond Boyle and his attempts to keep the UMW in his iron grip. Like the energy crisis, which extended far beyond the sites of the blackouts that conveyed the system's vulnerability, the crisis of democracy inside the UMW reached far beyond the crisis point of Yablonski's murder on the orders of Tony Boyle. It indicted the postwar system of bread-and-butter unionism and especially its Appalachian iteration, coalfield Fordism, as incapable of meeting the aspirations of miners on the eve of the environmental decade. However, looming questions about the place of coal miners in the high energy economy were left unresolved in the wake of Yablonski's murder. In the coming years, mine workers would question not only the coalfield contract, but the nation's energy regime.

Chapter Four

Jobs, Lives, and Land
The Ecology of Coalfield Democracy

Two months after discovering the bodies of Jock Yablonski, his wife, and their daughter, Yablonski's surviving sons—both lawyers involved in the effort to reform the UMW— issued "a word of caution to America." They warned that "the coalfields are rife with rumors of a nationwide strike following Labor Day," if new elections were not called for union offices and conjured the image of a blackout, warning "America's lights may go out this fall unless these men are given this fundamental right to be represented by men of their choosing."[1] This "fundamental right" was still young in the US labor movement, secured by law little more than a decade before, with the passage 1959 Landrum-Griffin Act.[2] But if it had not long stood at the core of American industrial relations, the claim to democracy stood in a longer tradition that allowed miners to see industrial and political rights as intimately connected: democracy as a political culture, a social form, and an organizing experiment deeply tied to their American identity.[3]

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[1] Statement of Kenneth J. and Joseph A. (Chip) Yablonski, March 6, 1970. JHP, Box 11, Folder 18.

[2] The Landrum-Griffin Act, also known as the Labor-Management Reporting and Disclosure Act, was a complex amalgam of efforts to counter about the influence of corruption on the US labor movement and both further hampered union organizing efforts while also providing a legal framework for "union democracy" which reform efforts would both mobilize and extend. Landrum-Griffin also fell far short of its own aspirations, and corrupt union officials often found ways to skirt the law. David Witwer, "The Landrum-Griffin Act: A Case Study in the Possibilities and Problems in Anti-Union Corruption Law," *Criminal Justice Review* 27 (2002), 301-321. Also see Doris McLaughlin and Anita Schoomaker, *The Landrum-Griffin Act and Union Democracy* (Ann Arbor: University of Michigan Press, 1979). Recent scholarship has emphasized that the example of the Miners for Democracy demonstrated the power of Landrum-Griffin to be used "as a tool of social reform" and that democratization of the UMW would not have occurred without the enforcement of Landrum-Griffin. George W. Hopkins, "Union Reform and Labor Law: Miners for Democracy and the Use of the Landrum-Griffin Act," *Journal of Labor Research* 31 (2010), 348-364.

[3] For an analysis of the legal basis for conceiving as industrial democracy and political democracy as entangled practices, see Staughton Lynd, "Government without Rights: The Labor Law Vision of Archibald Cox," *Industrial Relations Law Journal* 4 (1981), 483-495. For a description of their postwar entanglements, see Michael K. Brown, "Bargaining for Social Rights: Unions and the Reemergence of Welfare Capitalism, 1945-1952," *Political Science Quarterly* 112 no. 4 (1997), 645-674. Hays noted that unions formed a "middle level" between the political culture of everyday life and the organization of national politics, and thus unions had an important mediating role to play. Samuel P. Hays, *American Political History as Social Analysis* (Knoxville: University of Tennessee Press, 1980), 13, and for the technological dimensions of these interconnections, see 255. Democracy as a social form comes from William J. Novak, Stephen W. Sawyer, and James T. Sparrow, "Toward a History of the Democratic State," *Tocqueville Review* 33 no. 2 (2012), 7-18. The power of democratic culture in shaping American politics traces back at least to Alexis de Tocqueville, *Democracy in America* (New York: George Adlard, 1839). Also see Louis Hartz, *The Liberal Tradition*

After two years of organizing and unrest, the Department of Labor finally ordered a new election in the United Mine Workers, but by that point, it had become clear that at stake in the effort to democratize the UMW was not only the right to be "represented by men of their choosing," but a broader vision of democratic citizenship, one which grew from the coal mining workscape but was not bound by it. Bob Gergley, a member of the Miners for Democracy (MFD), captured the wide-ranging political imagination of the MFD as he urged his fellow miners to support the reform group's slate in the new election. With his quiet, measured voice—one clearly unaccustomed to public speaking—he appealed to what he imagined as the miners' shared democratic political tradition, calling forth the rights and obligations of American citizenship.[4] Voting for the Miners for Democracy was a vote for "freedom from fear," and the belief that "everyone should have the right to express their opinion without being intimidated." The MFD slate of Arnold Miller, Mike Trbovich, and Harry Patrick could make such campaign promises, Gergley felt, not only because they had "over eighty years' experience collectively in the mines," but because "each has fought for their country." At the heart of Gergley's speech was a belief that "No man should bear the miseries of a coal miner, let alone be cheated of his rightful benefits." He recognized that his fellow miners were often "uneducated and think there is not much we can do," but he also felt it was their collective duty to "surely…stand up for what is right."[5]

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in America: An Interpretation of American Political Thought since the Revolution (New York: Harcourt Brace & Company, 1955); for a social history of the development of a distinctly American culture, see Claude S. Fischer, *Made in America: A Social History of American Culture and Character* (Chicago: University of Chicago Press, 2010).

[4] Linda Kerber, *No Constitutional Right to Be Ladies: Women and the Obligations of Citizenship* (New York: Hill & Wang, 1998); William N. Eskridge, "Relationship between Obligations and Rights of Citizens," *Fordham Law Review* 69, no. 5 (2001), 1721-1751; in 1948, economist Frank Pierson had acknowledged that unions represented a form of dual government, with their own sets of rights and obligations for membership. Frank C. Pierson, "The Government of Trade Unions," *Industrial and Labor Relations Review* 1 no. 4 (July 1948), 593-608. This view of union democracy as reflecting the democratic rights of the citizenship has proven persistent. Herman Benson, longtime advocate for the democratization of unions, argued in 2002 that "The kind of democracy we should be talking about under the heading of 'union democracy' is democracy—democracy as commonly understood in national life…Workers should have roughly similar democratic rights as members of their unions as they have as citizens or residents of the United States." Herman Benson, "Strengthening Democracy in Unions," *WorkingUSA* 5 no. 4 (Spring 2002), 71-83.

[5] Bob Gergley urges election of Miller to the UMW presidency, audio cassette recording. United Mine Workers Audiovisual Collection [hereafter UMWAV], Eberly Library Special Collections, Penn State University. Box 1, Folder 91.

For miners like Gergley, the effort to democratize the UMW represented patriotic duty—the opportunity to restore the proper balance of rights and obligations of citizenship in the coalfields—rather than a symbol of rebellion. The Miners for Democracy, like other union democracy movements in this period, however, have typically been understood as part of a wave of labor insurgency, as part of a broader "rank-and-file upsurge."[6] These narratives were not as counterintuitive as they first appear, but instead revealed a struggle in the coalfields to redefine democracy by renegotiating its terms.[7] As the social contract of coalfield Fordism deteriorated and miners' vision of what kind of contract the nation should make with them expanded to include, among other things, environmental protections, what miners often saw as initially as patriotic duty increasingly co-existed in the space of rebellion.[8] This chapter proposes instead to knit the emergence of the Miners for Democracy, into a broader fabric of democratic contestation, industrial transformation, ecological crisis, and energy uncertainty.

The murder of Jock Yablonski represented a turning point that had not only exposed the structure of power in the coalfields, but also its shifting vulnerabilities. The corruption of the Boyle administration was embedded in a system of alliances which had undermined the promise of

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[6] The "upsurge" has a wide-ranging literature. See Aaron Brenner, Robert Brenner, and Cal Winslow, eds. *Rebel Rank and File: Labor Militancy and Revolt from Below in the Long 1970s* (New York: Verso, 2010); Sheila Cohen, "The 1968-1974 Labour Upsurge in Britain and America: A Critical History and a Look at What Might Have Been," *Labor History* 49 no. 4 (2008), 395-416; Cowie, *Stayin' Alive*; Kim Moody, *An Injury to All: The Decline of American Unionism* (New York: Verso, 1988); Clark, *The Miners' Fight for Democracy*; Philip Nyden, *Steelworkers Rank and File: The Political Economy of the Union Reform Movement* (New York: Praeger, 1984); Burton Hall, *Autocracy and Insurgency in Organized Labor* (New Brunswick, NJ: Transaction Books, 1972).

[7] On the contestability of democracy, see Milja Kurki, "Democracy and Conceptual Contestability: Reconsidering Conceptions of Democracy in Democracy Promotion," *International Studies Review* 12 (2010), 362-386; and in social movements, Polletta, *Freedom is an Endless Meeting*.

[8] The term "rank and file rebellion" certainly describes powerfully the spike in labor activism—encapsulated, according to Aaron Brenner, by "contract rejections, collective insubordination, sabotage, organized slowdowns, and wildcat strikes"—that took place outside traditional structures of union power in these years, not just in the coal mines, but across the nation. As an organizing concept for this period, however, it does little to historicize this upsurge in labor activity, instead lending itself to uneasy comparison to other periods of heightened labor unrest—especially the 1930s by tying the cycles of labor unrest to broader crises of capitalism. While certainly an observable trend, the character of particular upsurges offers counterpoints to comparison, revealing the broad layers of tensions that drive and characterize labor unrest in different periods. Aaron Brenner, "Preface," in *Rebel Rank and File*, xi. Cowie also notes the nationwide character of the "wave of rank-and-file rebellions moving through much of occupational life in the early 1970s. see Cowie, *Stayin' Alive*, 24.

postwar democracy in an effort to revive the coal industry, and which had undercut miners' aspirations for a broader coalfield contract. While Yablonski had framed the problem of democracy as a need to reform the coalfield contract for a new era, following his murder, the meaning of the coalfield contract and the bounds of democratic politics appeared more up for contest than ever.

On the one hand, democracy had the conceptual power to encompass a broad vision of rights and obligations that stretched across the spheres of Americans' lives, from home to work, from the union hall to the halls of government. Democracy was also an experience, tied to specific places and issues that reshaped how it was imagined. In the coalfields, miners experienced democracy through an amalgamation of issues: union reform, ecological protections, safety campaigns, and the industrial power derived from new forms of energy relationships. The importance of these different issues derived not just from their concurrence, but from the connections which demonstrated miners' ability to understand a wide range of issues—from black lung to strip mining regulation—as holistic evidence of a broken system of coalfield relations.

The tripartite governance that had characterized the coalfield Fordist regime was now seen as collusion between the union officialdom, the industry, and the government. For reform-minded coal miners, this collusion had compromised the safety of their workplaces and appeared to invalidate the suffering which their parents and grandparents had endured to unionize the coalfields earlier in the century. This sense of institutional violation also mapped the generational divide helping drive national tensions over the Vietnam War, between veterans disillusioned by their experiences in Southeast Asia and their elders who had fought in World War II—the "good war."[9]

[9] For Appalachian miners' perspectives on the Vietnam conflict, see Alessandro Portelli, *They Say in Harlan County: An Oral History* (New York: Oxford University Press, 2011), 284-336. Arnold Miller, himself a WWII veteran who had been wounded in the invasion of Normandy, drew this same generational distinction and argued it was explanatory in explaining the insurgent situation in the coalfields. "Coal miners, today, are skilled industrial workers. Increasingly, they are younger men, many of them Vietnam veterans. All of them are unwilling to repeat the history of their fathers

The shifting political terrain of the coalfields was part of the broader rights revolution that expanded the scope of the claims Americans made on their government, as concerned with the political externalities of high-energy capitalism—the rights, benefits, and standing which they felt would grant the coalfields their due political weight—as well as the economic externalities more commonly associated with coal production.[10]

These miners argued that workplace safety—the right to survive the workday—was no longer just a condition of steady production or employment, but that it was a right conferred by and representative of full citizenship. Black lung and mine disasters violated that restatement and expansion of the right to life. It made sure the shadow of death accompanied them wherever they went and created new dependencies which bound them to a coalfield healthcare system representative of the collusive power that coalfield Fordism had come to represent.[11] Additionally, the ecological devastation driven by growth of surface mining violated miners' relationship to the mountains they called home. Surface mining extended the dangers of the mining workscape to the broader community. It undermined old traditions of subsistence and threatened more modern ideas of leisure and wilderness. Although these older traditions had already been eroded by the growth of consumer society and the mechanization of agriculture, they persisted in the Appalachia, where alongside the mountains themselves, traditions of subsistence and independence played a powerful role in regional identity, and figured strongly into debates over strip mining.[12] They linked an

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who worked their lives and health away and have nothing to show for it." Remarks of Arnold Miller to the National Press Club, May 4, 1973. JHP, Box 11, Folder 20.

[10] On the rights revolution, see Mark Tushnet, *The Rights Revolution in the Twentieth Century: New Essays on American Constitutional History* (Washington, DC: American Historical Association, 2009); Samuel Walker, *The Rights Revolution: Rights and Community in Modern America* (New York: Oxford University Press, 1998). Economic externalities are discussed in chapter two.

[11] Derickson, *Black Lung*.

[12] See for example, Daniel Worster, *Dust Bowl: The Southern Plains in the 1930s* (New York: Oxford University Press, 2004); On Appalachian agricultural traditions and change, see Paul Salstrom, *Appalachia's Path to Dependency: Rethinking a Region's Economic History, 1730-1940* (Lexington: University Press of Kentucky, 1994); Bill Best, *Saving Seeds, Preserving Taste: Heirloom Seed Savers in Appalachia* (Athens: Ohio University Press, 2013), 123-189; Sarah M. Gregg, *Managing the Mountains: Land Use Planning, the New Deal, and the Creation of a Federal Landscape in Appalachia* (New Haven: Yale University Press, 2010); Jerry Bruce Thomas, *An Appalachian New Deal: West Virginia in the Great Depression* (Lexington: University Press of Kentucky, 1998).

ecological vision rooted in rural Appalachian material life with a deep-seated American political tradition which valorized independence through agriculture.[13] Democracy in the coalfields, then, became an idea built on these three pillars: jobs, lives, and land.

Using this framework of jobs, lives, and land, the Miners for Democracy helped expand the scope of what democratization meant from being internal to the union to also include a strong focus on the administrative state and national energy and environmental politics. This expansion resulted from the persistence of disasters across the coalfields, including two in the coalfields which became MFD rallying cries: the December 1970 explosion in Hyden, Kentucky that killed 38 miners in a non-union mine, and the catastrophic failure of an impoundment dam at Buffalo Creek that killed 125 and left 4,000 homeless. The ecological components of each of these unnatural disasters were interpreted as violations of workplace safety, particularly in the way the MFD characterized the relations of power which had allowed the disasters to occur.[14] They were also successful for organizing the union's base, and the MFD became the first group of reformers to take over their union at the international level.[15] None of this emphasis on the labor ecology of the Miners for Democracy suggests that the changes implemented by the MFD inside the union—

[13] Appalachian Land Ownership Task Force, *Who Owns Appalachia? Land Ownership and Its Impact* (Lexington: University Press of Kentucky, 1983), 80-135; Caudill, *Night Comes to the Cumberlands*; Benjamin Marley, "The Coal Crisis in Appalachia: Agrarian Transformation, Commodity Frontiers and the Geographies of Capital," *Journal of Agrarian Change* 16 no. 2 (April 2016), 225-254; Corbin, *Life, Work, and Rebellion in the Coal Fields.*

[14] On denaturalizing disaster, see Ted Steinberg, *Acts of God: The Unnatural History of Disaster in America* (New York: Oxford University Press, 2006).

[15] As such, they have been the subject of persistent study, most notably by Paul Nyden and Paul F. Clark. The MFD have also played a central role in a broader narrative of rank-and-file rebellion in the American labor movement in the long 1970s, as well as a focal point in the efforts to challenge corruption in the labor movement. While these narratives and close studies have uncovered, in particular, the connections among union reformers which helped foment this period of militancy in the industrial sector, they have also internalized a narrative that extended far beyond the labor movement or the organized left which sought to intervene in it. When the MFD have been considered in the broader context of the upheavals in American society in the long 1970s, they have been portrayed as the zeitgeist of the 1960s—"Union Democracy, the New Politics, the whole Sixties Enlightenment…the whole sixties experience come at last to organized labor." But for scholars like Cowie, as powerful as the reform efforts in the United Mine Workers were, they still reflected a national political mood coming to the coalfields rather than a drama that unfolded for particular reasons in a particular place. Clark, *The Miners' Fight for Democracy*; Paul John Nyden, "Miners for Democracy: Struggle in the Coal Fields," (Ph.D. diss., Columbia University, 1974); Paul J. Nyden, "Rank-and-File Movements in the United Mine Workers of America, Early 1960s – Early 1980s," in *Rebel Rank and File*, 173-198; Thomas Geoghegan quoted by Jefferson Cowie, *Stayin' Alive,* 26.

the restoration of district autonomy, direct membership voting on contracts, and reduction of officer salaries to discourage careerism in union bureaucracy—were unimportant.[16] Instead, the focus on almost exclusively internal union issues has obscured the role the Miners for Democracy played in another story: the transformation of coalfield relationships helping to drive the nation into an energy crisis.

Mining Democracy

While the Miners for Democracy—the organized expression of these connected struggles among the region's unionized miners and their allies—was most certainly a response to Boyle's corruption, especially the murder of the Yablonski family, it was not ultimately this aspect of the MFD which made the movement so remarkable. Instead, it was the way that Boyle's corruption was exposed by his inability to lead the union into this new era, the product of both his own limited political imagination as well as the structure of the coalfield Fordism he inherited and championed as it headed toward total collapse. Still, despite the "climate of fear and intimidation" which percolated within the union, substantial support persisted for Boyle right up to his final moments

[16] Scholars have long attributed the MFD victory to the intervention of the US Labor Department and to the influx of young miners, many Vietnam veterans, into the ranks of the nation's coal miners after 1969. Clark points to the relatively narrow margin of victory for the MFD and suggests that if assumptions about youth miners' support for the MFD were correct, then "it is very possible that young miners had a decisive influence in the 1972 election." Such divisions suggest that the success of the MFD was a part of a broader narrative about a changing country. It also suggested that while central Appalachia was not the site of much of the nation's antagonism over the Vietnam war, that the disproportionate impact of the war on Appalachian communities returned to the region in other forms. Nyden, "Miners for Democracy: Struggle in the Coal Fields," 413-417; Clark, *The Miners' Fight for Democracy,* 28-29. A definitive study of the impact of the Vietnam war in Appalachia has not been written, however, Appalachia states like West Virginia experienced a disproportionate number of casualties (0.8 percent of American population, but 1.2 percent of Vietnam combat deaths). Vietnam War U.S. Military Fatal Casualty Statistics, National Archives, Military Records—Vietnam. Accessed online. The relatively low level of political activity—either against or in support of the war—on Appalachian campuses has been assessed by Thomas Weyant, "'Your Years Here Have Been Most Unreal': Political and Social Activism during the Vietnam War Era at Northern Appalachian Universities," Ph.D. diss, University of Akron, 2016. Also see Portelli, *They Say in Harlan County*.

in office.[17] Even as the case docket awaiting him in the courts towered higher and higher, he secured nearly 45 percent of the 1972 vote, not all of which could be chalked up to intimidation.[18]

Charges of corruption, while almost universally loathed, might not alone have necessarily resulted in his ouster at the hands of the MFD. A skepticism for charges of corruption among those coal miners who remained loyal to Boyle was not only based strictly on patronage, but drew on the same generational divide among coal miners that also framed competing visions of democracy. Older miners and pensioners in particular remained skeptical, an attitude that emerged from what Witwer points out was a heavy politicization of corruption charges, particularly by the critics of the labor movement who "wielded a broad definition of corruption, one that involved more than simply acts of bribery or extortion and at times even included union activities that were technically legal."[19] Miners who had been working for twenty-five or more years were more skeptical of the corruption charges because charges of corruption had been thrown at John L. Lewis throughout his career, and most associated Lewis with the "wars" which were fought to unionize the coalfields and the gains that industry-wide bargaining had made in the postwar years. They associated charges of corruption with anti-union politics.[20] One miner, Leonard Sergeant, said:

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[17] Miners for Democracy Fundraising Pamphlet, c. 1972. John Herling Papers, Box 11, Folder 20.

[18] Election Results, *UMWJ*, January 1, 1973. By the time of the election, g was already facing criminal charges in US District Court and several other lawsuits related to corruption, as well as labor campaigning violations. See, for example, *Miners for Democracy v. United Mine Workers et al,* 80 LRRM 2630; *United States v. Boyle*, 1971 US District Court 11480l and *Yablonski v. United Mine Workers et al*, 72 LRRM 2172. Alessandro Portelli details how support for Boyle was cultivated in certain Eastern Kentucky districts during the 1969 and 1972 elections in *They Say in Harlan County*, 307-310.

[19] For Boyle-supporting miners' perceptions of charges of corruption, see Laurence Learner, "The United Mine Workers Holds an Election," *New York Times*, November 26, 1972. Witwer, *Corruption and Reform in the Teamsters Union*, 2; also see David Witwer, *Shadow of the Racketeer: Scandal in Organized Labor* (Urbana: University of Illinois Press, 2009), especially 103-204; Thaddeus Russell, *Out of the Jungle: Jimmy Hoffa and the Remaking of the American Working Class* (Philadelphia: Temple University Press, 2003). The UMW participated in this perception in the legal department reports that communicated a union under threat from legislation including the Landrum-Griffin Act and the Sherman Act. See legal department report, *Proceedings* (1968).

[20] Certainly, the corruption charges that were thrown at Lewis throughout the years were not entirely without merit, but Lewis's hagiographic status inside the UMW and the fact that the others who made the charges were perceived as equally if not more corrupt meant that few miners entertained an evidence-based evaluation of the Lewis administration's actions. Instead, their evaluation was based in a popular memory that viewed Lewis and the gains of industrial unionism after the passage of the NLRA as utterly indivisible. Robert H. Zieger, *The CIO, 1935-1955* (Chapel Hill: University of North Carolina Press, 1997); Laslett, *The United Mine Workers of America*; Melvyn

> We knowed Tony Boyle done wrong. Everyone knowed it. But I been in the mines for 38 years…and I think our best bet is to stick with Tony. This is a funny thing for a man to say who believes in democracy as much as I do, but we can't afford democracy in this union.[21]

Despite the political mire that charges of corruption waded into, no one among the reformers doubted that Tony Boyle was corrupt, nor did they shy away from saying so. They were later vindicated following a lengthy series of trials which unearthed money laundering, stealing from the pension fund, and, of course, ordering the Yablonski murders.[22] The MFD refused to accept that the problem was *only* corruption. Corruption, they charged, was symptom of a broader crisis that was not even confined to the union. The miners saw the reform of their union as intimately connected to a broader national crisis of democracy which had left them "no more optimistic about the future of the United States than anyone else."[23]

In the place of optimism stood duty. The Miners for Democracy chose Arnold Miller, a disabled miner, and leader of the Black Lung Association who had led the West Virginia black lung rebellion and been deeply involved in Yablonski's campaign as its choice to oppose Boyle. Miller was from West Virginia and continued to live along Cabin Creek—a waterway that had both been the site of fierce labor battles and had become a dumping ground for mining waste. He lived in sight of a mountainside that had been "disemboweled" by strip mining.[24] A World War II veteran who had been injured in the invasion of Normandy, Miller often explained his candidacy by calling forth not only his mining heritage but his military service—as well as the military service of his slate members Mike Trbovich and Harry Patrick, "We're all combat veterans…capable of handling ourselves in a tight spot."[25] Such concern was understandable. As *Boston Globe*

Dubofsky and Warren R. Van Tine, *John L. Lewis: A Biography* (Urbana: University of Illinois Press, 1986), 129-278.

[21] Quoted in Laurence Learner, "The United Mine Workers Holds an Election," *New York Times*, November 26, 1972.

[22] *United States v. Boyle*, which lasted through a series of appeals from 1971 to 1983.

[23] Engler, "Oil, Politics, Power," *Black Lung Bulletin*, May 1971. MFDR Box 44, Folder 8.

[24] Laurence Learner, "The United Mine Workers Holds an Election," *New York Times*, November 26, 1972; Ben A. Franklin, "Angry UMW Insurgent: Arnold Ray Miller," *New York Times*, May 30, 1972. *PQHN.*

[25] Bob Daniels, "Running against Tony Boyle," *Boston Globe*, December 3, 1972. *PQHN.* Today, the signage marking the bridge dedicated to Arnold Miller in Kanawha County, West Virginia only mentions his military service, not his activism or his leadership of the United Mine Workers.

columnist Mary McGrory quipped: "running against Boyle is a hazardous business, almost as hazardous as mining coal."[26] While Miller won the nomination of the MFD unexpectedly—Mike Trbovich, Yablonski's campaign manager and a working miner from western Pennsylvania was originally expected to get the nod—his nomination in retrospect made sense. He was the literal embodiment of the coalfield crisis.

Although Miller was himself part of the older generation within the UMW, he politically aligned himself with the growing ranks of younger miners.[27] The new generation of miners were "skilled industrial workers…younger men…unwilling to repeat the history of their fathers who worked their lives and health away and have nothing to show for it."[28] The generational divide in work experience also helped emphasize changes in the coal industry which had shaped those experiences—from mechanization to the industrial restructuring that at the time of the MFD campaign was ongoing, and only just beginning to be understood as an incursion of the oil industry into other fuel sectors, particularly coal.[29] But even if the full extent of transformation of American energy production was not yet clear, the MFD understood that Boyle lacked the will and imagination to confront it. He was outdated: "old, flaccid, and venal," according to one MFD pamphlet.[30] According to Miller, "The pick and shovel days [were] over," and the time for the Miners for Democracy had come.[31]

The emergence of democracy as a uniting vision for the reform movement was in part the product of the internal coalfield struggles for jobs, lives, and land. The focus on democracy also

[26] Mary McGrory, "Tony Boyle Faces New Challenges," *Boston Globe*, November 20, 1972. *PQHN.*
[27] Nyden estimates 37,214 more young coal miners worked union mines in 1972 than in 1969, and that these new young miners overwhelmingly voted for Miller. Nyden, "Miners for Democracy: Struggle in the Coal Fields," 413-417.
[28] Remarks by Arnold Miller to the National Press Club, May 4, 1972. JHP, Box 11, Folder 20.
[29] Beck and Rawlings, "Coal, the Captive Giant: A Report on Coal Ownership in the United States." Private Report. MFDR Box 63, Folders 9-10.
[30] Miners for Democracy Fundraising Pamphlet, c. 1972. JHP, Box 11, Folder 20.
[31] Remarks by Arnold Miller to the National Press Club, May 4, 1973. JHP, Box 11, Folder 20. Miller also repeated this phrase in his first "State of the Union" address in December 1973. Transcribed in *Proceedings* (1973), 9.

reflected the broader political crisis gripping the nation, as tensions over Vietnam escalated, calls for civil rights transformed into demands for black power, and a global struggle for decolonization interwove demands for democracy and self-determination.[32] The Miners for Democracy, from their organization following Yablonski's murder through their victory in the 1972 election, stood amid a global crisis of democracy which was profoundly unsettling for many Americans and sought to use it as an opportunity for political transformation. This duality helped miners make sense of a turbulent period characterized by a stagnating industrial economy, a changing energy landscape, the growth of strip mining, and an international political economy which stood on the knife edge between the Cold War and the event of decolonization. Democracy as a unifying principle heightened the importance of the jobs, lives, and land platform because it gave a clear content to their vision of democracy at the very moment where widespread contest meant that, in reality, the meaning of democracy was far less certain than the MFD imagined it was.

Claiming democracy, moreover, strengthened the MFD's claim to stand in an American tradition of political rights, most importantly those to life, liberty, and property, which since the founding of the American state in the eighteenth century had been widely accepted as fundamental to the American political experiment without ever having settled meaning. These rights, as the basis of citizenship, formed a central contradiction in American history which had been marshalled in order to abolish slavery, extend voting rights to African Americans and women, and legalize labor unions. The mirror to Locke's set of natural rights—life, liberty, and property—was indeed striking: the jobs, lives, and land platform distilled these abstract natural rights into a set of concrete

[32] See Kristin Ross, *May '68 and Its Afterlives* (Chicago: University of Chicago Press, 2004); Vladimir Tismaneanu, ed., *Promises of 1968: Crisis, Illusion, and Utopia* (Budapest: Central European University Press, 2011); George Katsiaficas, *The Global Imagination of 1968: Revolution and Counterrevolution* (New York: PM Press, 2018); Martha Biondi, *The Black Revolution on Campus* (Berkeley: University of California Press, 2014); Gary Wilder, *Freedom Time: Negritude, Decolonization, and the Future of the World* (Durham, NC: Duke University Press, 2015); Ashley D. Farmer, *Remaking Black Power: How Black Women Transformed an Era* (Chapel Hill: University of North Carolina Press, 2017); Rhonda Y. Williams, *Concrete Demands: The Search for Black Power in the 20th Century* (New York: Routledge, 2014).

demands. It tied the Miners for Democracy's key document—the "Miner's Bill of Rights"—to a deeper American political tradition.[33]

More than merely metaphor, the "Miner's Bill of Rights" also suggested shifts in the practice of democratic governance. The working conditions which had long been the provenance of either the employment contract or of protective regulation were instead imagined as rights—including the inalienable "right to life itself." While such a move might seem rhetorical, it in fact had important implications for the process of collective bargaining precisely because it suggested that certain "rights," like a safe workplace and a viable environment, were firmly *not* up for debate, but instead were fundamental to the category of citizenship. In suggesting that certain aspects of miners' working lives were not up for negotiation, and presumably then outside of the purview of contract negotiation, this vision of rights shifted miners' focus to the state and the scope of their organizing expanded from the workplace to include a more ambiguous social terrain.[34] Although it muddied the boundaries between public politics and workplace organizing, the "Miner's Bill of Rights" had a clear platform which called for the protection of miners' jobs, lives, and land, and the MFD argued that the first step toward achieving it was the democratization of the UMW.

In the context of the Cold War, the genealogy of the "Miner's Bill of Rights" explicitly called back to the nation's founding myths. Moreover, it sought to cement the union reform movement as quintessentially American, thus seeking to avoid the toxic political atmosphere that

[33] Montrie points to this connection to a longer tradition of property rights in the United States but he assumes that this framing of the problem in terms of property rights is necessarily conservatizing. As is discussed later in the chapter, the appeal to the property tradition must be fully contextualized in order to be understood since it formed only a segment of a larger political program. Earlier, Montrie had also argued that the miners' opposition to stripping in these years should be considered "expedient," instead of—presumably—authentic. Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (Chapel Hill: University of North Carolina Press, 2003), especially 39-53 and "Expedient Environmentalism: Opposition to Coal Surface Mining in Appalachia and the United Mine Workers of America, 1945-1975," *Environmental History* 5 no. 1 (January 2000), 75-98.

[34] On the place of protective legislation within the history of rights claims, see Tushnet's discussion of *Holden v. Hardy* (1898) and other court cases dealing with protective legislation. Tushnet, *The Rights Revolution*, 8. He argues that these cases do not concern labor rights as such because the people they were imagined to cover were not considered by the courts fully able to exercise the rights and obligations of citizenship.

had seriously undermined the labor movement in the 1940s and 1950s, and which had subjected some of the nation's most influential labor organizers and advocates to anti-Communist witch-hunts—usually with the support of union officials.[35] Yet again, however, it would be wrong to label the MFD's alignment with this American political tradition as simply "expedient"; far from an expedient rhetorical move, the tripartite set of claims—of rights to jobs, lives, and land—reflected real, if shifting, beliefs about the relationship between economic and political life. The Miners for Democracy, as an organized expression of these beliefs, contradictory and contentious as they were, opened up a period of unprecedented change inside the United Mine Workers which allowed miners to question the norms of their industry even as they sought to intervene in the way that their jobs mediated the relationship between the American energy regime and their lives and land.

Jobs

Although mechanization had radically reduced the nation's mining workforce beginning in the early 1950s, by 1970, coal had begun to experience a rebirth riding the surging demand for electric power. Growth prospects for the industry were "restricted by nothing much, except [the industry's] capacity to serve the market."[36] The growth outlook for the industry seemed at odds with the industry's challenges, particularly a steep decline in the productivity of underground mines. In 1969, the black lung strikes had driven a loss of 4.8 percent of national working time and resulted in a production shortfall of eighteen million tons, and utilities were forced to draw down their stockpiles to dangerously low levels.[37] Approximately forty thousand young miners flooded into the industry, but the growth of surface mining far outpaced growth in underground

[35] Zieger, "The CIO and Its Communists," in *The CIO,* 253-293.
[36] Robert Walker, "Demand Gains; Output, Prices of Coal Rising," *New York Times*, January 18, 1970. *PQHN*.
[37] US Department of Labor, News Release. Fact Sheet on Collective Bargaining in the Bituminous Coal Industry, 1950-1970. MFDR, Box 64 Folder 19.

mines.[38] Nationally, surface mining production had grown at nearly double the rate of underground mining across the 1960s.[39] Appalachian writer Harry Caudill, best known for his book *Night Comes to the Cumberlands*, echoed Rachel Carson's description of the potential impact of pesticides when he wrote that, thanks to the growth of surface mining across the country, "an ecological nightmare of unimaginable dimensions suddenly looms everywhere."[40]

In Appalachia, the disparity in the growth of surface mining was even more pronounced: surface mining production grew 3.3 percent while underground production experienced a two percent contraction.[41] The growth of Appalachian strip mining, visible from many of the mountainsides that miners and other Appalachian residents called home, differed in important aspects from its western counterpart. Its growth was not simply the mining of new seams, but a different form of extracting other parts of the same seams previously mined below ground. New forms of exploitation had been made possible in the years following World War II by the introduction of improved contour stripping techniques, which allowed the enormous heavy equipment to navigate the rough terrain of the central Appalachian region—western Pennsylvania, West Virginia, eastern Kentucky, southwest Virginia, and northeastern Tennessee.[42] But the early 1970s was a particular boom moment for Appalachian surface mines. By early 1971 "nearly 50

[38] The majority of coal would come from underground mines through 1971. From 1971-74, underground and surface mining contributed similar tonnage, and after 1974, surface mining decisively overtook underground production. Energy Information Administration, "Coal Production, 1949-2017," *Annual Coal Report* (November 2018). Underground miners continue to outnumber surface miners, even after decisive shifts in the geography and intensity of production. Bureau of Labor Statistics, "Distribution of Employment for Coal Mining Industries," 2010; Safety Roundup, Pennsylvania Bituminous Council, Holmes Safety Association, September 1969.

[39] Joel Darmstadter, "Table 1-1: Productivity Highlights," in "Productivity Change in US Coal Mining," (Washington, DC: Resources for the Future, 1997), 3.

[40] Harry M. Caudill, "Strip Mining Coast to Coast," *The Nation*, April 19, 1971. Also see Caudill's *My Land Is Dying* (New York: E.P. Dutton and Co., 1971); Carson, *Silent Spring*.

[41] Joel Darmstadter, "Table 1-1: Productivity Highlights," in "Productivity Change in US Coal Mining," (Washington, DC: Resources for the Future, 1997), 3.

[42] For an analysis of Appalachian strip mining, see Richard Cartwright Austin and Peter Borrelli, *The Strip Mining of America: An Analysis of Surface Coal Mining and the Environment* (New York: Sierra Club, 1971). The growth of stripping in the region is documented by Darmstadter and Montrie, *To Save the Land and People* as well as by the Bureau of Mines, which published an annual *Minerals Yearbook.* For the boom of stripping in the years following WWII, compare, for example the numbers from the 1940 *Yearbook* with those from later in the decade. (Washington, DC: US Government Print Off., 1940, 1947, 1948, 1949, 1950).

percent of the strip mining permits now in force had been issued in the last seven months" across the region.[43] According to the MFD members, the boom had led to chronic understaffing in a section of the industry that already employed far fewer workers than nearby underground mines. Miller outlined one West Virginia strip mine where "they have five mem operating equipment and nobody at all on water control, slide control, things like that."[44]

The mines consumed the men who entered them and ate away at the land. The narrative of the greedy operator was called forth to great effect to explain the persistence not only of death in the mines but also of ecological degradation across Appalachia. "If West Virginia was a pie," one flyer handed out at mine sites asked, "how much would the strippers eat?" Some counties, like Boone and Mingo, could be "100%" destroyed by the strippers.[45] The anti-stripping sentiment was helped by the fact that strip mining had remade the Appalachian landscape at a moment when Americans were more concerned with the state of their environment than ever before.[46] The development concerned the Department of the Interior, who felt that land protection and energy development were "alternative national goals" and worried that the mining industry would "not adjust to change," and it would "face growing public hostility and increasing regulation."[47] Because the Dr. Elburt Obsorn, Bureau of Mines director, felt that "the aroused citizen does not see or hear the whole story" about the contributions that coal mining made to American society—primarily in Obsorn's mind the fact that coal helped to meet growing consumer "demand for cars,

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[43] Jeanne Rasmussen, "Stripping means fast profit, ruined land," *Miner's Voice*, February/March 1971. JDC, Box 1, Folder 4.
[44] Arnold Miller in an interview with *Miners' Voice*, June 1972. MFDR Box 31, Folder 29.
[45] Appalachian Strip Mining Information Service, "If West Virginia Was a Pie…" circa 1971. MFDR, Box 105, Folder 5.
[46] Hays, *Beauty, Health, and Permanence*; Montrie, *To Save the Land and People*; Thomas R. Dunlap, *DDT, Silent Spring, and the Rise of Environmentalism* (Seattle: University of Washington Press, 2008); Kathryn Newfront, *Blue Ridge Commons: Environmental Activism and Forest History in Western North Carolina* (Athens: University of Georgia Press, 2012); McNeill, *Something New Under the Sun*, 325-354; Daniel Farber, ed., *The Struggle for Ecological Democracy: Environmental Justice Movements in the United States* (New York: Guilford Press, 1998); Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington, DC: Island Press, 2005); Rowe, *The Bulldozer in the Countryside*; Sellers, *Crabgrass Crucible*.
[47] Press Release, "US Bureau of Mines Director cites need for minerals industry to adjust to advances in ecological science," September 13, 1971. MFDR, Box 45, Folder 20.

boats, TV sets, lawnmowers, telephones, tractors, airplanes, all the necessities and luxuries that mineral technology makes possible"—Osborn felt that the public didn't understand the true meaning of their demands for energy which were "so voracious that world mineral consumption during the last half-century has exceeded previous mineral consumption in the history of mankind."[48]

Energy consumers however, were less likely to think in terms of future energy consumption, which seemed rather abstract when promises of a future of unlimited cheap, or even free, energy saturated American culture.[49] More immediately visible, were the scars on the past. What made consumers uncomfortable were:

> the economics of mineral recovery has led us to turn more and more to surface excavation of ore, so that miles of unsightly open pits now mar the beauty of the countryside. Acid runoff water from these areas enters rivers and streams, creating additional pollution problems. The chimney of smelters and refineries add their measure of corruption to the environment…Almost everything [the citizen] sees or hears about the industry is unflattering.[50]

Osborn assumed that miners were an integral part of the mining process and didn't seem to think they could be separated from the process of mining itself. But environmental activists saw the rise of the MFD as "the beginning of a much stronger role to be played by the UMW in environmental health and safety matters," by "bettering the quality of miners' environment both inside and out of the mines."[51] The primary problems facing the Appalachian environment, environmentalists and miners agreed, were first, the inattention to the dangers of underground mining which resulted in the deaths of hundreds of miners each year, and second, the ecological ravages of strip mining

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[48] Press Release, "US Bureau of Mines Director cites need for minerals industry to adjust to advances in ecological science," September 13, 1971. MFDR, Box 45, Folder 20.
[49] Bob Johnson, *Carbon Nation: Fossil Fuels in the Making of American Culture* (Lawrence: University Press of Kansas, 2014) and Huber, *Lifeblood.*
[50] Press Release, "US Bureau of Mines Director cites need for minerals industry to adjust to advances in ecological science," September 13, 1971. MFDR, Box 45, Folder 20.
[51] Conservation Foundation of Washington, DC. *Mid-Appalachian Environmental Service Newsletter*, December 1972, 6. UMWJR, Box 3, Folder 4.

which cannibalized miners' jobs and rendered the landscape ecologically unviable for future land use while it robbed citizens of a landscape long-revered for its sublime beauty.[52]

That strip mining was and remains an ecological crisis for the region is widely accepted; but strip mining also presented miners with an employment crisis, a continuation of the process of mechanization that had begun in the aftermath of World War II. The growth of stripping was seen as a source of both ecological degradation *and* degradation of underground mining labor. From the perspective of stripping opponents in the MFD, strip mining didn't create jobs, but cannibalized the ones they already had and completely upended the ecology of the underground mining workplace, which, although destructive in its own ways, was accepted as an anchor of coalfield culture. Surface miners, however, made up nearly a third of UMW membership in the early 1970s, and the MFD could not afford to alienate them. Miller—a fierce opponent of strip mining who had once proclaimed "don't talk about regulating strip mining to me, just stop it,"[53]—was forced to moderate his position.

The MFD pamphlet which was ultimately issued to strip miners foregrounded Miller's interest in restoration but promised to "protect jobs and the land," by fighting for stronger reclamation laws. He cited his successful work to have the West Virginia reclamation laws amended so they would have "teeth": because the operators "were required to reclaim the land and post bonds to see that they did," in the time since the law was amended, the MFD claimed that "the number of men working on reclamation in the state has tripled." Miller promised that "all reclamation [would be] done under UMWA contract." [54] Surface miners like Bruce Patton came

[52] The idea of strip mining practices cannibalizing the jobs of underground miners is adapted from Bethany Moreton's analysis of Walmart's impact of labor markets. "Walmart didn't add jobs; it cannibalized existing ones. It drove locally owned businesses under, homogenized communities, and degraded the landscape." Bethany Moreton, *To Serve God and Wal-Mart: The Making of Christian Free Enterprise* (Cambridge, MA: Harvard University Press, 2010), 265.
[53] Quoted in Jeanne Rasmussen, "Strip Mining Means Fast Profit, Ruined Land," *Miner's Voice*, February/March 1971. JDC, Box 1, Folder 4.
[54] MFD Campaign Literature, "Miller Means Jobs," circa 1972. JHP, Box 11, Folder 20.

out in "support [of] Miller's position on responsible mining. Coal miners and their families live where the coal is stripped. They're the ones who suffer from irresponsible mining…Miller's position makes sense. It means job protection."[55] While this platform stopped short of full abolition, some anti-stripping activists believed that if reclamation laws could be made strict enough, it might halt the surface mining practices entirely.[56] Critically, this vision of the coal mining workplace imagined a new relationship for miners with the land, one in which extractive labor went hand in hand with intensive restorative work.

The Miners for Democracy's effort to straddle both the ecological and jobs crisis was not only the product of Miller's own staunch anti-stripping position, but a response to a volatile situation that was exploding across the Appalachian coalfields—sometimes literally, as in the acts of sabotage documented by Chad Montrie—as Appalachian residents rose up against the destruction of their home.[57] The result was articulated in "The Miners' Bill of Rights," which argued that:

> No group is more concerned about protecting our contry's [sic] streams and countryside than members of the UMW. Coal miners must live where the coal is mined and they are the group that suffers when the land is raped and the streams are polluted. There is no question that irresponsible coal operators are putting profit before responsibility. There are many areas, particularly in mountainous terrain, where coal companies have failed to claim or restore the land. This has resulted in the destruction of coal miners' homes and property. UMW Miners for Democracy believes that strong reclamation laws are required to force coal operators to reclaim the land that is strip mining. Our primary concern is to ensure that BOTH jobs and land are protected.
>
> We believe that proper reclamation requirements are essential and that new union jobs would be created if the laws were expanded and enforced…Expanded reclamation requirements…should be enacted and all reclamation work should be done by UMW members under contract.
>
> Many coal operators believe the word reclamation means spreading a little grass seed on exposed rock. To MFD, reclamation means restoring the land to constructive use. The UMW must insist on restoration. Where reclamation is absolutely impossible, coal operators should not be allowed to ravage the land.[58]

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[55] Quoted in MFD Campaign Literature, "Miller Means Jobs," circa 1972. JHP, Box 11, Folder 20.
[56] "Anti-Strip Mining Groups Join; Ask Nationwide Ban." *Raleigh Register*, June 18, 1972.
[57] Montrie, *To Save the Land and People*, 1. Also see John B. Stevenson and David S. Walls, *Appalachia in the Sixties: Decade of Reawakening* (Lexington: University Press of Kentucky, 1972); Michele Morrone and Geoffrey L. Buckley, *Mountains of Injustice: Social and Environmental Justice in Appalachia* (Athens: Ohio University Press, 2011); Montrie, *The Myth of Silent Spring*.
[58] "Miners Bill of Rights," printed in *Miner's Voice*, June 1972. MFDR Box 31, Folder 29.

The remarkable statement articulated a clear vision in which energy jobs and environmental protection were not at odds, and aligned the MFD environmental platform with the environmental concerns for "quality of life" driving early policy efforts for clean air and water.[59] In doing so, it suggested that both job loss and environmental destruction were not natural, but a man-made disaster. They laid the blame for the clearly apparent environmental destruction taking place on the Appalachian hillsides with the coal companies, and with the state and Federal governments which had failed to protect their citizens' jobs and land through proper regulation—not with the coal itself. While certainly anachronistic, the position emerged from a regulatory environment that had placed heavy emphasis on cleanups of air and water—a reclamation of public resources and an intervention in public health crises caused by pollution.[60] This rhetorical move allowed them to wed opposition to strip mining to their mine safety platform, which dislocated the dangers of the mining workplace from the volatile gases and unstable rock formations that the process of mining produced and charged that the *primary* reason that mines were unsafe was because the government and the companies had made them so.[61] Second, the statement allowed for an expanded vision of "mining" employment that didn't necessarily require its members to

[59] At first glance, miners' conclusion that it was possible to produce coal in a way that was not incompatible with environmental protection may seem easy to dismiss out of hand, but that judgment is also much easier for us to make fifty years in the future, where we understand the role that burning coal plays in carbon emissions and subsequently climate disruption. Our present day understanding that coal will have to be abandoned entirely if we are to address the climate crisis does not map neatly onto the environmental politics of the early 1970s. Given that the wide-ranging impacts of coal production and consumption were most powerfully observed in the direct vicinity of mine and combustion sites, as well as in growing concern about coal's sulfur content, the MFD focus on expanding underground coal production, reclaiming strip sites, and protecting water supplies reflected the policy priorities of clean air and water and was in line with other environmentalists of the time. On the "quality of life" efforts, see Hays, *Beauty, Health, and Permanence*; Sellers, *Crabgrass Crucible*.

[60] On environmental regulation before the creation of the Environmental Protection Agency, see Karl Boyd Brooks, *Before Earth Day: The Origin of American Environmental Law, 1945-1970* (Lawrence: University Press of Kansas, 2009).

[61] The miners' understanding of the relationship between energy and danger here provides an expanded view on White's observation that danger and energy are linked, as in by a waterfall, by examining the ways that danger is produced and understood in fossil fuel landscapes. White, *The Organic Machine*, 9-12; Also see Jones on landscapes of intensification. Jones, *Routes of Power*.

mine coal, and might have vastly expanded the number of working UMW members and the union's influence over regional and national environmental politics had it succeeded.

The practice of strip mining had been wildly unpopular across Appalachia for years by the time the MFD began to organize around the issue. Even miners who were themselves employed in the strip mines, like Ed Mallacoat, appeared to oppose the practice: "I run a dozer at a strip mine," he told journalist Jerry DeMuth, "I think stripping is a bad thing. These mountains used to be pretty but not anymore."[62] Although the increasing numbers of mine occupations and sabotage activities appeared to place them between their employers and fellow mountain residents, one group of women mine occupiers "reported…that some miners sympathized with the demonstration. These men said they would not be strip mining if other jobs were available."[63] But other jobs could be hard to come by, especially jobs that paid on the UMW scale. For miner Lee Peterson, his paycheck was the only thing that kept him in the region, with other opportunities lacking and unemployment still rampant: "You go…on any day they're giving out food stamps and you can't get near the town. And then they [the coal companies] talk about creating jobs." Still, faced with the day-to-day reality of strip mining, Peterson concluded "I'd rather lose my job tomorrow than see this happen to my land."[64]

While the environmental historian Chad Montrie saw MFD—and later UMW—opposition to strip mining as fundamentally "expedient" because it comingled with miners' concern for their employment prospects, the complex and sometimes contradictory relationship of rank-and-file miners to surface mining practices captures not political expediency, but a group of people attempting to navigate a paradoxical moment where their aspirations appeared to be

[62] Jerry DeMuth, Field notes on strip mining, August 1971. Jerry DeMuth Collection of United Mine Workers and Strip Mining Clippings and Articles, Box 1, Folder 3.
[63] Sandy Gage, "Women Close Down Strip Mine," *Southern Patriot*, June 18, 1972.
[64] Jerry DeMuth, Field notes on strip mining, August 1971. Jerry DeMuth Collection of United Mine Workers and Strip Mining Clippings and Articles, Box 1, Folder 3.

simultaneously bound up with both rapidly increasing energy production and mounting concern for the environmental viability.[65] Surface mining was, as miners' ally Jeanne Rasmussen described, "a short-term investment for the coal companies, but a long-term mortgage" on the land.[66] The MFD's understanding of the relationship between job and environmental protection reflected an implicit effort to address this temporal tension by increasing company labor investments, rather than the heavy capital investment which had resulted in the proliferation of giant machines disembowling the mountains. Moreover, by tying the right to a safe workplace and livable environment to a belief in the right to good, union jobs—even if it meant redefining coalfield labor as reclaiming land rather than mining coal—the MFD began to push against the narrower framework of industrial relations that characterized the coalfield Fordist regime.

However, as coal prices rose and mining employment once again began to expand, swelling the union's ranks with thousands of new miners the jobs platform of the MFD campaign, the jobs platform of the MFD was eclipsed by its efforts to protect miners' lives and land.[67] After all, what good was a job if it killed you?

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[65] Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (Chapel Hill: University of North Carolina Press, 2003), especially 39-53 and "Expedient Environmentalism: Opposition to Coal Surface Mining in Appalachia and the United Mine Workers of America, 1945-1975," *Environmental History* 5 no. 1 (January 2000), 75-98. Following his landmark 2000 article, scholars of surface mining in Appalachia mostly turned away from looking at surface mining from a workplace perspective and instead have focused on its impact on Appalachian communities and culture, and especially the role of gender in shaping the politics of resistance to surface mining. See Shirley Stewart Burns, *Bringing Down the Mountains: The Impact of Mountaintop Removal Surface Coal Mining on Southern West Virginian Communities, 1970-2004* (Morgantown: West Virginia University Press, 2007); Shirley Stewart Burns, Mari-Lynn Evans, and Silas House, *Coal Country: Rising Up against Mountaintop Removal Mining* (San Francisco: Sierra Club Books, 2009); Michelle Morrone and Geoffrey L. Buckley, *Mountains of Injustice: Social and Environmental Justice in Appalachia* (Athens: Ohio University Press, 2011); Stephen L. Fisher and Barbara Ellen Smith, eds. *Transforming Places: Lessons from Appalachia* (Urbana: University of Illinois Press, 2012). On the gendered politics of resisting surface mining, see: Joyce M. Barry, *Standing Our Ground: Women, Environmental Justice, and the Fight to End Mountaintop Removal* (Athens: Ohio University Press, 2012); Shannon E. Bell, *Our Roots Run Deep as Ironweed: Appalachian Women and the Fight for Environmental Justice* (Urbana: University of Illinois Press, 2013); Shannon E. Bell and Y.A. Braun, "Coal, Identity, and the Gendering of Environmental Justice Activism in Appalachia," *Gender and Society* 24 no. 6 (2010), 794-813.

[66] Rasmussen, "Stripping Means Fast Profit, Ruined Land," *Miner's Voice*, February/March 1971. JDC, Box 1, Folder 4.

[67] Between the explosion at the Consol No. 9 mine in November 1968 and the election of the MFD slate in 1972, real coal prices rose 36.8 percent and nominal prices rose 65.5 percent. Energy Information Administration, "Coal Prices, 1949-2011," *Annual Energy Review*, 2012.

Lives

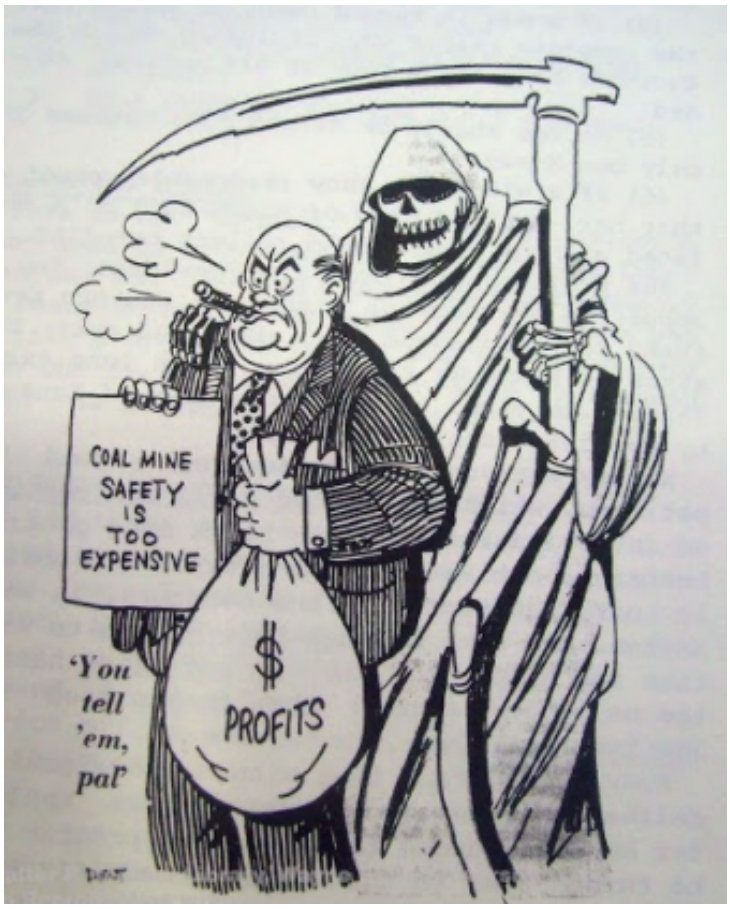

Figure 4.1: "You Tell 'Em Pal," *Black Lung Bulletin*, December 1970. MFDR, Box 44, Folder 35.

Despite the passage of the 1969 Federal Coal Mine Health and Safety Act ("the Act") in the wake of the Consol No. 9 disaster, mine disasters continued. In the year following passage of the Act, in fact, 260 miners lost their lives on the job—an increase of 28 percent over the previous year.[68] Many miners felt the Bureau of Mines, operating without a director,[69] had not taken

[68] Mine Safety and Health Administration, "Coal Fatalities for 1900 through 2018." US Department of Labor. Accessed online. https://arlweb.msha.gov/stats/centurystats/coalstats.asp

[69] Bureau director John F. O'Leary was fired by Nixon in February, 1970 after mining companies complained he was pursuing enforcement too aggressively. While the companies portrayed him as a "crusader" for mine safety, but O'Leary resisted this label, claiming instead that "I am just a career government bureaucrat—or I was—trying to do the best job I can." Quoted in Ben A. Franklin, "Nixon Ousts Head of Mines Bureau," *New York Times*, March 1, 1970. *PQHN.*

adequate steps to "hire new inspectors and step up its inspection program," despite having been allocated $13 million by the Act to do so. "The Bureau, according to its own figures, has been conducting less than a tenth as many inspections this year as last despite the supposedly tough new federal safety law." [70] The operators, miners felt, willingly allowed deadly work environments to continue as they attempted to undo the Act's reforms, threatening that mine safety was "too expensive"—and suggesting that the Act would lead to a rise in electricity prices if the coal companies were to be able to maintain their profits. (Figure 4.1)

Despite operator threats about the disastrous effects of the legislation on both earnings and the provision of electricity, once the Congressional Subcommittee on Labor was forced to investigate the matter, they found that "the expectations of…those disparagers of the act have been realized; only the continued grim and monotonous toll of life and limb."[71] In response, the MFD campaigned on the slogan "walk out, before they carry you out," encouraging miners to take their safety into their own hands as death tolls and injury rates continued to rise. (Figure 4.2) Although no statewide walkout akin to the 1969 West Virginia black lung strike erupted, small safety strikes spread across the coalfields despite attempts from the operators to secure injunctions, once again ensuring that the nation could not build up a substantial stockpile of coal to stave off a growing fuels crisis. Safety strikes, unsurprisingly, were almost entirely confined to unionized mines, even though the failures of the Act were more acutely felt in non-union mines, like the Finley Coal Company's No. 15 mine in Hyden, Kentucky.[72]

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[70] "Death Tolls Up—Inspections Down," *Black Lung Bulletin*, September 1970. MFDR Box 44, Folder 35.

[71] Congressional Subcommittee on Labor, "Investigation of the Hyden, Kentucky Coal Mine Disaster." (Washington, DC: US Govt. Print Off., 1971), IV. Later in the decade, it became clear that the passage of the Act had driven down underground productivity levels, though it was difficult to disaggregate how much of this productivity decline was due to the "regular" enforcement of the Act and how much of it was related to unrest in the mines that not only persisted but expanded after its passage.

[72] Although they may have occurred on a small scale, I have found no evidence of any substantial number of safety walkouts at non-union mines. Given that these mines operated under an at-will employment system, this is hardly surprising. For an example of the legal proceedings that took place in the wake of the wave of safety strikes see the safety walkout cases contained in MFDR Box 58, Folders 23-31 and Boxes 59-61. The courts found in favor of the companies, agreeing that the miners had walked out in violation of their contract.

Figure 4.2: "Walk Out…Before They Carry You Out!" *Miner's Voice,* June 1972. MFDR, Box 31, Folder 29.

Miner A.T. Collins made his way out of the No. 15 mine to eat lunch and retrieve some supplies around 11:30 a.m. on December 30, 1970—a year to the day after the passage of the Act. When he walked back to the mouth of the mine and prepared to re-enter the thirty-inch coal seam,[73] he reported hearing an incredible sound unlike any he had heard before: "maybe what a tornado would sound like," he supposed. As the sound roared up from the bowels of the earth, "a great blast of hot air and smoke and flying coal and coal dust and scraps of wood, and the steel rollers

[73] The width of the coal seam was discussed in the Congressional investigation report. Subcommittee on Labor, "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970," 92nd Congress, 1st Session, July 1971 (Washington, DC: US Government Print Office, 1971), v.

from the conveyer belt tore loose with the rest of the debris and came flying out too." The explosion knocked Collins "fifty or sixty feet away" from the mine.[74] The mine owner, Charles Finley, was eating lunch in the office. He recalled "no tremors, but suddenly there was this ungodly roar." He looked out the window of the office trailer to see the same smoke, coal, wood, and steel that A.T. Collins described blasting out every entrance to the mine.[75] And when James Collins, a second shift miner, arrived at the mine that afternoon, he discovered that not only was he now out of another job—only three months after being laid off from the Frigidaire plant in Dayton, Ohio due to the recession—but that his brother Lonnie, working first shift, had perished deep inside the earth.[76]

The first bodies were not pulled out until hours later that evening. Even then, recovery workers proceeded slowly, because they did not have the proper equipment to deal with the incredibly high concentrations of carbon monoxide they encountered on entering the mine tunnels and extra ventilation had to be installed. Once recovered, each body was subjected to a brief, "superficial," postmortem exam by Dr. William R. Beasley of the Frontier Nursing Service before being loaded into a trailer and being transported to Hyden Elementary School, where a temporary morgue had been established.[77]

Of the thirty-eight men who died, he determined that the overwhelming majority of had been killed instantly by the initial blast, which would have ripped "through the narrow coal seam like bullets through a gun barrel." Dr. Beasley was "quite sure" that at least five men had survived the explosion only to succumb to the carbon monoxide; the proof, he pointed out, was the distinctive redness of their skin—the telltale sign of CO poisoning. Because of the intensity of the

[74] Report, "The Hurricane Creek Massacre: a Report on the Circumstances Surrounding the Deaths of 38 Men in a Coal Mine Explosion in Eastern Kentucky, December 30, 1970," January 26, 1971, 15-16. MFDR, Box 46, Folder 15.
[75] *Ibid*, 16.
[76] *Ibid*, 17.
[77] *Ibid*, 18.

CO, they had survived "minutes at most," even if they had managed to put on their emergency respirators. The one remaining body proved a gruesome mystery:

> when Dr. Beasley pressed on his chest, water came out his mouth and nose…it appeared to Dr. Beasley that the man must have drowned, somehow—as though he had been able to find water to take refuge in from the heat, but then, trying to breathe, had taken in only carbon monoxide and had fallen back, still trying to breathe, and his lungs filled with water. [78]

But Dr. Beasley couldn't be sure. The body was loaded and taken away with all the other corpses as a group of newly widowed women watched on. George Wooten, the county judge, promised that the county "would dig the graves and save the widows that expense,"[79] but the Bureau of Mines neglected to tell the widows of their right to have a full autopsy performed on their husbands' bodies, and Congressional investigation later discovered that, indeed, no additional autopsies had ever been performed, excluding the families from possible black lung compensation of up to $306.10 per month.[80]

As the bodies were driven away, mine owner Charles Finley, who "seemed not to be especially upset, and said they had plenty of insurance, and were covered by Workmen's Compensation," [81] was heard complaining about the 1969 Act to reporters who had gathered at the site. Judge Wooten, enraged by the comments, beat Finley so badly he had to be carried away from the mine site.[82]

The No. 15 mine was known to be dangerous. In the six months prior to the accident, it had received 43 cited violations—more than double the average of 19—and had three lost-time accidents. One of those accidents had been fatal, when Charlie Wagers was crushed between the trailer he was operating and a rib of coal. Another serious accident, only fifteen days before the

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[78] "The Hurricane Creek Massacre," January 26, 1971, 17-18. MFDR, Box 46, Folder 15.
[79] *Ibid.*
[80] Subcommittee on Labor, "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970," 92nd Congress, 1st Session, July 1971 (Washington, DC: US Government Print Office, 1971), ix. Kentucky did not have a state black lung bill like West Virginia that might have assumed disability based on the number of years worked rather than on x-ray or autopsy evidence.
[81] "The Hurricane Creek Massacre," January 26, 1971, 18. MFDR, Box 46, Folder 15.
[82] James D. Ausenbaugh, *At Sixth and Broadway: Tales from the Glory Days of a Great Newspaper* (Scottsville, Kentucky: Mews Publishing Company, 1998), 132-133.

December 30 explosion, disabled miner Sammy Henson after he received an electrical burn across the hip, but accident was not reported, as required, to the Bureau of Mines and no investigation took place. A November 1970 spot inspection found the levels of toxic and volatile dust underground to be more than eleven times the limit legally permitted—creating a "virtual certainty that each miner exposed for a period to its environment would have contracted some development of…'black lung' disease."[83] The Congressional Subcommittee on Labor concluded that only "a gross and exceedingly negligent dereliction of responsibility," on the part of both the Bureau of Mines and of the operator allowed the mine to remain open long enough for the December 30 explosion to occur.[84] Yet despite the fact that the disaster was clearly preventable, and that thirty-eight men had needlessly died, the maximum penalty anyone found guilty could face was a fine of $25,000 and a year in prison.[85]

The disaster had demonstrated the limits of the 1969 Act—which both failed to prevent the explosion and to impose what miners saw as meaningful penalties for it. The Acts failures were exacerbated by mishandling of the investigation by the Bureau of Mines, which encouraged miners and the public: "Don't criticize the Finleys," because "I'll bet many mines have just as bad records as [them]."[86] The Bureau's mishandling threatened to turn a delicate situation into a farce that fooled no one, and "surely not the widows and orphans of those perished at Hyden."[87] The country needed coal, and could not afford a major disruption in supply were the situation to snowball into a major walkout, like the one which had happened just two years before in West Virginia. Pressure mounted as a team of researchers, led by Tom Bethell, conducted their own investigation into the

[83] Subcommittee on Labor, "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970," 92nd Congress, 1st Session, July 1971 (Washington, DC: US Government Print Office, 1971), xi.
[84] *Ibid,* xiii. Although the report is quite clear on the level of complicity and negligence which occurred, the Committee stopped short of assigning clear criminal fault since the Finley brothers were facing criminal trials.
[85] Federal Coal Mine Health and Safety Act, Public Law 91-173, 30 USC ch. 22 § 801.
[86] "The Hurricane Creek Massacre," January 26, 1971, 26. MFDR, Box 46, Folder 15.
[87] Subcommittee on Labor, "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970," 92nd Congress, 1st Session, July 1971 (Washington, DC: US Government Print Office, 1971), xiii.

disaster under the banner of the Miners for Democracy.[88] The disaster at a relatively small, non-union mine was now the focus of an increasingly organized group of miners who had decided the time had come to take mine safety into their own hands. Congress was forced to investigate.

The Bureau of Mines had blamed the disaster on two of the miners who had been killed in the explosion—shot firer Walter Bentley and foreman Walter Hibbard. According to the Bureau, this blame was justified because the pair had used Primacord, an explosive fuse illegal for use in underground mining, to simultaneously blast over one hundred sticks of dynamite in a large—25 by 30 feet—section of the roof of the mine, even though the limit on blast holes was set by law at twenty per explosion. One mine inspector described the process to Bethell, the MFD researcher, as "You know that game, Russian Roulette? Well, it's a lot like that."[89] Why would Bentley and Hibbard have engaged in a process so likely to kill them? As became clear over the course of more than six months of investigations by the Bureau, the MFD, and Congress, mine owner Charles Finley had pressured his workers to bend the law to meet production goals. Bureau of Mines Assistant Director James Westfield asked Finley during the initial Bureau hearing "if the shooting of 50 to 100 shots simultaneously would be permissible." Even though the law clearly stated that such a practice was illegal, Finley responded, "Depends on conditions."[90] The Congressional investigation further discovered that "it was generally known in the communities in which the miners lived that Primacord was being used…And it was generally known that the lives of the men were in danger."[91]

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[88] Tom Bethell was also the editor of *Coal Patrol*, a newsletter which he put out with the support of Appalachian Information and would head the UMW research department after the election of the MFD in December 1972.
[89] "The Hurricane Creek Massacre," January 26, 1971, 22. MFDR, Box 46, Folder 15.
[90] *Ibid*, 26.
[91] Summary of Findings, Subcommittee on Labor, "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970," 92nd Congress, 1st Session, July 1971 (Washington, DC: US Government Print Office, 1971), XIII.

However, for all that the Finleys managed to come off as well-cast villains with "a nineteenth century attitude" in an old story of operators versus coal miners, and while their production quotas and the culture of fear they had cultivated around safety practices had certainly created the conditions for the disaster to happen, this old story had a new context. Alongside the growing belief that not only was "the system under which coal is mined in this country is beyond justification and must be radically altered," a third party came to be viewed *as important* as either operators or miners in shaping mine safety outcomes: the state.[92] The failure of Federal and state agencies to effectively intervene under the auspices of the Act before the disaster had occurred helped to turn an old story of industrial neglect into a crisis of coalfield governance.

The Congressional Subcommittee on Labor recognized the potential for an investigation of the Hyden to disaster to expand into an "oversight hearings into the administration of the Federal Coal Mine Health and Safety Act by the Department of the Interior." At the beginning of the hearings, Chairman Dent took care to clarify their purview would be "confined to the Hyden disaster."[93] As the many layers of failure on the part of the administrative state to prevent the disaster appeared, it opened up a seemingly contradictory set of narratives: the inefficacy of "the strongest health and safety regulation ever drafted in the United States," which had been implemented as the nation recognized "the power [of miners]…to shut off every electric light in the country," and the simultaneous demand for stronger regulation.[94] Even though the Finley mines were non-union, the MFD latched onto the disaster's implication of coalfield governance. Their mobilization efforts represented a turning point in the MFD's influence across the coalfields, and

[92] "The Hurricane Creek Massacre," January 26, 1971, 51. MFDR, Box 46, Folder 15.
[93] Chairman Dent, Opening Statement, Subcommittee on Labor, "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970," 92nd Congress, 1st Session, July 1971 (Washington, DC: US Government Print Office, 1971), VII.
[94] "The Hurricane Creek Massacre," January 26, 1971, 35. MFDR, Box 46, Folder 15.

reflected the broader public role miners had imagined for themselves in the effort to pass safety legislation and reform their union throughout 1969.

The MFD called the Hyden disaster a "massacre," because it involved the "killing of a considerable number of human beings under circumstances of atrocity or cruelty, or contrary to the usages of civilized people."[95] With the help of the Coal Miners Legal Defense Fund (CMLDF), they compiled a report to present the miners' perspective its broader context. The report was released on January 26, 1970—less than a month after the disaster had occurred, before the Bureau of Mines had issued their report, and three months before the Congressional investigation, which adopted much of the MFD/CMLDF language into the final committee statement of findings.[96] Tom Bethell reported the findings to the Bureau of Mines, three days before the Bureau report was made public. The Hyden disaster, he argued, couldn't accurately be summarized as a violation—or even a series of violations—of the 1969 Health and Safety Act. Instead, he charged, the "miners were victims of institutional manslaughter"—the blame for which extended far beyond the Finley Coal Company. Institutional manslaughter, in Bethell's mind, encompassed both "a company which operated in persistent violation of the…Act of 1969, but also…a complacent, negligent bureaucracy which extends to the highest offices of the federal government and refuses to serve in the public interest."[97] The concept that workplace death constituted a violation of the "public interest" was not only asserted by the MFD/CMLDF report, but reappeared throughout the discussion of the disaster—from the county judge promising that the cost of the graves would be paid for by the public to the Congressional hearings which took place in July 1971. The

[95] "The Hurricane Creek Massacre," January 26, 1971, unpaginated front matter. MFDR, Box 46, Folder 15.
[96] For example, both reports use a nearly identical sentence structure when describing the initial explosion, which is worded strangely enough, with conjunctions rather than commas, between each noun that it seems likely the sentence was more or less lifted directly from the MFD/CMLDF report, especially since this sentence was meant to summarize the longer statement of A.T. Collins, who was later quoted at length.
[97] Thomas N. Bethell to Dr. Elburt P. Osborn, January 26, 1971. MFDR Box 46, Folder 15.

Subcommittee on Labor's most basic conclusion: "The disaster could have been prevented and—by any reasonable yardstick—danger could have been foreseen."[98]

The notion of public interest worked in two key ways: first, by portraying the right to a safe working environment as the fundamental right of the American worker, and therefore a matter which should be governed by legal protections as well as labor contracts, and second, by suggesting that coal was a particular commodity in which the public had special interest because of its role in electricity production, and thus suggesting that there was indeed a greater public interest in regulating how that commodity was produced. Indeed, the politicians tasked with investigating the disaster relied heavily on this second meaning while miners and their advocates were more likely to rely on the first. But there was no getting around the importance of coal as an industry. Most disparagers of mine safety regulation had claimed that the "potential for crippling an essential industry" and the threat "of widespread electric power blackouts due to a coal supply rendered insufficient by extensive mine closings [for safety reasons]."[99] Supporters of additional mining regulation pointed to the centrality of the industry to the national interest as a primary motivator: "A strong law is necessary to protect the men who extract one of our nation's most vital resources."[100] This dual vision of public interest challenges what Harris and Milkis have described as the "new social regulation" that took the form of a "public lobby regime" which uneasily married the New Deal to the burgeoning social movements of the New Left.[101] Instead, it suggests that the far from seeing themselves as special interest group, miners instead were able to organize

[98] Summary of Findings by John H. Dent, Committee Chair, "Investigation of the Hyden, Kentucky Coal Mine Disaster of December 30, 1970," 92nd Congress, 1st Session (Washington DC: US Government Print Office, 1971), III.
[99] "Investigation of the Hyden, Kentucky Coal Mine Disaster of December 30, 1970," 92nd Congress, 1st Session (Washington DC: US Government Print Office, 1971), IV.
[100] *Ibid*.
[101] Harris and Milkis, *The Politics of Regulatory Change,* 53-55.

inside a public interest dichotomy that saw a set of rights owed to them as workers performing an obligation of citizenship: providing the nation with a fundamental national resource—coal.

The MFD merged the sometimes-contradictory visions of public interest to position themselves as public advocates and continue to push for stronger regulation. The merging of these two key aspects of public interest was particularly striking as a strategic move by a campaign primarily tasked with the reform of a union, since on first glance, the goals would appear to be at odds with the ability of the union to wield power. At the same time that the MFD would propose union action to curb strip mining, they would suggest that the intervention of the government was required to save miners lives underground. Here, in fighting against yet another deadly mine disaster, the MFD had opened a much larger question about the place and limits of regulation in a democratic society.

The focus on the need for more and better regulation also stands out because if anything, Bethell's report suggested "gross incompetence so fundamental" at many levels of the investigation. The Bureau of Mines was underfunded, understaffed, and "brutally sabotaged by the policies of the Department of the Interior," and the state bureaus performed so poorly that "state [mine] inspections may be on no practical use to either operators or miners."[102] The line of culpability, Bethell argued, went to the highest officials in the land, including the President, who "[p]resumably…is beyond prosecution," but whom Bethell charged shared responsibility since he left "the Bureau of Mines leaderless through most of 1970."[103]

The disaster in Hyden prompted Tom Bethell to examine the impact of the Act on union mines. His attention was soon drawn to a Buchanan County, Virginia mine known as "Gassy Old

[102] "The Hurricane Creek Massacre," January 26, 1971, 50-51. MFDR, Box 46, Folder 15.
[103] *Ibid.* Bethell's consideration of Nixon's culpability proved prescient. Just two years later the Office of Legal Counsel would argue that a sitting president could not be indicted—a decision that later countered by *United States v. Nixon* 418 US 683 (1974). Also see, Akhil Reed Amar and Brian C. Kalt, "The Presidential Privilege against Prosecution," *Faculty Scholarship Series*, Yale Law School, Paper 940. January 1, 1997.

Beatrice" because of the incredible amount of methane that it released each day—a staggering 12.5 million cubic feet of it.[104] While today methane (CH_4) is mostly addressed for its role as one of the most potent greenhouse gases, for miners pressured to increase production at the dawn of the 1970s, the menace of methane was its reputation for deadly explosions—like the one in the Finley No. 15 mine. The mine, owned by Island Creek Coal Company, a subsidiary of Occidental Oil, had an army of ventilation fans to pull the gas from the mine. In reviewing inspection records, however, Bethell concluded that "frequently they can't keep up, and the gas builds to explosive levels with frightening regularity."[105] The 1969 Act had ordered all mines to be tested at fifteen-minute intervals. Those found to have methane concentrations of higher than two percent were to be closed until the gas could be properly ventilated. "Gassy Old Beatrice," meanwhile, tested higher than five percent three times in one month, and during a spot inspection the next month, tested at eleven percent. The smallest spark—easily produced by continuous mining machines "churning through the coal at maximum speed to meet the company's production quotas"—could set off an explosion capable of killing the more than four hundred miners who worked the rich 54-inch coal seam. The consistent presence of "dangerous accumulations" of coal dust, explosive in its own right, only added to the looming danger. Explosions *had* occurred too: in 1970, two explosions and a mine fire "*while inspectors happened to be in the mine*." A Bureau of Mines official confided to Bethell that a large explosion at the Beatrice mine "could make Farmington,"—the disaster that killed 78 miners in 1968 and ultimately led to the passage of the 1969 Act—"look mild."[106]

[104] Tom Bethell, "This mine is all ready to blow up," *Coal Patrol*, May 1-15, 1971. UMWPO, Box 42, Folder 12. As a reference point, 12.5 million cubic feet of daily emissions amounted to 4.6 billion cubic feet of emissions per year from a single mine. By comparison, in 2014 *all* American coal mines *combined* emitted 88.5 billion cubic feet of methane. Environmental Protection Agency, "2014 U.S. CMM [Coal Mine Methane] Sources," *US Emissions Inventory, 1990-2014.*
[105] Tom Bethell, "This mine is all ready to blow up," *Coal Patrol*, May 1-15, 1971. UMWPO, Box 42, Folder 12.
[106] *Ibid.* Emphasis in original.

Bethell's investigation into the mine's safety record exposed the way that the protections which were supposed to be enacted by the 1969 Act had been undermined by collusion between the state and the companies. Since the Act had gone into effect, dozens of inspections at the Beatrice mine had resulted in hundreds of safety violations, but the Bureau had only imposed a *suggested* fine of $6,205. Meanwhile the Island Creek Coal Company, which ran the mine as a subsidiary of Occidental Oil, had an annual coal revenue of over $192 million.[107] The fines, Bethell noted, "couldn't be expected to hurt too much." While the Act had given the Bureau of Mines the power to shut down unsafe mines, the Bureau didn't shut Beatrice down. Instead, the Bureau began supplying technical assistance to help keep the mine online. The only senior Bureau official who opposed the provision of technical assistance was fired.[108] The pressure to keep production numbers up would only have amplified as the summer drew down stockpiles with peak utility loads and the threat of blackouts and brown outs loomed.[109] The seeming lack of a will to enforce the Act had a startling effect that the reformers had noticed even before the Hyden disaster: "Death Tolls Up—Inspections Down," read one September 1970 article in the *Black Lung Bulletin*. Since the implementation of the Act, only "a tenth as many inspections" had been conducted compared to the previous year "despite the supposedly tough new federal safety law…It's murder."[110]

Land

The violence of the mining workscape was not easily contained. Particularly with the growth of surface mining, communities across Appalachia faced a new "hazardous and dramatic problem…the release of large volumes of water and coal waste trapped behind unstable gob

[107] Beck and Rawlings, "Coal: The Captive Giant," 34. Private Report. MFDR, Box 63, Folder 9.
[108] Tom Bethell, "This mine is all ready to blow up," *Coal Patrol*, May 1-15, 1971. UMWPO, Box 42, Folder 12.
[109] Robert Walker, "Warnings on Coal Shortage Reach Crescendo," *New York Times*, September 6, 1970. *PQHN.*
[110] "Death Tolls Up—Inspections Down," *Black Lung Bulletin*, #4, September 1, 1970. MFDR Box 44, Folder 35.

piles."[111] As the residents of Saunders, West Virginia and a series of other small towns along Buffalo Creek found out on a horrifying winter morning, it took only minutes for the wrath of the strip-mining workplace to be unleashed on the surrounding countryside.

A few minutes before 8 a.m. on Sunday, February 26, 1972, Denny Gibson, a heavy equipment operator, made his way out onto an impoundment dam owned by the Pittston Coal Company for the third time that morning as he kept a close eye on the rising water level. Several days of rain had brought the slurry it held back nearly high enough to crest the top of the dam, and when Gibson stepped out of his truck this time he realized the ground was "really soggy, like mush" and he noticed "water oozing through the loose refuse piles on the top of the dam," and "large cracks and slumps on the downstream face…near the center of the dam."[112] He turned his car around and got off the impoundment as quickly as he could, racing down to the valley, honking his horn to wake up anyone he could. But the dam gave way only minutes later, at 8:05 a.m. Within another two minutes, the town of Saunders, which was located right at the base of the dam, had been washed away. The catastrophic failure unleashed over 132 million gallons of coal slurry onto the Buffalo Creek hollow and the sixteen small coal towns interspersed along it in a thirty-foot wave of black water that killed 125 people, injured 1,121, and left more than eighty percent of the hollow's population homeless.[113]

Many valley residents were skeptical of Gibson's story, particularly following a series of seemingly contradictory statements by other Pittston employees and management. They sought another explanation. Some believed that just like the Hyden explosion had been triggered by a

[111] Conservation Foundation of Washington, DC. *Mid-Appalachian Environmental Service Newsletter*, December 1972, 6. UMWJR, Box 3, Folder 4.
[112] Testimony of Denny Gibson as quoted in "The Buffalo Creek Disaster: Official Report from the Governor's Ad Hoc Commission of Inquiry." (Charleston, West Virginia: Division of History and Culture, 1973).
[113] The actual number of deaths is contested. Steinberg says the flood killed 139 people, most accounts list 125 as the final number of dead. Ted Steinberg, *Acts of God: The Unnatural History of Natural Disaster in America* (New York: Oxford University Press, 2000), 74.

combination of bad conditions and the use of illegal explosive materials, perhaps the failure of the impoundment dam at Buffalo Creek was due to the illegal use of dynamite to try and blast holes in the dam to relieve pressure at a slower rate amid the heavy rain. Calling on their own years of experience in the mines, miners from affected area went with ABC camera crews and "pointed out…evidences [sic] such as cable and drill holes." The men believed that when Pittston tried to relieve pressure on the dam, "something went wrong, and the whole section gave way." Other witnesses had reported hearing an explosion. One resident who lived close to the base of the dam said "she saw debris hurled hundreds of yards across the valley just before the river of water and mud broke way," and considered it to be evidence the flood had been triggered by blasting.[114]

The dam collapsed early on a Saturday, when many area residents were still in bed. Because the valley lacked proper alarm systems, warning traveled through word of mouth. Bertha Glend was making coffee when she "heard a neighbor, three houses down, yelling 'water water.'"[115] Many were not able to evacuate in time to escape the wall of black slurry, and the town of Saunders, which sat right at the base of the dam, had virtually no warning at all. But years of rumors and speculation about the dam's imminent collapse also meant that even some residents who were warned in time failed to evacuate until they could see the deluge approaching—and by then it was too late. Anna Bailey described how her son had to convince her that the dam had really burst this time, saying "He said, 'I'm not joking, it's true. Get out.'…Even my husband said it wasn't true—they say the dam breaks every time it rains." In addition to the rumors that regularly circulated about whether the dam would hold during a rainstorm, reassurances that the dam would hold traveled through the networks of area miners. Newson Bailey had been told by a neighbor "that Steve Dasovich [the CEO of Buffalo Mining] had said there was no danger and that everyone

[114] Jim Kincaid, "Possibility of Dynamite Blast Causing Dam Flood in W.Va.," ABC Evening News, March 7, 1972. UMWJR, Box 4, Folder 4.
[115] Buffalo Creek plaintiff's summaries, undated. UMWJR, Box 3, Folder 3.

could go to work." But later while he ate breakfast with his family, other people from town ran to the house screaming "The water is here!" While the Baileys were able to jump "in their car…reaching high ground in safety," a second car, just "behind the Bailey family did not make it and all that vehicles occupants were killed." Later Newson Bailey learned that his oldest daughter and seventeen-year-old grandson had been killed, and that his youngest grandchild "was found buried in the mud." Although "the mud was…caked inside the baby's lungs," the child managed to survive.[116]

Most people, however, had no warning at all. Leroy Lambert, another Pittston coal miner, was eating breakfast with his family when the electricity suddenly went off. They looked outside, where "Not far up the valley they could see a wall of black water hurtling a church house in front of it down the hollow towards them." Henry Kilgore, "happened to look out the window and see water and debris pouring into [his] yard." Within moments, "A near neighbor's house came floating by. The neighbor was standing in the door with her 18-month-old baby in her arms screaming for help. There was no way to help them, and they were drowned. The whole family saw them go under."[117]

The descriptions survivors provided of the disaster echoed many of the descriptions given by miners who had survived explosions, fires, and cave-ins underground. Sue Looney's description of the moment she realized something was wrong evokes the descriptions miners gave of underground explosions: "I heard a horn blowing and then a loud thundering sound." Other comments focused less on sound, but on the ways in which coal seemed to de-individualize its victims by covering them with black dust and slurry. Sue Looney described "a man, who came up," out of the coal slurry and was "dirty, you couldn't tell who [he] was…all he could say I've lost my little boy." Pittston miner Ray Farley was asleep in bed with his wife Frankie and their

[116] Buffalo Creek plaintiff's summaries, undated. UMWJR, Box 3, Folder 2.
[117] Buffalo Creek plaintiff's summaries, undated. UMWJR, Box 3, Folder 3.

two young children asleep nearby when "the water hit their house," knocking it off its foundation, "and turned it around." Ray broke open a window and was able to get his son to shore. He returned for his three-month old daughter and was carried 200 yards downstream before he could reach the safety of the hillside with her; she became so covered in "black stuff" she could not be recognized by relatives who insisted that Ray had "saved the wrong baby," while his wife "had been stranded between two houses during all of this time, with debris piling up around her...and bodies floating by."[118]

Kai T. Erikson, the sociologist who surveyed victims and helped compile their statements, wrote descriptions of the land that suggested the impact extended far beyond the human toll of the disaster. His vivid portrait of the land suggested the disaster represented a collision between two timescales. On the one hand, he pointed to the ways in which over millions of years, the Appalachian plateau had become "lined and wrinkled" and characterized by steep slopes with narrow creek beds—where most residents live—at the bottom, but he also spoke to the way human activity, and mining in particular, had remade the landscape, streaking the land "with the blacks and grays and rusty reds of the underworld." His descriptions of "sharp" peak and slopes "slashed with strip-mine benches…exposed like long gray scars," evoked the violence of the way coal extraction had mixed deep geological time with the ravenous acceleration of industrial growth.[119]

On the second day after the "avalanche of water" had swept through the hollows, bodies were recovered as much as twenty-four miles downriver. Rescue workers, National Guardsmen, and surviving residents desperately combed the wreckage for "missing property and people."[120] Several hundred remained missing more than two days after the initial breach of the dam, and

[118] Buffalo Creek plaintiff's summaries, undated. UMWJR, Box 3, Folder 3.
[119] Kai T. Erikson, *Everything in Its Path: Destruction of Community in the Buffalo Creek Flood* (New York: Simon and Schuster, 1976), 21-22.
[120] Late News Transcript, WTTG Television, February 28, 1972. UMWPC, Box 80, Folder 11; NBC Nightly News Transcript, February 28, 1972. UMWPC, Box 80 Folder 11.

while some would eventually be found hiding on the hillsides or seeking refuge with relatives, others were almost certainly buried "under the piles of splintered houses, and in the cars still under the water."[121]

Ten years after Henry Caudill published *Night Comes to the Cumberlands*, which sought to denaturalize the poverty of central Appalachia, home to some of the world's richest coal seams, the response to the disaster was still framed by a sense of inevitability.[122] WTTG reporter John Goldsmith asked Congressman Ken Hechler if "these people" had "gotten to where they're so used to living in the shadow of disaster, floods, coal mine tragedies, that they kind of take it for granted."[123] It mirrored the naturalization of mine disasters that had taken place in the wake of the Hyden disaster just over a year before. By making the disasters seem like a part of the Appalachian ecosystem, it sought to obscure the way that the region figured so centrally in a system of energy governance that underwrote the growth of electrification but concerns over the ability of the American military to continue to project its power internationally as the Vietnam crisis escalated. When the dam's collapse appeared as an "act of God" it not only sought to legally limit liability of the company or any oversight agency, drawing on what Nye has described as a tradition of "conflating the man-made and the natural," and suggesting "that the technological sublime is identical with the natural sublime."[124] But the survivors were quick to note that the destruction was far from equal and the disaster far from natural, and Hechler echoed them in his response: "The only building left [in one community] is the company store, and this gives eloquent testimony, I think, to…a new spirit abroad in both West Virginia and throughout the entire area, which demands that human rights be protected, and that the safety and health of the people be protected." The

[121] NBC Nightly News Transcript, February 28, 1972. UMWPC, Box 80 Folder 11.
[122] Caudill, *Night Comes to the Cumberlands.*
[123] Late News Transcript, WTTG Television, February 28, 1972. UMWPC, Box 80, Folder 11.
[124] Nye, *American Technological Sublime*, 23.

people of West Virginia, he said, were "Tired of being pushed around."[125] The Buffalo Creek disaster became a flashpoint which powerfully combined the anger over mining deaths with growing concern over both the ongoing and long-range ecological impacts of surface mining.

Once more, an elementary school became a morgue, this time in Man, West Virginia. "Twisted bodies" were brought and identified before being loaded for storage in refrigerated trucks.[126] But even survival was little relief. Wayne Brady Hatfield, a disabled miner, survived the flood but lost "his wife, daughter, and grand-daughter, all swept away by the turbulent water"—all only a year after his only son, Corporal Druey Lee Hatfield, had been killed in Vietnam.[127] Hatfield described the harrowing moments in which he fled the rising water—and realized he would be unable to save most of his family. "I run out through there [the rows of houses] until the water got up to under my arms. Then I see'd that I couldn't make it…I grabbed the baby and went upstairs, and…I said Lord have mercy."[128]

As the bodies were pulled out one by one, and the horrifying stories of escape and survival began to emerge, the question of who was to blame began to replace open grief. Miners felt that once again, they had been viewed as expendable by both the state and the companies—and even the union. One cartoonist captured the sentiment perfectly when he drew the coal operators standing alongside the state and federal governments above the destroyed valley, where the only building in sight appears to be the tipple—the structure erected to load mined coal onto railroad cars and ship it to the nation's power plants. (See Figure 4.3.) By adding the caption of "Oh, well,

[125] Late News Transcript, WTTG Television, February 28, 1972. UMWPC, Box 80, Folder 11.
[126] ABC Evening News, Transcript, February 28, 1972. UMWPC, Box 80, Folder 11.
[127] Information about the death of Druey Lee Hatfield, who was not named in the original news reporting, comes courtesy of the Vietnam Veterans Memorial Fund. Corporal Hatfield, twenty-one, was killed at FSB Mary Ann in Quang Tin province in March 1971. The Wall of Faces, Vietnam Veterans Memorial Fund. Accessed online. The location of Hatfield's death is particularly significant because the battle came to symbolize the unraveling of the US military effort in Vietnam. Keith William Nolan, *Sappers in the Wire: The Life and Death of Firebase Mary Ann* (College Station: Texas A&M University Press, 1995); Shelby L. Stanton, *The Rise and Fall of an American Army: US Ground Forces in Vietnam, 1965-1973* (Novato, California: Presidio, 1985).
[128] ABC Evening News, Transcript, February 28, 1972. UMWPC, Box 80, Folder 11.

they were only coal miners,"[129] Reporter John Dancy asked residents who they felt was responsible, and one answer in particular encapsulated the sentiment in the valley: "I blame the coal companies," one resident said, "and I blame the union for not making a more strong effort to getting something done, to prevent this."[130] The comment betrayed the changing vision of what miners thought a union's job was: since advocating for safer dumping practices fell far outside the mandate of the union to negotiate wages, benefits, and working conditions.

Figure 4.3: "Oh, well, they were only coal miners." *Coal Patrol*, April 24, 1972. UMWJR, Box 4, Folder 4. Notice that the one building that appears to remain standing in the valley is the tipple, located just to the lower right of center.

And although the state government certainly shared in the blame for the disaster, officials sought to naturalize the disaster in order to deflect blame, relying on a vision of a wild, vicious,

[129] It is not clear if this caption accompanied the original version of the cartoon or if Bethell added it himself. Most likely it was also a component of the original cartoon. "Oh, well, they were only coal miners." Reprinted from *Coal Patrol*, April 24, 1972. UMWJR, Box 4, Folder 4.
[130] NBC Nightly News Transcript, February 28, 1972. UMWPC, Box 80 Folder 11.

and untamable landscape that echoed earlier responses to disasters of the 1960s.[131] In the wake of the devastation, West Virginia Governor Arch Moore addressed the public: "Why do all the bad things have to happen to West Virginia? As a governor, I…these are acts of God. And, uh, where he picks to undertake to deliver his message for whatever reason it may be…I don't know."[132] Such response cemented the inefficacy of the 1969 Act, but also the inefficacy of the recently passed West Virginia regulations on strip mining. The continued collaboration between state and industry brought neither the benefits of growth nor the protections of citizenship to West Virginia's narrow hollows. In conjuring natural forces to blame for the disaster, it also suggested a furthering of the division that was prevalent in national politics at the time, which portrayed Appalachia as backwards, a place where time stands still, a place subject to the forces of nature more than human impact—even though it was home to very machines and coal and highly skilled labor which, out of sight, powered the nation. The Buffalo Creek disaster tied the coal mining workplace to the broader Appalachian landscape, and the Appalachian landscape to the broader nation which relied on the coal which came from the hollows. It made the wide social stakes of the balance of workplace power—previously read in the death and disablement of thousands—generalizable. After all, the miners and miners' family members who died were not on the job at the time of the accident, and yet miners looked to the institutions that governed their working lives as they sought to contend with the disaster. Additional workplace safety measures, they contended, would have likely prevented the disaster, in the same way they had argued they could have prevented Hyden before it and the Farmington disaster before that.

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[131] Steinberg also placed Buffalo Creek in the context of other American floods of the last fifty years. For Steinberg, the deaths caused by flooding, from 1972 flood to the flooding in the aftermath of Hurricane Katrina in New Orleans, represented an anomaly in the overall decline in American deaths from natural disasters, which peaked between 1880 and 1930. The impact of flooding, he suggests, was amplified over the last half century by "a political culture that has…undermin[ed] the legitimacy of the state, while promoting the virtues of free enterprise and the private sector…thereby washing their hands of any moral complicity for the deaths of those at the bottom of the scale." Steinberg, *Acts of God*, 198.

[132] Arch Moore at press briefing, Mary-Lynn Evans and Jordan Freeman, *Blood on the Mountain* (New York: Virgil Films, 2016).

And yet even as they placed the disaster in the context of workplace safety, they looked to the state, rather than the collectively bargained contract, to secure new protections for them. In the context of the ongoing effort to democratize the union and bring it more meaningfully under member control, this fact is perhaps not surprising. Boyle loved to boast about the contracts "he" bargained. At a 1969 Labor Day rally, he even bragged, while tapping his finger against his chest, that:

> there have been two contracts negotiated under the great leadership of our distinguished president. And I say this without fear of contradiction, from anyone, there's more bread and butter, there's more pork chops and potatoes, in those contracts in that short period of time than any negotiator in the country has ever negotiated. Close quote![133]

The contract gains, however, were always overshadowed by the fact that coalfield unemployment remained high following mechanization and the fact that these were contracts in which the rank-and-file had little to no input, and which reflected the concerns of a union regime set up to perpetuate itself rather than respond to the concerns and aspirations of the membership.[134]

Even if it was unlikely that under Boyle's regime miners would have come to see collective bargaining as the primary point of influence where they could exert the most leverage on issues that fell outside the traditional purview of collective bargaining, miners still did view their collective organization as their primary form of leverage. The disasters in Hyden and Buffalo Creek, had cemented the relationship between union reform and, as Jock Yablonski had called it in his fated 1969 campaign, "an end to environmental mayhem," which miners understood as emerging principally from the workplace.[135] While Andrews has pointed to the mining workplace as a workscape—"a place shaped by the interplay of human labor and natural processes"—his definition here requires expansion.[136] Between the pitched battles of the coalfields in the early twentieth century and the series of disasters that shaped the mining workplace in the long 1970s,

[133] Archival video footage used in Evans and Freeman, *Blood on the Mountain.*
[134] Joseph A. Loftus, "Miners Win a 25% Raise as Accord Ends Strike," *New York Times*, October 15, 1968. *PQHN.*
[135] Yablonski campaign position papers, undated, circa early spring 1969. MFDR, Box 23, Folder 37.
[136] Andrews, *Killing for Coal,* 125.

mechanization and regulation had ensured that both the companies and the state played crucial roles in forging the way in which labor and "natural processes" produced the workscapes of Appalachia. The "constellation of unruly and ever-unfolding relationships" which Andrews describes must be expanded then to include, in particularly, the interventions of the regulatory state in the mining workplace.

Health and Safety Environmentalism

The opposition of both surface and underground miners to the new strip-mining practices were not only based on their Appalachian identity, or their ties to the land, but instead were rooted in the workplace—specifically, in changing beliefs about workplace safety. Between the murder of Jock Yablonski and the election of the Miners for Democracy in December 1972, the safety crisis and the ecological crisis became understood as two intertwined outgrowths of the same problem: a coal industry that was "a blot on the conscience of America."[137] The Department of the Interior recognized that if the industry could not help solve the problem they "risk[ed] severe restrictions on their freedom of operations."[138] The coal industry would have to modernize again, this time to meet the challenge of the redefined relationship between work and environment that the miners' reform movement had forged.[139]

The MFD rearticulated the role of the administrative state and regulation in the workplace, specifically around issues of health and environment, as a question of rights and citizenship rather than industrial relations. The growth of environmental consciousness among the MFD reformers

[137] Transcript, "The Cherokee Shaft: The Story of Mines and Men," ABC Broadcast. May 22,1971, 8:30-9:30 PM EDT. Produced and written by Stephen Fleischman; Directed by John E. Johnson, Jr. MFDR, Box 63, Folder 1.
[138] Press Release, Department of the Interior, Office of the Secretary, "US Bureau of Mines Director cites need for minerals industry to adjust to advances in ecological sciences," September 13, 1971.
[139] Gottlieb pointed out the how the black lung movement had helped redefine the boundaries between work and environment but had ultimately been absorbed the "institutional demands of a compensation system." Gottlieb, *Forcing the Spring,* 281. Gottlieb, however, did not consider the importance of the MFD as an outgrowth of the black lung movement.

was not "expedient," nor did it result from a clear set of moral commitments which prioritized environmental concerns over their own future employment. The reformers' environmentalism, especially as it manifested in opposition to strip mining between 1969 and 1972, does not fit into the established narratives of the emergence of environmentalism in the United States. Their environmental politics were not clearly adopted from the nascent environmental movement that had been spurred by growing concerns over urban pollution and the safety of consumer products, although they were certainly tinged by such concerns.[140] Instead, it extended outward from the workplace, an adaption of the movement for occupational health and safety which had driven the growth of the reform movement in the first place. This shift had been aided by the passage of the 1969 Coal Mine Health and Safety Act, which had encouraged miners to shift culpability for unsafe mines more heavily onto the agencies tasked with protecting them on the job. The growth of health-and-safety environmentalism, then, wasn't only about the blurring of a distinction between work and nature, but a reconstitution of their interrelationship as health-and-safety environmentalism.

Conceptually, health-and-safety environmentalism had expanded the terrain of workplace action beyond the mine, but it also raised questions about the categories of democratic politics: if lax mine safety laws were to blame for Buffalo Creek, what did that mean for the compensation of victims who were not miners? If miners, through the practice of industrial democracy, could wield more power over the companies, and demand more in the way of redress than residents who could

[140] Scholarship which has examined environmental politics inside other industrial unions during these years shows a much tighter connection between the mainstream environmental movement—including the portion of this movement which was motivated by racial disparities in urban ecological life—and unions like the United Auto Workers. See for example, Brandon Ward, "Sitting on a Time Bomb: The UAW, Urban Environmentalism, and the Origins of Environmental Justice in Detroit," paper presented at North American Labor History Conference, Detroit, Michigan, October 17, 2014; Josiah Rector, "Accumulating Risk: Environmental Justice and the History of Capitalism in Detroit, 1880-2015," Ph.D. diss., Wayne State University, Detroit, Michigan, 2016; Rector, "From Black Lake to Washington, DC? Unions, Civil Rights, and the Contested Early History of Environmental Justice, 1970-1991," paper presented at North American Labor History Conference, Detroit, Michigan, October 17, 2014. However, Jennifer Thompson found that a record of workplace battles over occupational health had shaped working class response to the Love Canal disaster in the late 1970s. Thompson, "Occupational Health, Neighborhood Toxicity, and Environmental Justice: The Case of Love Canal," paper presented at North American Labor History Conference, Detroit, Michigan, October 17, 2014.

only appeal government regulation or protest to hold the companies accountable, did this not create a system of unequal citizenship in the coalfields? Moreover, what would happen once the safety issues in the mines were addressed? Not all of the environmental impacts of coal could be addressed through workplace safety, even if some miners seemed to believe they could be, and while miners might have been among the most impacted by mine-site ecological destruction, they were not the only ones who suffered from the fossil economy's resultant pollution. Even in those moments when miners positioned themselves as advocates for others impacted by mining industry practices, it suggested a vision of power which privileged industrial democracy over popular government. The limits of health-and-safety environmentalism arose from the potential to conflate two different forms of democratic accountability and participation, rather than focusing on the ways they might complement each other. However, that reform-minded miners adopted such a perspective is perhaps unsurprising given that their primary day-to-day interaction with the state came through regulatory agencies like the Bureau of Mines which they viewed not only as unaccountable and undemocratic, but also as actively accommodating of an energy regime that willingly sacrificed miners and their land for profits, social stability, and international clout. The Bureau, like miners, also drew its power from its ability to exercise power at the mine face.

Despite the problems posed by the development of health-and-safety environmentalism, however, it powerfully shaped the rise and ultimate success of the Miners for Democracy. The MFD rejected across the board that miners' jobs had to come at the expense of the environment. Indeed, the practice of strip mining was not only a major source of environmental destruction across Appalachia, but it also furthered the process of mechanization, replacing underground mining jobs with a small amount of jobs that were more akin to heavy construction jobs. Some miners, like MFD member James Stenger, felt that "a strong environmentalist stance" was the best defense for coal miners' jobs because the implementation of strong environmental regulations

would force the externalities of coal production—including miners' lungs, lives, and land—to be considered in the production of energy. The companies had ignored the "real costs of energy production by charging it up on our major public asset—the environment." But rather than seeing miners as intrinsic to this cycle of ecological destruction which implicated both industry and government, in the age of environmentalism, Stenger identified the very existence of externalities as potential leverage: if the real cost of ecological destruction passed on to the consumer, "a serious conflict would develop between the need for energy and the ability of the consumer to pay for it. This would force the development of really clean production technologies—the only real cheap technologies."[141] By identifying environmental protection as a point of political and bargaining leverage rather than a liability for future employment, moreover, the MFD turned the old administration's approach on its head; Boyle had spent the bulk of the 1960s campaigning against air and water pollution regulations alongside his antinuclear campaign.

Life, Liberty, and the Pursuit of Coal

The Miners for Democracy was a democratic movement with an imagination that could not be contained by the mine tunnels or the union hall. Early reform activity, which could take place without the weight of an imminent union election, in particular extended outside the bounds of the union reform effort. Some early efforts focused on public office. Arnold Miller first sought elected office through an unsuccessful run for the West Virginia House of Delegates as a representative for Kanawha County. Miller and his allies believed that just like the union leadership did not represent miner's rights as workers, the state government did not represent their interests as citizens—and neither protected their rights. A 1972 cartoon that appeared in *Black*

[141] James Stenger, "Report on the Energy Crisis." Handwritten report, undated. MFD Archives, Reuther Library, Box 104, Folder 20. Stenger was a rank and file miner who produced this report to help shape Miller's campaign for the presidency of the UMWA. Although undated, it was likely written in late 1971 or early 1972 as Miller prepared to announce his candidacy.

Lung Bulletin, the monthly organ of the Black Lung Association of which Miller had been a leader and which remained tightly aligned with the MFD, said that "these politicians don't do anything for miners—well [sic] have to run for office ourselves."[142] (See Figure 4.) These efforts pointed to a muddying of the boundary between efforts to democratize the union and broader concerns about the future of American democracy if elected politicians could not represent the miners who had voted for them and further encouraged miners to think of the rights of citizenship as synonymous with the terms of their employment. The MFD then was neither just a union reform movement nor a social movement, an effort to restructure power in the region to better represent miners in their new role as energy citizens—tied to the nation by power lines and their land by the coal that electrified them.

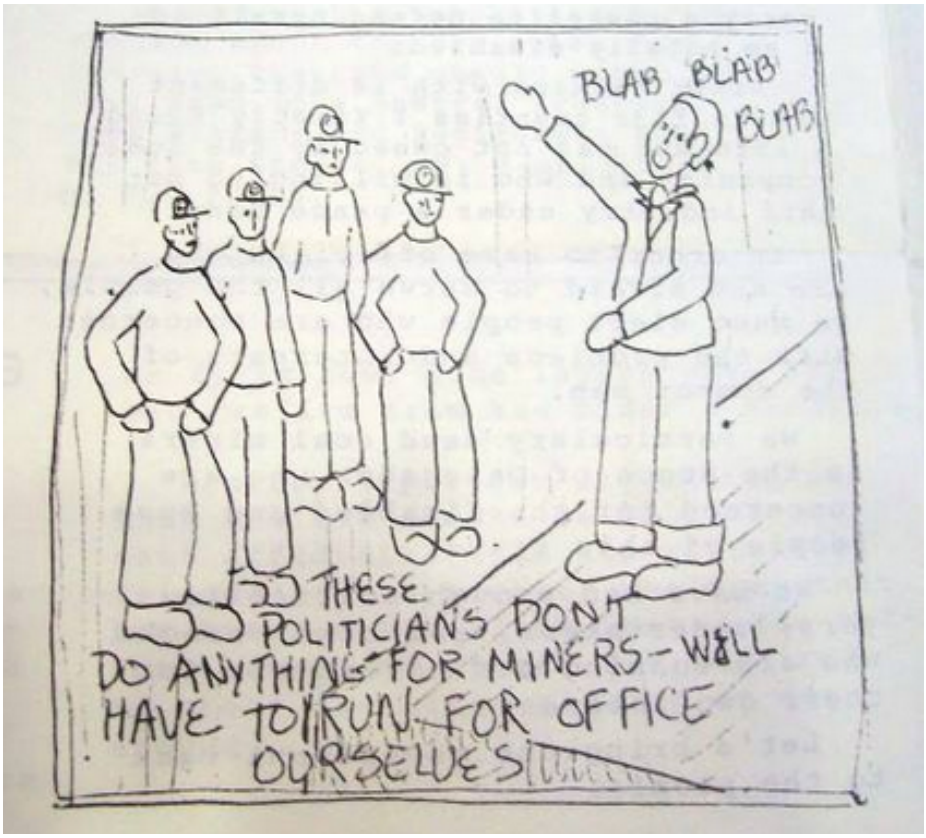

Figure 4.4: "Run for Office?" *Black Lung Bulletin*, Vol.2, Number 7, January 1972. MFDR, Box 44, Folder 35.

[142] "Run for Office," *Black Lung Bulletin*, No. 7, January 1972. MFDR, Box 44, Folder 35.

While the 1969 Yablonski campaign had succeeded in pulling several seemingly disparate issues under the umbrella of democracy; the MFD campaign began from the other side: claiming the mantle of democracy, they put forward a platform, contained in the "Miner's Bill of Rights" which sought to clarify exactly what democracy in the context of the problems faced by the nations' coal miners. It demanded jobs, workplace safety and environmental protection, and it was accompanied by interviews with Arnold Miller, who filled the presidential slot on the ticket and spoke powerfully against strip mining, and Mike Trbovich, the vice-presidential nominee who tackled the safety crisis. Together these issues represented "the right to life itself." These two demands had much less to do with the running of the union than it did with the larger place of coal, coal miners, and the coalfields in the American energy regime, and they represented the first attempt by the nation's union coal miners to contend organizationally, with the failure of coalfield Fordism to govern coalfield life and work, a failure which had caused "UMW members [to] suffer from the failure of both industry and government to meet these problems," as the constant threat of death, disablement, or displacement loomed.[143]

Less than three years after its formation in the early months of 1970, the Miners for Democracy won the re-run election in December 1972. The "jobs, lives, and land" platform had helped to successfully mobilize the MFD members and supporters to oust Tony Boyle from office, once and for all. Its success also pointed to the extent the reform and democratization of union structures—the ratification of contracts, the accountability of officers to the rank-and-file membership, the updating of the union's governing constitution—was seen as tied up with a broader vision of democracy that defied the bounds of practice and procedure. Instead, the MFD's claim to democracy also was filled with new claims about rights and governance that implicated the crumbling structure of coalfield Fordism. The inability of the nation's regulatory structure to

[143] "Miner's Bill of Rights," *Miner's Voice*, June 1972. MFDR, Box 31, Folder 29.

protect the miners' newly declared "rights" signified to the MFD not a failure of regulation generally, but a need for open discussion and democratic participation in the remaking of the coal industry and the Appalachian region—to make the mines safe and the land viable with UMW labor. The Miners for Democracy set out to reform a union by "democratizing" it. In doing so, they transformed the conception of democracy inside the UMW.

The results of the 1972 election revealed the uneven geography and polarizing fractiousness of the reform movement. Although Miller carried 55.5 percent of the vote overall, he won only ten of the union's 22 districts, mostly concentrated in the states where the fight for black lung legislation had been the strongest and where the ratio of pensioners to active miners was more even. Miller's strongest showing came in the anthracite district of Eastern Pennsylvania, where he won 83 percent of the vote, but he handily carried most of West Virginia, Pennsylvania, and Virginia. His other key victories came from District 15, comprised of Colorado and New Mexico, and Illinois, where he won by a nearly 2-1 margin.[144]

While the rise and ultimate victory of the MFD in the 1972 election certainly took place in an international atmosphere of reform politics, social movements, and democratic upsurges, the MFD was not simply a product of this national mood. Like all democratic movements of the time, democracy was not an abstract concept that could be applied like a salve. Yet, for all their attempts to transform the traditional American appeal of life, liberty, and the pursuit of property into a concrete set of demands around economic security, workplace safety, and environmental protection framed in the context of key disasters that shaped coalfield organizing between 1970 and 1972, the claims on democracy, rights, and citizenship also remained malleable. As would quickly become clear across their first years in office, democracy took on a life of its own as coalfield unrest continued and the threat of a full-blown energy crisis loomed ever larger.

[144] Election Results, printed in *UMW Journal*, December 1972, 3.

Chapter Five

Who Designed This Upside-Down System?
Coal Miners Confront a New Energy Regime

In December 1973, as the nation contended with a sweeping energy crisis exacerbated by the newly imposed oil embargo, the United Mine Workers, with the year-old Miners for Democracy leadership at the helm, called their forty-sixth constitutional convention to order. Early on the second day, an unidentified delegate interrupted Vice President Mike Trbovich, the day's chair: "We delegates who sit in the back and toil in the underground coal mines are not used to this powerful source of illumination," he said, "We understand that it is for the convenience of the news media, but we are willing to share half an hour with the lights on and possibly then half an hour off." The delegate cited his demand as a point of privilege due him as a rank-and-file delegate.[1] Later that afternoon, after miners had switched off not only the lights but also the heat, Trbovich brought the issue to the open floor of the convention: "I thought it was only fair [to switch the lights on]…the people at Channel 13…took all night to set up their cameras and equipment." The camera operators, he pointed out, were "in a bind now with their employer." But finally, somewhat exasperated, he conceded, "We leave it up to you people…You will decide whether the lights shall stay on or they will go off."[2]

Ultimately, delegates voted to turn the lights on so the news crew could broadcast the convention, and so the new leadership could fulfill its pledge to transparency as they sought to reform their union.[3] There was not an obvious answer, in the delegates' minds, to whether the lights should stay on or go off, and the very fact the matter was the subject of debate and ultimately

[1] Unidentified delegate from the convention floor, transcribed in *Proceedings of the Forty-Sixth Consecutive Constitutional Convention of the United Mine Workers of America* (Washington, DC: United Mine Workers of America, 1973), 40.
[2] Mike Trbovich, transcribed in *ibid*, 59.
[3] *Ibid.*

left to a vote demonstrated the place which energy, broadly defined, had come to occupy in the miners' imaginations. The exchange embodied not only the contentious spirit of the convention more broadly, but also the growing impulse among coal miners toward an idea of energy democracy: the belief that the people who produced energy should have a meaningful say in its apportionment and use, and that access to energy should be considered a core promise of democratic governance. Democratic relationships of energy, they believed, might translate not only into a more democratic union, or workplace, but a more democratic way of life.

The debate over the lights, and the new idea of energy democracy which it exposed, grew out of the energy crisis in the mining workplace. The miners convened as the Arab oil embargo entered its second month and the energy crisis which had been building since the late 1960s became vividly apparent to the American public.[4] At the convention, the different levels at which energy was discussed—from its use on the convention floor, to the problem of impending oil shortages, to the new avenues the crisis opened for collective bargaining—shaped a unique vision of energy democracy that bound together the workplace and political identities of union coal miners in new ways which suggested that coal miners were as well equipped to decide how much gasoline should be rationed to each state as they were to assess where to place blasts along a rock face. Such a vision of democracy certainly involved political engagement, to be accomplished through the union's new political arm, COMPAC, and collective bargaining—but transcended both.

A new vision of democracy suggested a change in the way miners conceptualized the exercise of power, one which fit into a schema of broader working-class and progressive critiques of the expansion of corporate influence, such as those expressed by MFD ally and consumer advocate Ralph Nader. Like Nader, miners' critiques focused on the ways in which concentration of economic power undermined American representational democracy. While Nader's critique,

[4] For political histories of the 1973-74 gasoline panic, see Jacobs and Lifset. Jacobs, *Panic at the Pump*, 49-85; Lifset, ed., *American Energy Policy in the 1970s.*

however, focused almost exclusively on the ways in which advocacy and activism could result in litigation and regulations that would turn externalities into costs which must be borne *financially*, miners' understanding of energy democracy—and the theory of power which lay behind it—complemented Nader's critique but was ultimately more expansive. After all, despite the potency of the Naderist critique of power which helped reform consumer and environmental protections, it could not explain the contention in the hall over the lights. The exchange instead harkened back to earlier struggles for workers' control, and indicated that, in the age of energy crisis, the broader question of *who decides?* was not confined to the workplace, or even the industry, and thus fell outside the boundaries of traditional conceptions of post-World War II industrial democracy.[5]

This new conceptualization of energy democracy emerged at a critical juncture in the history of both the United Mine Workers and the United States, from 1969 to 1974. Energy democracy built on the new vision of a social wage which had emerged during the 1969 Yablonski campaign, but had also expanded to embody a full set of perceived rights and obligations that were more characteristic of democratic citizenship, but which centered on the focal point of energy. By 1973, energy operated as a key axis of citizenship—a fact which the oil crisis laid bare as miners asserted their *right* to access gasoline in the context of their *obligation* to provide the nation with coal for electrical power.[6] It had national implications: would the lights stay on, or would they go out? The new connections between energy and citizenship also represented a challenge to the hegemony of American empire and the growing sphere of international influence which the nation's leaders sought to build in the wake of global decolonization—a project which remained

[5] On the question of workers' control, see David Montgomery, *Workers' Control in America* (New York: Cambridge University Press, 1980) and Immanuel Ness and Dario Azzellini, *Ours to Master and to Own: Workers' Control from the Commune to the Present* (Chicago: Haymarket Books, 2011).

[6] This formulation of the rights and obligations of citizenship builds on Kerber's reading of Anglophone-world political theory, especially Hobbes and Paine, as well as her analysis of the legal evolution of the rights and obligations of women citizens. Linda Kerber, *No Constitutional Right to Be Ladies: Women and the Obligations of Citizenship* (New York: Hill and Wang, 1998), especially 8-15.

totally dependent on the social stability, personal abundance, and military power its energy regime provided in order to wield international power in the midst of the Cold War.

Increasingly, miners contextualized the material experience of their everyday lives as part of this broad and newly reconfigured system of power relationships that had to be understood in flows of energy as much as the flows of capital which have often dominated discussions of capitalist transformation in this time period.[7] Energy—in this case, coal-by-wire—connected their workplaces to the brightly lit New York Stock Exchange as much as did the exchanges of capital which transformed Consolidation Coal into a division of Continental Oil.[8] Energy relationships also tied the UMW to the crumbling Nixon administration as much as miners' participation in the electoral process, or even the lobbying efforts of COMPAC.

The apparatus needed to build this wide-ranging conceptualization of energy and energy democracy required a great amount of abstraction and fluidity. This shift toward a notion of energy which was unmoored from its original fuel form was striking, since so much of the organizing in the union had revolved around very material perils: toxic coal dust, crushing slate, massive slag heaps. But increasingly, the material reality of coal vanished as it transformed into new kinds of energy at different moments on its journey from the coal seam to the Stock Exchange light bulb.

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[7] Key examples of capital movement as being central to understanding the transformation of the American energy economy in this time period include Jefferson Cowie, *Capital Moves: RCA's Seventy Year Quest for Cheap Labor* (New York: New Press, 1999) and Mary Frederickson, *Looking South: Race, Gender, and the Transformation of Labor* (Gainesville: University Press of Florida, 2011). Critiques of the "capital flows" model have been put forward by some scholars including Ferguson who has suggested that rather than the image of the flowing water, capital might be more appropriately understood as "hopping" from place to place as it seeks to extract resources, completely bypassing for development anything in between. James Ferguson, *Global Shadows: Africa in the Neoliberal World Order* (Durham, NC: Duke University Press, 2006), 36-40. Here I maintain the analogy of the flow because while Ferguson is correct that there are quite specific sites which capital targets for extraction, Christopher Jones has also demonstrated the importance of the routes along which fuels and energy travel, which have continued to retain the lines and flows. Unable to hop from place to place, they must travel in some way. In the case of American coal, this has been overwhelmingly by railroad. Jones, *Routes of Power*. Jones's work also suggests that our understanding of energy in the late twentieth century should be intimately tied to the emergence of the logistics industry in its contemporary form. For more on the emergence of the modern logistics industry, see Hamilton, *Trucking Country*; and Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton: Princeton University Press, 2008).

[8] Beck and Rawlings, "Coal: The Captive Giant—A Report on Coal Ownership in the United States." Private Report. MFDR, Box 63, Folder 9, 10.

Coal, that shiny black rock, became more invisible than ever—even as industry leaders and government officials invoked it as the nation's "great black hope" that could solve the energy crisis.[9] This seeming paradox relied on the increasingly widespread notion that different fuels would soon become substitutable for each other, and coal might soon provide gasoline. The potency of this promise could be seen in period legislation like the 1973 National Coal Gasification and Liquefaction Act, which proposed a joint project between government and private industry to bring commercial scale coal-derived fuels onto the market within ten years.[10] The incredible size of the nation's coal deposits—enough by most estimates for four to five centuries at the 1973 consumption rate—molded concerns about the potential limits to growth and reshaped work relationships across the coalfields.[11] The future seemed to promise both growth in the wide availability of energy in a newly restructured system as well as the increase of coal employment—if only the problem of sulfur pollution could be solved. Because coal was framed as the only viable solution to the energy crisis, the environmental concerns which had so powerfully driven the Miners for Democracy campaign faded away as miners moved from imagining a new version of the coalfield to a broader vision of their place in an energy democracy.

Energy democracy emerged from the crumbling post-World War II vision of industrial democracy—the crisis of coalfield Fordism. The process by which industrial democracy became energy democracy was intimately tied to the simultaneous transformation of coal miners into energy workers. The wave of strikes which overlapped with the peak of the long energy crisis should be understood as the apex of the process by which coal miners became energy workers

[9] Sidney E. Rolfe, "Coal—The Great Black Hope of Energy," *Mountain Eagle* (Whitesburg, Kentucky), December 27, 1973, 3. JDC, Box 1, Folder 4.
[10] US Congress, House of Representatives, National Coal Gasification and Liquefaction Act, 1973. 93rd Congress, 1st session.
[11] Donella H. Meadows, et al. *The Limits to Growth; a Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972). One counter to *The Limits to Growth* was written by James O'Toole, which argued that the problem was not hard ecological limits but rather the outdated organization of energy production. James O'Toole, *Energy and Social Change* (Cambridge: MIT Press, 1977).

amid a national crisis, and thus contended for a place in a new energy regime that was dominated not by coal companies and oil tycoons, but instead by massive, multi-fuel energy conglomerates. The most important of these strikes were the union recognition strike in Harlan County, Kentucky and the wave of wildcats over gasoline which swept southern West Virginia in 1974. Miners framed these strikes through the energy crisis: from standard of living improvements framed in terms of energy access, the spiking profits of the energy conglomerates that owned the mines they worked in, their key point of leverage: the fact they kept the nation's lights on. Understanding the thirteen-month recognition strike at Brookside and the wave of wildcats from 1973-74 as a high-stakes moment of the energy crisis helps us to better understand the changing relationship between workers and the nation's energy regime, which Senator Fred Harris (D-OK) wrote in the *Atlantic* relied on "burning people up to make electricity."[12] It also helps us to understand the substantial and conscious role which miners themselves played in the process of remaking coal into energy. They considered new ways of organizing, of understanding their work, of doing political advocacy, and of understanding their relationships to workers who produced other forms of energy—which just a few years before they might have referred to as other fuels. Ironically, because the miners' multifaceted protests against the "undemocratic" control of energy by the companies didn't result in a restructuring of the nation's institutions, or even the structure of collective bargaining in the energy industry, they may have ultimately limited the avenues for democratizing energy relationships in the United States.

A narrative of regime-wide energy crisis allowed miners to understand the restructuring of the industry's power; it also suggested that the solution to the crisis might lay in the field of energy itself. It was in this charged atmosphere that energy took on a new conceptual life: one which

[12] Fred Harris, "Burning People Up to Make Electricity," *The Atlantic*, July 1974. Accessed online. Lowitt documented the path to Harris penning the article, which began with communication between Harris and a recently-elected President Arnold Miller. Richard Lowitt, *Fred Harris: His Journey from Liberalism to Populism* (Lanham, MD: Rowan and Littlefield, 2002), 240.

transcended its grounding in the material nature of coal and which became a way of talking about relationships of power which had previously been subsumed under relationships of capital, or which were believed to belong to the field of democratic politics.

This Total-Energy Complex Dream

In 1966, Continental Oil, the nation's tenth largest oil producer, purchased Consolidation Coal, which produced eleven percent of the nation's bituminous coal, setting off a wave of acquisitions. Island Creek Coal Company and Maust Coal and Coke Corporation were acquired by Occidental Petroleum; Eastern Gas and Fuel purchased Eastern Coal; Old Ben Coal Company came under the ownership of Standard Oil. Kennecott Copper, which had been expanding into the oil field since the end of World War II and by the 1960s was better described as an energy company than a minerals firm, acquired Peabody Coal. While the Continental Oil acquisition of Consolidation coal wasn't the first large merger—Pittsburgh and Midway Coal Mining Company had been acquired by Gulf Oil in 1963—before 1966, only one of the largest fifteen coal companies was owned by an oil company, and ten of the top fifteen coal companies were independent—only in the business of selling coal.

By 1969, the picture had changed dramatically. Only three of the top fifteen producers remained independent, and together produced only 5.1 percent of the nation's bituminous coal. In only six years, the oil companies had succeeded in gaining control of more than 39 percent of the nation's bituminous coal production through acquisitions that targeted the largest companies which already had established relationships with the electric utility markets.[13] This wave of mergers and

[13] A marginal amount of this coal came from companies outside of the fifteen top producers, though many of the smaller companies were also owned by energy companies. When the list of top coal companies was expanded to include the top fifty companies, thirty of them—or sixty percent—were what Beck and Rawlings described as "captive." Still, production was indeed concentrated in the top fifteen companies. 37.6% of total bituminous production came from the top fifteen coal companies. Among the other seven coal producers who mined more than seven million tons of coal annually, one was General Dynamics, two were steel companies (US Steel and Bethlehem

acquisitions coincided with the safety crisis discussed in chapter three as the restructuring reinvigorated the drive to increase productivity. (Table 5.1)

Acquiring Company	Coal Company	Year of Acquisition	Annual Production (Tons)	Percentage of Total US Bituminous Production
Gulf Oil Company	Pittsburgh and Midway Coal	1963	9,000,000	1.66%
Continental Oil	Consolidation Coal	1966	60,000,000	11%
Kennecott Copper	Peabody Coal	1968	60,000,000	11%
Occidental Petroleum	Island Creek Coal	1968	26,000,000	4.77%
Standard Oil of Ohio	Old Ben Coal	1968	10,000,000	1.83%
Pittston Company	Pittston Coal	1969	20,000,000	3.67%
Eastern Gas and Fuel	Eastern Coal	1969	13,000,000	2.39%
Occidental Petroleum	Maust Coal and Coke	1969	7,000,000	1.28%

Table 5.1: Acquisitions of Large Coal Producers, 1963-1969. Beck and Rawlings, 10-11. Also see research by Norm Weintraub of the Oil, Chemical, and Atomic Workers (OCAW) in his memo to A.F. Grospiron, "Movement of Major Oil Companies into Other Energy Sources, Primarily Coal and Uranium," UMWPO, Box 40, Folder 16. Additional data supplied from US Energy Information Administration, "Annual Energy Review," September 2012. Accessed online.

Meanwhile, the nation was in the midst of a fuels crisis: stockpiles of fuels, and coal in particular, were too low to deliver reliable electricity to the American public, mostly due to a spike in coal prices following the mergers of the late 1960s which had resulted in the utilities allowing their reserves to dwindle. Additionally, the nation's logistics network, which relied primarily on railroads to transport coal, had not adapted to new usage rates and patterns. As a result, rail cars were in short supply and often in the wrong place at the wrong time. Meanwhile, production had stagnated even as the profitability of coal increased, which only exacerbated the increase in prices. (Chart 5.1) Most utilities relied on "spot" pricing, which made them particularly vulnerable to the

Steel), and three were independent (Westmoreland Coal, North American Coal, and Southwestern Illinois Coal). Beck and Rawlings, 10-12. Kennecott was not included as "captive" in Beck and Rawling's numbers since technically Kennecott was still a minerals firm. However, Beck and Rawling's assessment missed the mark. Kennecott's principal mineral, copper, was deeply tied to the development of the power grid; the electrification of the United States dramatically increased copper demand in the early twentieth century. Moreover, since the end of World War II, Kennecott had been moving into oil, and the company's literature from the period suggests that the men who ran it envisioned it more as an energy company than a copper company. This vision was borne out by what happened after Kennecott acquired Peabody Coal. After a lengthy legal battle, the Federal Trade Commission ruled in 1976 that Kennecott Copper's ownership of Peabody Coal was a violation of antitrust law and forced Kennecott to divest. Kennecott used a holding company to rebrand Peabody Coal as Peabody Energy, with a 1976 value of $1.1 billion. Peabody Energy went on to quickly acquire Eastern Gas and Fuel (owner of Eastern Coal, which produced two percent of the nation's coal) as well as the mines belonging to Armco Steel. In addition, Kennecott came under the ownership of BP. "Peabody Energy Company," International Directory of Company Histories, Baker Library Special Collections, Harvard University.

increases, but even the Tennessee Valley Authority, which purchased coal on longer term contracts, fell victim to the shortages. By the fall of 1970, TVA Chairman A.J. Wagner said that increases in coal prices had created system-wide supply problems: "our supply of coal at full burn this week was 10 days. Some plants had as little as a five-or-six-day supply…An adverse turn in the coal situation could change our power supply from serious to critical within a few days."[14]

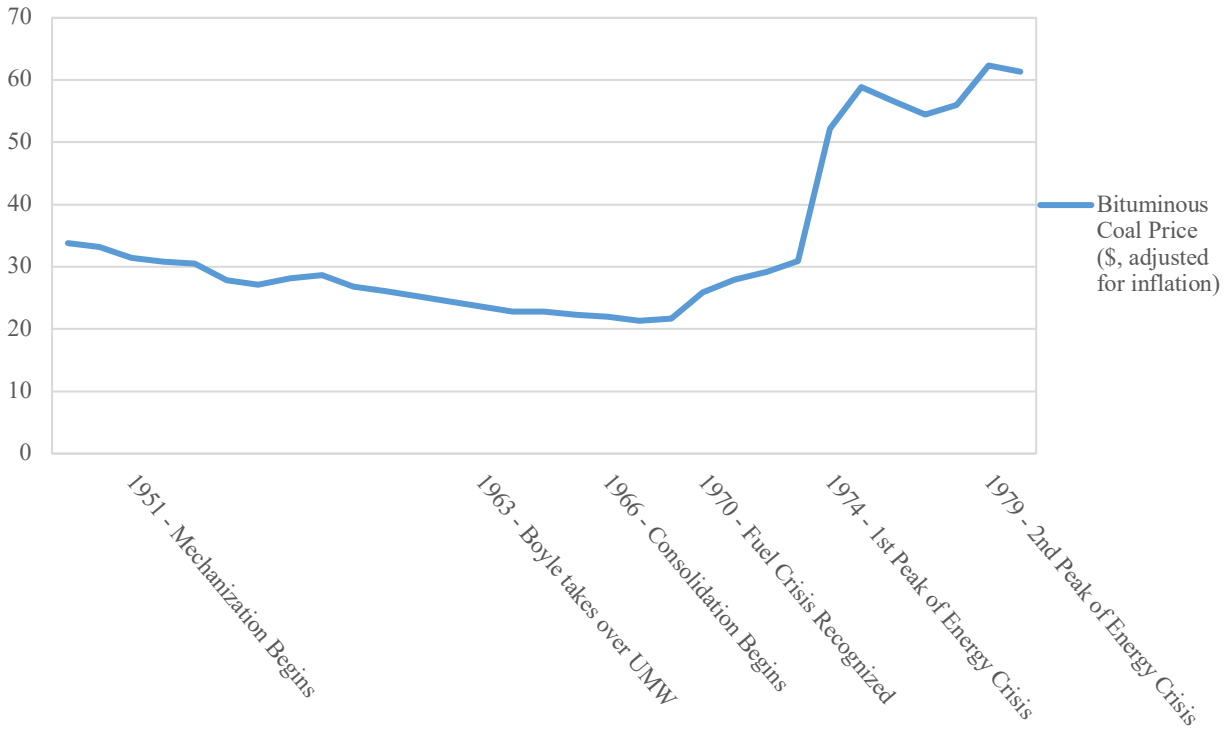

Chart 5.1: Bituminous Coal Prices in the United States, 1949-1980. Adjusted for Inflation. Energy Information Administration, "Coal Prices, 1949-2011," *Annual Energy Review*. Accessed online.

The nation was unprepared. Carl Bagge, who after heading the Federal Power Commission from 1964 to 1970 had moved to head up the National Coal Association, said that the crisis had snuck up on the nation, and especially "the American public," who "generally does not yet realize the pervasive effects a sharp and prolonged energy shortage would have on society." Even though much of the country appeared to be in denial, Bagge argued that "[t]he only thing that is unreal

[14] Quoted in Beck and Rawlings, 97. Given that the Raiders documented their report extensively, the lack of attribution for this quote seems to indicate that it was the product of direct correspondence with the authors.

about the energy crisis in the United States is the general public reaction to it."[15] As early as 1971, the Department of the Interior had admitted that "our mineral abundance *is* becoming illusory," but these warnings had not translated into political action.[16] Long before the 1973 oil embargo then, the nation was embroiled in an energy crisis that was mostly debated at the industrial level, excluding most of the nation's ordinary residents. The energy crisis was thus a much longer event than either of the 1970s oil shocks, or even the time that elapsed between them, but instead extended back into this industry restructuring which had defined the late 1960s.

The changes in industry structure caught the attention of Laurence D. Beck and Stuart Rawlings, two of "Nader's Raiders," as they worked on a report on the crisis of fuel supply for electric power in 1970. They were likely drawn to the issue following Ralph Nader's intervention in the coal mine safety fight, discussed in chapter three, and as part of Nader's overall research agenda into the role of Federal Trade Commission and the role of corporate power in a consumer society, which Nader argued had overseen "billions of dollars siphoned from poor and middle-class consumer[s] alike by deceptive practices."[17] The report the pair ultimately penned, "Coal: The Captive Giant," fell into a slew of reports written by Nader and his Raiders—*Unsafe at Any Speed, Water Wasteland, The Company State, Vanishing Air, The Interstate Commerce Omission*—but was never published.[18] Although Rawlings has since noted that the report was of

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[15] Presentation of Carl E. Bagge, President of the National Coal Association, to Colby College, Waterville, Maine, March 2, 1972. UMWDO, Box 3 Folder 88.
[16] Remarks of Elburt F. Osborn, Director of the Bureau of Mines, Department of the Interior, University of Utah—Salt Lake City, Utah, October 15, 1971. MFDR, Box 45, Folder 20.
[17] Ralph Nader, preface to *Nader's Raiders Report on the Federal Trade Commission* by Edward Cox, Robert C. Fellmeth, and John E. Schultz (New York: Grove Press, 1969), x.
[18] Why the report was never published in book form, as seventeen other Raider reports were between 1969 to 1973, is unclear. However, the Miners for Democracy had one in their possession and it remains in their records housed at the Reuther Library in Detroit. Only two other copies can be found in publicly accessible collections—one at the University of Kentucky, the other in Huntington, West Virginia. Ralph Nader, *Unsafe at Any Speed: The Designed-In Dangers of the American Automobile* (New York: Knightsbridge, 1991); David Zwick, Marcy Benstock, and Ralph Nader, *Water Wasteland* (New York: Bantam, 1972); James Phelan and Robert C. Pozen, *The Company State: Ralph Nader's Study Group Report on DuPont in Delaware* (NewYork: Grossman, 1973); John C. Esposito and Larry J. Silverman, *Vanishing Air: The Ralph Nader Study Group Report on Air Pollution* (New York: Grossman, 1970); Robert C. Fellmeth, *The Interstate Commerce Omission: The Public Interest and the ICC* (New York: Grossman, 1970).

primary interest to the oil and coal companies who were anxious to avoid antitrust suits, a copy of the report was obtained by the Miners for Democracy and shaped the organizing that took place under their administration, including the way they ultimately chose to approach the energy crisis.[19] While Hays's assessment of the post-World War II environmental movement concluded that "quality of life as…a focus of public action…can be thought of as part of a history of consumption rather than the history of production,"[20] consumer advocacy, often focused on the product safety and price fairness, became difficult to extricate from safety issues in the energy workplace during the years of the energy crisis. Nader was keenly aware of the connection, demonstrated by his concurrent efforts to protect energy consumers while also intervening to support coal mine health and safety legislation, and his own preoccupations were reflected in the work of his Raider "study groups."[21] While it remains unclear how closely they collaborated with the MFD, and Beck and Rawlings' report was primarily concerned with how energy conglomerates would affect the price and accessibility of energy for the average American consumer and the pollution generated from electricity production, the report's attention also extended to issues of workplace concern—particularly the safety conditions in mines that had been acquired by coal firms and the role government regulation could play in making coal mines safe and energy affordable.

At the core of the Raiders' report was a conclusion which seemed to surprise even them, and that would have been unknown outside of regulatory and management circles: "the simple coal company, free from the influence of other industries, has all but disappeared."[22] Indeed by

[19] Stuart Rawlings to Ronald Hilton, December 23, 1999. Archived online. Stable URL: http://web.stanford.edu/group/wais/WAIS/Members/member_srawlings.html.
[20] Hays, *Beauty, Health, and Permanence*, 3-4.
[21] Ralph Nader, testimony to the Senate Subcommittee on Labor. US Congress, Senate, Hearings before the Subcommittee on Labor of the Committee on Labor and Public Welfare, Health and Safety in the Coal Mines, 91st Congress, 2d. session, August 6, 1970, 221-233. This dual commitment was also evident in other projects he took on with his team during this time period, as in "The Company State" which examined the DuPont company's role in the governing of Delaware. See his writings on the corporate state and the corporatizing of the United States in *The Ralph Nader Reader* (New York: Seven Stories Press, 2000), 55-145.
[22] Beck and Rawlings, 66.

1970, they were, along with simple oil companies, a thing of the past. In their place was a new form of company—the energy firm. As the President of Humble Oil—a subsidiary of Standard Oil of New Jersey—wrote in the company newsletter for the first quarter of 1970, "Humble is not just an oil company. It is a *large, diversified energy company*."[23] The companies, driven by a perception of dwindling reserves, had become "fully integrated and interlaced by a series of joint ventures in domestic and international markets," even as debate remained over the real cause of the shortages and the long-term prognosis for energy production.[24]

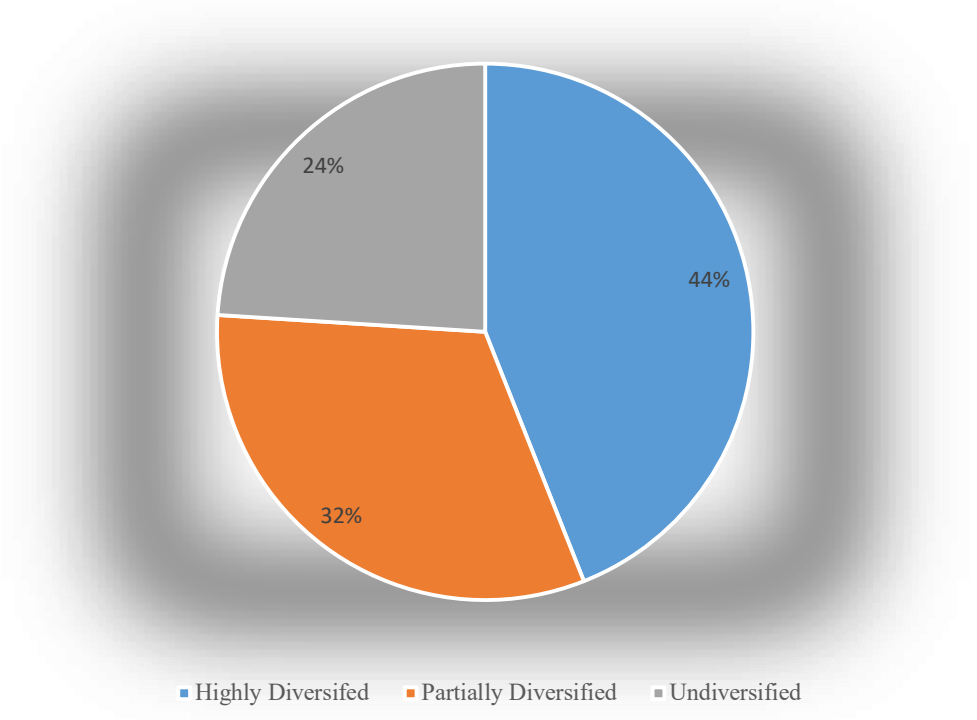

Chart 5.2: Diversification among Top 25 Energy Companies, 1970. A visualization of Table 5.2.

[23] "Energy by the Ton," *The Humble Way*, Humble Oil Company, First Quarter, 1970, 5. Patricia D. Klingenstein Library, New York Historical Society, New York, New York. Emphasis added.

[24] Bureau of Economics, Federal Trade Commission, "Structure of the Petroleum Industry and its Relation to Oil Shale and Other Energy Sources," Economic Papers, 1966-69 (Washington, DC: Government Print Office, 1970), 190. Strikingly, this industry reorganization is absent from much of the period's academic literature on addressing the fuel crisis. Gordon's study of coal and electricity markets, for example, primarily viewed oil as an international market force which could be reckoned with through trade policy. Richard L. Gordon, *US Coal and the Electric Power Industry* (Baltimore: Johns Hopkins University Press, 1975), 3-40. The Energy Policy Project of the Ford Foundation acknowledged the growing spread of the oil companies in 1974, but reacted to the claim that the oil companies, in transforming into energy companies, were exercising monopoly power in the market with intense skepticism. Energy Policy Project of the Ford Foundation, *A Time to Choose*, 229-254.

Rank	Company	1969 Assets ($ thousands)	**Oil**	**Natural Gas**	**Shale**	**Coal**	**Uranium**	**Tar Sands**
1	Standard Oil (NJ)	$17,537,951	**X**	**X**	**X**	**X**	**X**	**X**
2	Texaco	$9,281,573	**X**	**X**	**X**	**X**	**X**	
3	Gulf	$8,104,824	**X**	**X**	**X**	**X**	**X**	**X**
4	Mobil	$7,162,994	**X**	**X**			**X**	
5	Standard Oil (CA)	$6,145,875	**X**	**X**				
6	Standard Oil (IN)	$5,150,677	**X**	**X**			**X**	**X**
7	Shell	$4,356,222	**X**	**X**	**X**	**X**	**X**	**X**
8	Atlantic Richfield	$4,235,425	**X**	**X**	**X**	**X**	**X**	**X**
9	Phillips	$3,102,280	**X**	**X**	**X**		**X**	
10	Continental	$2,896,616	**X**	**X**	**X**	**X**	**X**	
11	Sun	$2,528,211	**X**	**X**	**X**	**X**	**X**	**X**
12	Union Oil (CA)	$2,476,414	**X**	**X**	**X**		**X**	
13	Occidental	$2,213,506	**X**	**X**		**X**		
14	Cities Service	$2,065,600	**X**	**X**	**X**		**X**	**X**
15	Getty	$1,859,024	**X**	**X**	**X**		**X**	
16	Standard Oil (OH)	$1,553,591	**X**	**X**	**X**	**X**	**X**	
17	Pennzoil United	$1,356,832	**X**	**X**			**X**	
18	Signal	$1,258,611	**X**	**X**				
19	Marathon	$1,221,288	**X**	**X**				
20	Amerada-Hess	$982,157	**X**	**X**			**X**	
21	Ashland	$846,412	**X**	**X**	**X**	**X**	**X**	
22	Kerr-McGee	$667,940	**X**	**X**		**X**	**X**	
23	Superior Oil	$494,025	**X**	**X**	**X**			
24	Coastal States Gas	$490,190	**X**	**X**				
25	Murphy Oil	$343,914	**X**	**X**				
Totals			**25**	**25**	**18**	**11**	**18**	**7**

Table 5.2: Fuel Diversification among Top 25 Energy Companies, 1970. Reproduced with modifications from Beck and Rawlings, "Coal: The Captive Giant," 77. Original data is from Bruce C. Netschert, Abraham Gerber, and Irwin Stelzer, "Competition in the Energy Markets: An Economic Analysis," National Economic Research Associates, Inc., 1970. The color modifications allow denotation of companies as "highly diversified" (blue), "partially diversified" (orange), and "undiversified" (grey). Highly diversified companies held reserves of at least four different source fuels, of which at least two were not oil/natural gas related. Partially diversified companies held reserves in at least three different fuels, including one not related to oil/natural gas. Undiversified companies only held reserves in oil/natural gas related fuels. Only 6 of the top 25 companies could be considered undiversified in 1970 (24 percent), 76 percent were diversified to some extent, and eleven, or 44 percent, were highly diversified.

Not only interlaced through production sites—be they coal mines, oil wells, or uranium processing plants—these energy firms had deep financial entanglements and were largely headquartered in New York and California, places which Beck and Rawlings noted, "deal considerably more with money than with coal."[25] The geography of the headquarters—locating the firms where money changed hands rather than the places where energy was extracted—was hardly a new practice. In fact, the long-standing practice of absentee ownership had been central in the formation of Appalachian identity and the sense of many coalfield residents that the region was an "internal colony."[26] But whether or not the practice was new, it allowed "the nation's ten largest banks [to] have considerable influence over the largest coal producers…a total of 29 directors on the boards of the top fifteen coal producers, and…81 connections with these coal producers."[27]

By early 1970, energy production had been substantially reorganized across the nation in just the space of six years under the direction of the new energy companies, and not, as many increasingly called for, under a national energy plan that might be able to sustain New Deal and Great Society programs. Nine of the nation's largest energy companies held reserves of natural gas, oil, oil shale, coal, and uranium. Five of these companies also held tar sands reserves—Standard Oil of New Jersey, which would merge with subsidiaries, including the Humble Oil Company, to form Exxon in 1973 (#1), Gulf (#3), Shell (#7), Atlantic Richfield (#8), and Sun

[25] Beck and Rawlings, 66.

[26] The landmark study in absentee ownership in Appalachia was the Appalachian Regional Commission's *Land Ownership Patterns and Their Impacts on Appalachian Communities* (Boone, NC: Center for Appalachian Studies, 1981), but the impact of this study has most recently been assessed by Shaunna Scott, "The Appalachian Land Ownership Study Revisited," *Appalachian Journal*, 35 no. 3 (Spring 2008), 236-252. Also see: Appalachian Land Ownership Task Force, *Who Owns Appalachia? Landownership and Its Impact* (Lexington: University Press of Kentucky, 1983). For histories of absentee ownership and on the intellectual history of the "internal colony" thesis, see Wilma Dunaway, *The First American Frontier: Transition to Capitalism in Southern Appalachia, 1700-1860* (Chapel Hill: University of North Carolina Press, 1996); Ronald D. Eller, *Miners, Millhands, and Mountaineers: Industrialization of the Appalachian South, 1880-1930* (Knoxville: University of Tennessee Press, 1979), 39-85. Helen Matthews Lewis, ed., *Colonialism in Modern America: The Appalachian Case* (Boone, NC: Appalachian Consortium, 1978).

[27] Beck and Rawlings defined a "connection" as "relationships [such] as Transfer Agent, Registrar, major bond trustee, and stock owned." Beck and Rawlings, 66.

(#11). (Table 5.2) The commodity that formed the basis for the company's existence was no longer tons of coal or barrels of oil or pounds of refined uranium, but instead the energy these sources held in potential, waiting to be released by utility companies or combustion engines. While Beck and Rawlings acknowledged that increased "substitutability" of fuels was the direction the markets were moving, they underappreciated the way the conceptual transformation implied in what they had found would impact the day-to-day process of producing energy.[28] What the Raiders missed in their focus on finance and overlaps in corporate leadership, however, was that in transforming from oil companies into energy firms, *coal had become energy*. The change was more than semantic. It had real implications for coal miners—now better described as energy workers—in the coalfields.

Across the consolidating energy industry, company men appreciated this transformation and its roots in material and capital restructuring. In June 1969, Frank Ikard, the president of the American Petroleum Institute, told the members of the National Coal Association, assembled for their national convention, that his address represented not a "hands-across-the-sea" discussion as it might have "just a very few years ago," but rather "some new thinking on the functions of the various forms of energy." He pointed to the shifting terrain of the emerging energy industry, a place where "the coal and petroleum industries inhabit the same economic territory…[and] live in the same social and political climate…they look for strength in the future from the same technology."[29] Such a transformation from fuels to energy could only have happened in a society where people increasingly did not come into contact with fuels but instead with a more abstract idea of energy.

[28] Beck and Rawlings, 120.
[29] Remarks of Frank N. Ikard, President of the American Petroleum Institute, to the National Coal Association Annual Convention, Washington, DC, June 16, 1969. UMWDO, Box 3 Folder 39.

Coal was not alone in becoming increasingly invisible. With gasoline being the notable exception—but even that was mostly invisible as it pumped directly into people's gas tanks—Americans instead relied on a nebulous "power" that emerged from a complicated series of grids and wires. As kerosene, coal, and oil increasingly vanished from the domestic economy—and even from people's memories of domestic spaces—shovelfuls of coal and tins of kerosene were replaced with kilowatts.[30] These new relationships were cemented by popular images like Reddy Kilowatt, an electricity advertising figure which had grown in popularity since its creation in the 1920s, and sometimes even more explicitly, as in an August 1970 cover of *Panorama*—a pull-out insert that came in Sunday newspapers across the South—which read "COAL IS NOW POWER." (Figures 5.1 and 5.2) Electricity powered homes without the enormous mounds of coal which had previously been visible in American cities. There were no canisters of oil or regular fuel deliveries. Instead, these visual images helped Americans remap their energy relationships around the nebulous currents of power which figured more and more centrally in their lives. NCA president Carl Bagge traced this change and the challenges it presented in his 1972 speech at Colby College: "when coal lost its most visible markets in home heating and railroading, the general public forgot it altogether under the exaggerated assumption that it was dead." Most people, Bagge remarked, "were unaware that there was at least an even chance that their convenient electric switches were ultimately plugged into coal."[31] While this process had begun at the beginning of the twentieth century, high-energy consumption according to Nye acquired "powerful technological momentum" in the post-World War II period. No longer confined to electric lighting which lit larger and larger homes, but electricity also powered televisions, air conditioners, hairdryers, and myriad other lifestyle products. Where the energy came from was unimportant; what mattered was

[30] Nye, *Electrifying America*), 138-184, 238-286.
[31] Presentation of Carl E. Bagge, President of the National Coal Association, to Colby College, Waterville, Maine, March 2, 1972. UMWDO, Box 3 Folder 88.

steady, reliable service and low costs to encourage the ongoing restructuring of American life around a new set of energy relationships.[32]

Figure 5.1: A woman dressed as Reddy Kilowatt waves from atop a Duke Power parade float, 1970. The woman is unidentified. Duke Power Legacy materials, accessed online at illumination.duke-energy.com.

As Representative Craig Hosmer (R-CA) noted as he addressed National Coal Association—the same day as the president of the API—the outcome of these restructured energy relationships meant that the "American people didn't care whether their electricity was nuclear kilowatts or the exciting new coal kilowatts."[33] The blackouts of the mid-late 1960s had not only thrown the promise of the United States' high-energy future into question,[34] but by the early 1970s,

[32] Nye outlines extensively the ways in which the wide availability of cheap energy remade American life: from the introduction of new appliances to changes in the way products were designed and marketed to adapt to the changes in how advertising was delivered to potential customers. Nye, *Consuming Power*, 187-215. Cohen also addresses the rise of consumer culture. While Cohen emphasizes the belief in the democratizing effect of expanding consumption in the United States, thus tying together the identities of citizen and consumer, consumption—particularly energy consumption—had costs, human and environmental, which electrification both expanded and helped to hide. The people who bore the brunt of those costs were also, in theory, consumer-citizens, and yet the vision of an egalitarian world of rising consumption could not have seen more far off to those who had fallen victim to the externalities of such a system. Cohen, *A Consumer's Republic*.

[33] Remarks of Rep. Craig Hosmer, "Energy: Today and Tomorrow," to the National Coal Association, Washington, DC, June 16, 1969. UMWDO, Box 3 Folder 39.

[34] Nye, *When the Lights Went Out*, 79-103.

energy relationships—the ways in which energy traveled from one place to another that shaped not just by the materiality of the energy itself, but also by political, social, cultural, ecological, and economic relationships which structured who could access energy in what form and for what purpose—looked very different than they had just a decade before. And the ways in which Americans imagined the energy that powered their lives had also changed.

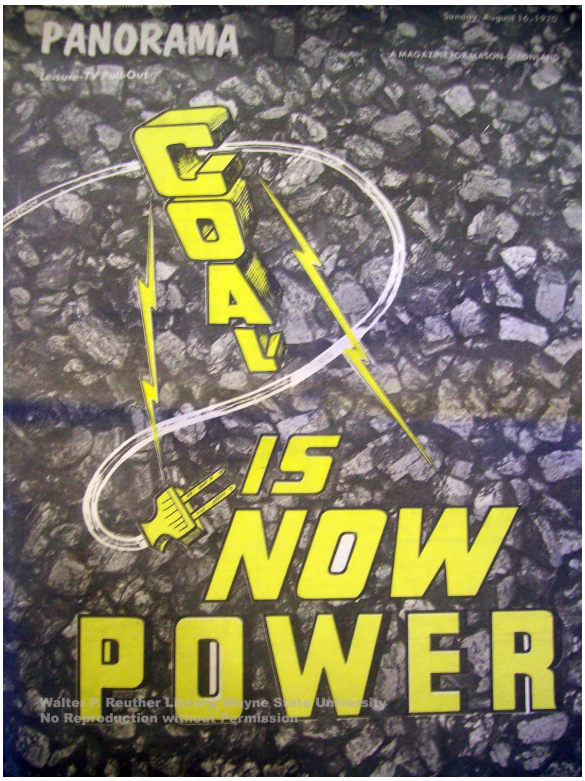

Figure 5.2: "Coal Is Now Power," Cover of *Panorama*, August 16, 1970. MFDR, Box 102, Folder 10.

But Representative Hosmer's speech ended strangely: "if all of this has any moral, in just plain, salty, everyday, down-to-earth language, that moral would be: *Post hoc ergo propter hoc—vis unitas forgior*,"—Don't let them kid you, fellows—stick together and we'll whip them.[35] The fellows were easy to identify—the cross-fuel industry men and their counterparts in the state. Who was supposed to be "whipped" by their collaboration, however, was far more ambiguous. Despite

[35] Remarks of Rep. Craig Hosmer, "Energy: Today and Tomorrow," to the National Coal Association, Washington, DC, June 16, 1969. UMWDO, Box 3 Folder 39.

leaving hanging questions, the ending spoke to the new relationships being forged, and the ways in which their formation also relied on the smoothing over of old tensions, especially those which had been stoked by the coal industry as it clung to life from the 1950s to the early 1960s. The transformation of the energy industry was not only a reorganization of capital but a re-forging of relationships among the top executives which rotated between government agencies and between different fuel divisions. Although the old industry organizations—the American Petroleum Institute, the National Coal Association—persisted past the restructuring, and the men who peopled these institutions had long participated in a revolving door that had assured continuity regardless, now there was a sense of an industry wide project, one in which all their futures were invested.

Industry reorganization was at the center of the transformation of the American energy regime, but this transformation also transcended the bounds of industry structure. The reorganization of the energy industry from fuel companies into energy conglomerates was accompanied by a shift in the way Americans thought about energy—where it came from and how it moved. That these two changes accompanied each other makes sense given the central role the corporation had come to play in American life after the Second World War. Ralph Nader had suggested the power that corporations had to reshape American life at the very moment the energy conglomerates began to emerge when he spoke to the National Press Club in 1966. He opened his address by quoting a moment of candor from William T. Gossett, then general counsel and vice-president of Ford: "The modern stock corporation…is an institutionalized expression of our way of life…industry in corporate form has moved from the periphery to the very center of our social and economic existence."[36] In addition to advertising and other cultural interventions by corporations, the modern energy corporation played a central role in structuring the ways

[36] William T. Gossett, quoted by Ralph Nader in an address to the National Press Club, Washington, DC, December 21, 1966. Speech reproduced in *The Ralph Nader Reader* (New York: Seven Stories Press, 2000), 133.

Americans thought about energy by shaping which commodities were available commercially and at what price.

The key problem the industry faced in stabilizing this new regime—which was certainly understood to mean the stability not only of an industry, but a nation— was ensuring reliability of service. The utilities market was sure to grow, but which fuel—coal, oil, natural gas, nuclear—could supply the power companies reliably while also ensuring growing company profit margins? The answer to the new energy companies appeared to be *all of the above*. In order to make service reliable, the industry had to face the problem of supply, which meant managing production—regardless of which energy source was being considered. Thus, what appeared initially to be a problem of utilities meeting consumer demand could actually be traced back to a problem of workplace management. Coal in this moment became a particular target, because of its enormous domestic reserves, the relative accessibility of coal seams, the pre-existence of infrastructure to move coal from mine toward the metropolitan centers, and—most critically—its spiking profitability without substantial price increases following mechanization in the 1950s presented a massive opportunity for the industry. So large did its promise loom that the emerging energy companies could set aside the concerns about labor unrest that had panicked the utilities and mine managers.

Coal investments would not only diversify their assets—a widely used corporate practice at the time—but also suggested that by stabilizing the nation's energy supply, they were fulfilling a civic duty. As energy industry leaders navigated the early years of the energy crisis, they found themselves drawing on coal industry rhetoric—a practice certainly eased by the population of coal men sliding into corporate positions in the new energy firms—which portrayed coal as the backbone of the nation, and its steadfast support in times of difficulty. [37] C. Howard Hardesty,

[37] Coal's perceived domestic reliability was often used by industry and miners to advocate for the fuel, despite the major disruptions in coal supply that had been caused by, among other things, labor unrest. See, for example, Arnold

executive vice-president of Continental Oil and former general counsel at Consolidation Coal, argued that:

> The United States has the strongest economy in the world…this nation is the most envied. We owe a good deal of the advantage to the years of cheap and abundant energy provided by the petroleum industry…*The petroleum industry has served this country well*. Historically, petroleum products have been the most stable element of our economy.[38]

Hardesty painted the strength of the US economy as a sort of loan from the energy industry. "Cheap and abundant energy" certainly had driven productivity, shaped the structure of industrial labor, and had helped make possible the steep rises in standard of living of people in the United States over the twentieth century. Energy had underwritten the twentieth century expansion of the American empire and continued to fuel a vision of an expanding future. Implicit in Hardesty's testimony, however, was also an undertone of threat: the energy industry, by the early 1970s, was the gatekeeper of the nation's energy resources.[39] The gatekeeper status of the energy companies became clear quickly: despite looming shortfalls, coal production stagnated after 1969 and by 1973 production for domestic markets was 85 million tons below US consumption.[40]

Miller's "State of the Union" address to the Forty-Sixth UMW Convention, transcribed in transcribed in *Proceedings* (1973), 7-13. On the use of diversification as a corporate strategy, see Neil Fligstein, *The Transformation of Corporate Control* (Cambridge: Harvard University Press, 1990).

[38] Quoted in Barry Commoner, *The Poverty of Power: Energy and the Economic Crisis* (New York: Bantam, 1976), 223. Quote is circa 1971-72. It is possible to narrow it down this far because in 1973, Hardesty was made President of Continental Oil. Emphasis added.

[39] Hardesty's statement is reflected in the work of Jason Moore, who has argued that energy is one of the four "Cheaps" that have underwritten capitalist ecological accumulation, although Moore did not examine the 1970s energy crisis or consider the political history of these ideas outside of the Marxist lineage in which he writes. Jason Moore, *Capitalism in the Web of Life*; Raj Patel and Jason W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet* (Berkeley: University of California Press, 2017).

[40] When the 52 million tons of exports are included in overall production, production still fell short of US consumption by 33 million tons. "Back to Good Ole Coal," *Southern Exposure* – 'Our Promised Land,' Volume 2, No. 2 and 3 (Fall 1974), 164-165, JDC, Box 1, Folder 4. The allusion to Cooper's concept of the postcolonial gatekeeper state is intentional, since it highlights the relatively weak civic dimension of these institutions and instead focuses the model of power on the gateway to resources. Gatekeeper status, in Cooper's model, was a key distinction not only of a particular anti-democratic type of coercive power, but also of marked vulnerability. The comparison becomes even more useful as increasingly, the largest of the new energy companies participated in statecraft more formally. Frederick Cooper, *Africa Since 1940: The Past of the Present* (New York: Cambridge University Press, 2002), 156-190. Also see Ferguson, *Global Shadows*, and Steven Coll, *Private Empire: ExxonMobil and American Power* (New York: Penguin Books, 2012).

Spiking profitability and consolidating control provided an opening to make what George Love, President of Consolidation Coal, called a "total-energy complex," a new way of organizing the production of various fuels to create an energy safety net that would, in his mind, benefit both the company and the nation.[41] The different fuels essentially produced the same thing, and if they were all knitted together, they could, in theory, stabilize a new kind of industry ensuring profit for years to come. This model was markedly different than the supply chain control practiced by major steel companies—Bethlehem and United States Steel—which utilized coal operations for use in their own factories. Instead, the new energy companies envisioned "energy" as a new commodity. With enough research and development, industry leaders believed that coal and oil might become essentially interchangeable—as though a shirt and trouser company merged and instead of producing both shirts and trousers, began producing jumpsuits in different colors. "This total-energy complex," Love described, "is a dream we've had for a long time."[42]

Beck and Rawlings uncovered how this change in industry structure had reshaped the relationships of energy production in the coalfields. The mergers and acquisitions had marked a key change of direction, as Island Creek Coal Company President William Belano wrote in a letter to Senator Harry Jackson (D-WA):

> When Island Creek was purchased it…our long range programs left Island Creek with relatively limited expansion plans. Once we were purchased by Occidental [Oil], our plans changed virtually overnight. Indeed, within the first year, our plant investment doubled when Occidental made available $175 million in new building funds, a sum since vastly increased and is due to approximate $500 million in the years ahead…by 1975 [we] will have tripled production…which will raise our share of the market from 4.7 percent to 9 percent.[43]

It would be hard to overstate the change in direction under Occidental's ownership, which began with the massive capital investment of $175 million—more than double the value of Island Creek

[41] National Coal Policy Conference Newsletter, November 12, 1970, 6. Accessed through HaithiTrust Digital Library.
[42] George Love, President of Consolidation Coal, described the "total energy complex" as a "dream" of the industry for a very long time. National Coal Policy Conference Newsletter, November 12, 1970, 6. Accessed through HaithiTrust Digital Library.
[43] William Bellano to Senator Henry Jackson, circa 1970. Reprinted in Beck and Rawlings, 36-37.

Coal at the time of purchase.[44] But oil companies didn't only buy out the coal companies to cash in on a profitability spike unheard of in most mature industries; the heavy investment in coal also signaled the industry's vision for the future of American energy production. Oil companies held billions of tons of coal in their reserves, even if it wasn't in active production. Some stockpiled their reserves for electrical power generation. Consolidation Coal, as subdivision of Continental Oil, acquired seven billion tons of reserves by the end of the 1960s and were actively seeking to expand them.[45] But thinking only in terms of electric power was too narrow for the emerging energy conglomerates. Standard Oil of New Jersey, for example, owned "over 6 billion tons of coal reserves," which were not simply earmarked for electricity production.[46] According to Charles Jones, President of Standard Oil of New Jersey, they had acquired the massive coal deposits with the intention of using them to develop "synthetic fuels from coal" which could supplement "traditional sources of petroleum energy."[47] Consolidation Coal had sunk more than $10 million dollars into research on converting coal into oil and had received more than $16 million in government grants to research coal gasification.[48] Gulf Oil, the nation's third largest oil producer, justified its 1963 purchase of the Pittsburgh and Midway Mining Company—the earliest of the acquisitions—in its 1969 stockholders report: "The principal purpose of the Gulf Mineral Resources Division (mostly for coal and uranium) is to keep…the United States supplied with an abundance of reasonably priced energy and maintaining Gulf's position as an energy supplier."[49] Gulf had optioned two other coal lands in Montana the same year.[50]

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[44] Bellano to Jackson, circa 1970.
[45] Beck and Rawlings, 22.
[46] *Ibid*, 16.
[47] TIME, October 15, 1970, 1.
[48] Beck and Rawlings, 24-25.
[49] Gulf Oil Corporation, Annual Report, 1969, 19. Business Reference Services, Library of Congress, Washington, DC. Gulf's investment in the coal industry appears to be an early outlier, which is likely in part explained by the problems it was facing in developing oil wells in Angola as the Portuguese colonial regime faltered. See the Corporate Information Center's report (a project of the National Council of Churches), "Gulf Oil: Portuguese Ally in Angola," March 1972.
[50] Beck and Rawlings, 61.

But coal and oil alone did not make the "total-energy complex" of which George Love, President of Consolidation Coal, had long dreamed. The new energy companies were also heavily invested in natural gas, the fastest growing energy source in the country, and uranium fields, which could be cashed in through their lucrative futures contracts with state power boards if nuclear power plants even managed to overcome their myriad problems. By the end of the 1960s, Continental Oil owned nearly half a million acres of uranium fields across the western US, had invested $12 million in a uranium processing plant in south Texas, and secured a $13.4 million multi-year contract with the New York State Power Authority to deliver uranium concentrate. The company also built downstream oil refinery facilities capable of producing 263,000 barrels of oil per day and poured heavy investment into pipeline infrastructure for natural gas and began developing a long-term logistics plan that could, aspirationally, turn their total-energy dream into a fully closed economic system. "One can only conclude," wrote Beck and Rawlings, "that Continental Oil is headed in the direction of an 'energy' company, as opposed to an 'oil' company."[51] Coal was central to the intentional project of making energy companies. Kennecott Copper, which through a series of legal maneuvers aimed at evading antitrust law transformed their subsidiary Peabody Coal into Peabody Energy, described the process: "Thus a new pattern has begun to emerge in the fuel industry, consisting of companies committed to the highest utilization of all energy sources—oil, gas, uranium, and of course, *the basic fuel of all, coal*."[52]

Problems began to manifest immediately. Even if the energy industry leaders imagined themselves to be fulfilling the civic duty of supplying the nation with a wide range of energy options and sinking enormous of amounts of capital into research and development, by 1969, the the critical electricity shortage was undeniable, which at its root was really a coal shortage. Despite

[51] Beck and Rawlings, 26-27.
[52] Kennecott Copper Company, "Kennecott: Its Men and Its Minerals," 1968, 20-21. Quoted in Beck and Rawlings, 31. Emphasis added.

the massive investments and the plans for increased production, coal production had remained mostly steady since the acquisition of Consolidation Coal by Continental Oil through 1970—usually a little over 550 million tons per year.[53] The result of energy industry reorganization with stagnated production was not the inability to produce more coal, but instead that, first, the railroads which coal operators relied on to get their coal to electricity generating plants had not been upgraded to keep up with either increased electricity consumption or the new ways in which national energy production was being organized by the energy companies; secondly, the reorganized industry had also transformed the way they thought about the profitability of different source fuels, as James Watson, manager of the Tennessee Valley Authority noted in his testimony before the Senate Subcommittee on Intergovernmental Relations in August, 1970:

> These companies that used to sell us coal are now controlled by people who are looking at the whole energy picture, and they do not really care—and they will tell you this—whether they sell the coal now or whether they keep it as reserves and convert it at some later date.
>
> Another aspect of it is that these same people that control the oil and coal also control the gas, and they are very rapidly acquiring the uranium deposits of this country. So that within a relatively short time, relatively few people, a relatively few companies, are going to control the whole energy picture; and they tell you frankly that they won't open a mine unless you guarantee them the kind of return that they would get if they were selling gasoline.[54]

The measure of success for selling coal was no longer the benchmark of other coal sales, but instead against gasoline—the golden standard for energy sales in this era. Such comparison in part reflected the dream the energy companies had of making the fuels, and particularly coal, completely convertible—even into gasoline.

Beck and Rawlings also focused attention on the purposeful withholding of available reserves from market in the second section of their report: "a major factor in the current coal shortage, a factor with tremendous ramifications for future energy policy, is that large blocks of

[53] US Energy Information Administration, "Coal Production, 1949-2011," Annual Energy Review, 2012. Accessed online. The one exception to this was 1968, where coal production actually declined to 545,245,000,000 tons.
[54] James E. Watson, Manager of Power, Tennessee Valley Authority. Hearings on S. 2752, Subcommittee on Intergovernmental Relations of the Senate Committee on Government Operations, 91st Congress, 2d session, August 3, 1970, 737-738.

coal are being held off the market or not being actively developed because the companies that own the coal have other things to do with their money."[55] Another outcome of the seeming interchangeability of different source fuels, and growing plans for the conversion of coal into other kinds of fuel, especially gasoline, was that sources could be shifted in importance to maximize company profits at any given moment. Gulf could open recently shuttered coal mines to help cope with its problems in Angola, and Continental Oil could wait out a coal strike by relying more heavily on oil imports to meet their profit margins.

The rapidity and impact of these changes was suggested by the changes in opinion of antitrust enforcers to the mergers. In 1967 Donald Turner, head of the Antitrust Division at the Justice Department pointed out that the geographic markets in many these mergers simply didn't appear to overlap; by 1969 he had changed his mind.[56] While on first glance the markets may not have appeared to overlap, the transformation of disparate fuels into energy muddied the lines between fuels and markets from the perspective of the energy companies. Conversion between fuels at the point of electricity generation, while common, was less rapid and the changing priorities of the companies could have an enormously quick impact on daily energy prices for consumers, as well as the general reliability of electricity provision. Beck and Rawlings remarked that the emergence of the new energy conglomerates was "a test of the nation's ability to make energy the servant rather than the master of us all."[57]

The fuel crisis of the late 1960s and early 1970s—better understood as the early years of the energy crisis which reached its first peak in 1973-74—demonstrated that energy was indeed

[55] Beck and Rawlings, 125.
[56] Donald Turner to Senator Wayne Morse, Hearings before the Senate Select Committee on Small Business, Part 2, March 15-17, 22, and April 6, 1967, 766-68. By 1969, Turner, then a professor of law at Harvard, changed his mind and felt the mergers could be addressed under the Section 2 of the Clayton Act. Donald Turner, "The Scope of Antitrust and Other Economic Regulatory Policies," *Harvard Law Review* 82 (1969), 1207, 1230-31. Victor H. Kramer, "Commentary: Economic Concentration and the Antitrust Laws," *Washington University Law Review* 1975 (1975), 165.
[57] Beck and Rawlings, 166.

the nation's master. Three years before the OPEC oil embargo then, an energy crisis was in full force in the United States. The peak of the energy crisis from 1973-74 was then not only a sudden confluence of problems which had impacts across the developing energy industry, as Mitchell argues, but was also the outcome of deliberately pursued industrial strategies that transformed fundamentally the structure of energy production in the United States.[58] The changes also heralded a new era for industrial relations in the energy industry; the new regime coupled with the energy crisis suggested new points of leverages and appeared opened up the coalfields avenues for new organizing. On the other hand, the prospect of bargaining against Continental Oil was indeed daunting, and it prompted miners to seek new strategies that would allow them to take advantage of the opportunities the long energy crisis presented.

You Mine Energy, Not Coal

From its earliest days, the reform movement in the UMW attempted to grapple with the long energy crisis. In its early years, the energy crisis was one of industry consolidation—a looming crisis of capital-labor relations rather than a society-wide crisis and certainly not an ecological crisis. In July 1969, *Miner's Voice*, a publication associated Yablonski's campaign for the UMW presidency, published an editorial titled, "Energy Workers Must Organize!" As much manifesto as editorial, it recognized the same trends that Raiders Beck and Rawlings were discovering through their own research. Recognizing the threat industry reorganization portended for the bargaining power of the nation's union coal miners—and seeing a good way to get in a jab at the Boyle administration—the editorial called for a new organizing vision in the coal fields:

[58] Mitchell contends that "a wave of wildcat strikes in the Appalachian coal industry, technical setbacks in the operation of nuclear power plants, a shortage of oil tankers following the closing of the Suez Canal, delays in the construction of electrical power stations due to the need for low-sulfur fuels, and the development of community organizing as a new set of techniques…to challenge the damage done by power companies to communities and environments" became "suddenly linked" in the early 1970s. Mitchell, *Carbon Democracy*, 178.

> When it becomes clear, as it is in the companies' eyes, that you mine energy, not coal, just as the oil workers drill energy, and that you both work for the same people who own and control these companies, it's time to ask what the union leadership is doing to bring *energy workers* together to have sufficient bargaining power to obtain better contracts from the companies…When will energy workers be organized to run their own affairs?[59]

The editorial continued by calling for the formation of a new energy workers' union—one which included not only coal miners but also uranium miners, along with oil and gas workers—which the authors believed would have the power to challenge the new energy conglomerates in a way that fuel based unions could not.

The editorial's roots were in 1968, built off a pair of speeches given by Yablonski and Al Grospiron, president of the Oil, Chemical, and Atomic Workers (OCAW) at the 1968 UMW Convention—the very convention where the first distinctions between Yablonski and Boyle began to appear. Yablonski, as the convention's temporary chairman, had called attention to the ongoing consolidation in his speech which opened the first day: "Great changes are taking place in the coal industry of the United States." The oil companies had invested, he claimed, because they were "on the verge of breaking through…in the production of gasoline from coal, petrochemicals from coal, and pipeline gas from coal," but without vigilance, the nation's miners would be cut off from the incredible wealth such an advance might produce.[60] While the speech certainly failed to reflect the same concept of a social and ecological wage which would feature in his campaign for the presidency the next year, it laid the groundwork that made the move to energy workers more intelligible to miners the next year. Grospiron, meanwhile, had been explicit. He called the idea of fuels competing against one another, "shortsighted," since

[59] "Energy Workers Must Organize!" *Miner's Voice,* Vol. 1, No. 1, 1969. MFDR Box 23, Folder 36. Emphasis added.
[60] Jock Yablonski as transcribed in *Proceedings* (1968), 5-6. It's unclear where Yablonski compiled the information for this speech, but there are discrepancies with many of the statistics he quotes and those provided by Beck and Rawling. Yablonski, for example, claims that by 1968, oil companies owned a whopping 75 percent of the nation's coal. It's hard to see how this could have been accurate, and was likely exaggeration or misquoting in the transcription. Regardless, it demonstrates the seriousness with which Yablonski thought the issue should be approached.

the industries already overlapped. The oil bosses, he said "couldn't care less whether those plants are fueled by coal, fuel oil, natural gas, or any other source of energy. He then pointed to an example close at hand to the Denver, Colorado convention hall:

> For instance, not two miles from this hotel is a power generating plant of the Public Service Company of Colorado, which has convertible burners. They burn natural gas in the summer when the domestic market for gas is low, and switch over to coal in the winter when gas is needed for home heating. It is your coal and our natural gas that they use.[61]

The 1969 editorial echoed the speeches from the previous convention, challenging the notion that oil and coal were competing forms of energy, but it also pushed the conclusions much further than either man had the year before: "if all the sources of energy…are owned by the same company then they are not competitive, but if the workers are organized into separate unions…then the company will be able to play one union off the other to refuse their demands."[62]

The form of this argument would have been familiar to miners' ears even if the concept of an energy worker was not. The UMW, as a cornerstone of industrial unionism in the United States, had driven the spirit of industry-wide solidarity deeply into the way coal miners saw themselves, even when, in practice, industrial solidarity was a much more complicated matter. So powerful was the legacy of the UMW's role in the emergence of industrial unionism in the United States that it allowed John L. Lewis, who had helped create the Congress of Industrial Organizations (CIO) in 1936, to retain a hagiographic glow even as Boyle reaped the failures of Lewis's collaboration with industry leaders.[63]

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[61] Alvin Grospiron, transcribed in *Ibid*, 189.
[62] "Energy Workers Must Organize!," *Miner's Voice* Vol. 1, No. 1, 1969. MFDR, Box 23, Folder 36.
[63] Louis Antal, newly elected as part of an MFD slate to President of UMW District 5, demonstrated how reformers attempted to decouple Lewis and Boyle. In his keynote at the 1973 convention, Antal said, "Oh sure, a man like John L. Lewis didn't have much use for personal opposition and he tended to rule with a strong hand…If Lewis did not always govern according to the outward trappings of democracy…he could have won any contest under any condition at any time." Antal made no direct mention of Lewis's collaboration with the process of mechanization. Louis Antal, transcribed in *Proceedings*, 1973, 6. Coal miners had a long history of experience with industrial style organizing which extended further back than the emergence of the CIO, especially as part of the Western Federation of Miners in the early twentieth century. On Lewis and the miners' role in the rise of the CIO, see: Zieger, *The CIO*; Alan J. Singer, "'Something of a Man': John L. Lewis, the UMWA, and the CIO, 1919-1943," in *The United Mine Workers*

The task for reformers who spearheaded this vision of an energy workplace that could be an oil well or uranium mine as easily as coal seam was to rearticulate the boundaries of what constituted "the industry" across which solidarity and organization must be built. The energy crisis, remembered for its impact on the availability of gasoline but also deeply rooted in industry restructuring, proved an ideal moment at which to do this.

Indeed, by the time miners gathered for their forty-sixth constitutional convention in the early days of December of 1973—this time under the leadership of the recently elected Miners for Democracy—the long energy crisis had peaked. The OPEC oil embargo was reaching into its second month. Despite scholars' long focus on this event which brought the long crisis to a head, many Americans knew that although the Arab leaders made convenient villains—and most were happy to vilify them—the problem went much deeper.[64] Nixon had admitted as much in his address to the nation on November 7, when he said, "Well, in fact, part of our current problem…stems from war—the war in the Middle East. But our deeper energy problems come not from war, but from peace and from abundance." He then focused on home consumption as the cause of the shortage—"How many of you can remember when it was very unusual to have a home air-conditioned? And yet, this is very common in almost all parts of the nation." Finally, he used the moment of

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of America, 104-150. On earlier industrial organizing by coal miners, in the UMW and WFM, see Daniel Letwin, *The Challenge of Interracial Unionism: Alabama Coal Miners, 1878-1921* (Chapel Hill: University of North Carolina Press, 1998); Melvyn Dubofsky, "The Origins of Western Working-Class Radicalism, 1890-1905," *Labor History* 7 no. 2 (1966), 131-154; Alan Derickson, *Worker's Health, Workers' Democracy: The Western Miner's Struggle, 1891-*1925 (Ithaca, NY: Cornell University Press, 1989). A notable challenge to the idea that the WFM represented an early form of industrial unionism is presented by Emmons, who suggests that the history of the WFM in Butte, Montana actually was actually closed, conservative, and dominated by Irish ethnic concerns. David M. Emmons, *The Butte Irish: Class and Ethnicity in an American Mining Town, 1875-1925* (Urbana: University of Illinois Press, 1989).

[64] Media studies scholars in particular have noted the impact that the oil embargo, along the series of conflicts following the founding of the Israeli state on Palestinian land, reshaped popular images of Arabs in American culture after World War II, racializing them in new ways. Jack G. Shaheen, "Reel Bad Arabs: How Hollywood Vilifies a People," *Annals of the American Academy of Political and Social Science* 588 (2003), 171-193. Semmerling has suggested that the classic 1973 horror film, *The Exorcist*, must also be read through the lens of the oil crisis, with the demon being characterized in a way that was supposed to communicate its Arab-ness to the audience. Tim Jon Semmerling, *"Evil" Arabs in American Popular Film: Orientalist Fear* (Austin: University of Texas Press, 2006), especially 1-92.

crisis to impose energy austerity to save the "muscle" of the American economy from being "seriously damaged."[65] But the energy austerity—the direct government intervention to reduce the nation's energy consumption and alter the way that ordinary people interacted with energy on a day-to-day basis—was accompanied by Project Independence, which "in the spirit of Apollo, with the determination of the Manhattan Project," implied a level of state investment and oversight more characteristic of World War II mobilization tinged with a utopian technological nationalism.

The national mood was more mixed. According to journalist Robert Bendiner, while some Americans found the present gloom "offset by popular visions of glamorous new energy sources…clean, cheap, safe, inexhaustible and waiting only [for] the application of money and technical know-how," others "may feel that they have come at last to that slowdown era so long foretold by Cassandras with the perverse belief that finite resources do no last forever." The tension between the two moods resulted in a national energy picture that, to the public mind, had been "narrowed to nuclear fission, the most hazardous of all methods for producing energy, and coal, historically the dirtiest." But, Bendiner argued, despite coal's dirty record, coal was "surest and safest."[66] It fit into the gap between energy production and consumption, in his mind, like a perfectly fit puzzle piece. The energy industry agreed. Duke Power, which was sinking capital investment into opening their own coal operations and was also invested in hydro-electric and nuclear power, reported to its shareholders that "If the goals of 'Project Independence' are to be

[65] Richard Nixon, "Address to the Nation About Policies to Deal with the Energy Shortages," November 7, 1973. *APP*.
[66] Robert Bendiner, "Back to the Coal Mine," New York Times, November 13, 1973. *PQHN*.

realized, and the cost of electricity is to remain within the means of the ordinary citizen, the nation's coal reserves must be fully utilized."[67]

Miners were more ambivalent. A great tension existed in their transformation from coal miners into energy workers, even if the energy crisis offered them the chance to, as Arnold Miller described, "bring the blessings of coal" to the altar of the nation.[68] The emergence of an abstract category of energy which framed national energy policy, industry structure, and popular imagination presented an opportunity, but also a challenge. The rank-and-file organizing and workplace activity which had given the UMW the ability to enter the national energy conversation with such had also been heavily based in the materiality of coal and the physical experience of being a vulnerable body laboring in the bowels of the earth. The wildcat strikes which threatened the nation's electricity supply were justified by the fact that they were protecting the life and limb of the workers who brought the coal up from thousands of feet below the earth's surface. Miller captured the tension as he opened the convention: "We face an energy crisis which offers hope of more jobs and increased benefits. But an energy crisis which some operators will exploit as an excuse to take additional shortcuts with our safety."[69] The perils of mining, Miller stated, may have been the basis of "modern civilization," in the United States, and miners had benefited from the progress which coal had underwritten, but at the same time, he noted that, "for the miner, too often, coal has meant the curse of black lung, slag heaps, rivers of acid, and an early grave."[70] They had to find a way to negotiate the way that energy was abstracted from the fuels which produced it in the national discussion without casting aside the material connection to the coal—and the

[67] In early 1974, Duke Power had one nuclear station online and twelve additional stations which were scheduled to come online within a decade. Duke Power, *Annual Report*, 1974, 6. Provided electronically by Duke Energy Corporate Archive, Charlotte, NC.
[68] Arnold Miller, "State of the Union," transcribed in *Proceedings* (1973), 13.
[69] *Ibid*, 9.
[70] *Ibid*, 13.

perils such connection entailed—which had given such momentum to their organizing and authority to their collective voice as they appealed to the nation.

You Will Decide Whether the Lights Shall Stay On

Given the immediately preceding campaign to democratize the UMW, the establishment of a new political arm for the union which not only depended on rank-and-file involvement but also actively encouraged miners to run for public office, and the way in which miners staked their claim to safety in the mines as the performance of a civic duty, it is perhaps unsurprising that they manipulated these ideas of democracy, citizenship, and power in an attempt to navigate the first peak of the long energy crisis.[71] This connection also suggested a new relationship between the process of collective bargaining, a privatized economic and power relationship, and the public interest than the one described by Lichtenstein as emerging in the wake of the Great Depression. Lichtenstein pointed to the ways new avenues for legal redress, combined with the institutionalization of unions that accompanied the growth of the New Deal state, had created a new kind of "industrial citizenship," especially for people who were otherwise disenfranchised—African Americans and immigrants.[72] Historically the relationship between public interest and collective bargaining had been negotiated through labor law and other forms of legal redress. Particularly since the end of World War II as the new set of institutionalized labor relationships were tested and readjusted—sometimes, as in the case of Taft-Hartley, quite radically—the

[71] This relationship between the miners' idea of their role as workers and as citizens bears striking similarity to Sparrow's portrayal of work and war among industrial workers like ship builders in World War II. Sparrow, *Warfare State*, 160-200.

[72] "Public interest" does not figure as centrally into Lichtenstein's concept of industrial citizenship. Lichtenstein, 54-97. Dubofsky points to the state's impact on both union membership and collective bargaining, see Melvyn Dubofsky, *The State and Labor in Modern America*. Dubofsky, despite centering the state's role in the rise and decline of the American labor movement across the twentieth century, is less concerned with citizenship at work than in the trends of policy and the impact of the labor movement. Katherine Turk has since developed the history of this relationship between the state and labor markets in a way that engages the notion of a "public" in her work on Title VII of the Civil Rights Act of 1964. Katherine Turk, *Equality on Trial*.

meaning of what the public interest was and who was best positioned to represent it was up for debate.[73] The emerging efforts to link democracy to a set of energy relationships in such a broad way spoke to a new place that coal miners envisioned for themselves in American society, a new place which represented an enormous departure from the *ancien regime* which Boyle had unsuccessfully tried to hold intact. It challenged a technocratic view of regime administration which dominated in the energy sector during this period, from the oil fields to the Atomic Energy Commission.[74] The energy crisis had undermined the credibility of both industry leadership and state administration—particularly the Bureau of Mines, which had not only failed miners on safety but had also appeared to have failed the nation as the administrators of the country's mineral resources.

Miners didn't believe the technocrats who didn't work in the mines couldn't solve the energy crisis; instead, they believed miners, as "skilled industrial workers in the pivotal energy industry of the 1970s" had a particular role to play in ending it.[75] The merit of their intervention was not only to put forward coal as a potential solution to the dual problems of shortages and environmental destruction, but also because they believed that the fundamental problem was not the availability of fuels but the relationships which structured their production and use. The debate on whether or not to light the convention floor was not concerned, as it might have been given the national circumstances, with the conservation of energy, but rather with the question of *who decides*, a question which was at the heart of labor organizing tradition. Arnold Miller posed the question this way to the packed convention hall, "who designed this upside-down system of

[73] These readjustments were legal, ideological, and political. On Taft-Hartley, see Dubofsky, *The State and Labor in Modern America*, 202-212. On the legal and ideological narrowing after World War II, see Risa Golubuff, *The Lost Promise of Civil Rights* (Cambridge: Harvard University Press, 2007), 81-110.
[74] On technocratic administration across the energy sector in this period, see Mason Inman, *The Oracle of Oil: A Maverick Geologist's Quest for a Sustainable Future* (New York: W.W. Norton and Co., 2016), especially 224-263; Brian Balogh, *Chain Reaction*.
[75] Arnold Miller, "State of the Union" Address, transcribed in *Proceedings*, 1973, 9.

allocating the nation's energy resources?" He continued, "There are a lot of answers, and I don't know all of them. But here are a few. Exxon, Gulf, Atlantic-Richfield, Mobil, Occidental, Continental, and Shell." Although he named the energy companies as the primary causes of the crisis, he also implicated the Nixon administration since there had been no structural responses to the crisis, only "makeshift solutions," asking working people to "turn…down our thermostats" while "he leaves the long-range decisions on energy to the people who got us in this mess in the first place…I've never seen a more sure-fire formula for disaster." [76] To the miners assembled at the 1973 convention, the energy crisis was not about a fuel shortage, but rather represented a crisis of power based on an asymmetry which had rendered the nation's energy relationships unstable and undemocratic.

Figure 5.3: Earl Dotter, Delegates to the 1973 UMW Constitutional Convention Debate in an Unidentified Committee Meeting. Of particular note for this image are the relative youth of the miners in the meeting and the relatively informal meeting setup which reflected both the democratic impulses of the convention as well as the disorganization and chaos for which it is remembered. December 1973. UMWJR, Box 45 Folder 1.

[76] *Ibid*, 11.

The 1973 UMW convention was meant to be an assessment of how a reformed union might approach the problem of industrial democracy in an era of stagflation. Instead, following the catalyst of the oil embargo, it became a window into the problem of energy democracy. Delegates to the 1973 convention ranged from a young new generation of miners who would become known for their militancy to old stalwarts of the union who had helped spearhead reform. The newly elected MFD leadership understood that the convention would either cement reform into the union or would sink the whole program; the energy crisis only raised the stakes further as serious matters like the response to Nixon, the bargaining directives for the 1974 contract, and the approach to new organizing were discussed in an atmosphere which one observer described "see-sawed between anarchy and control, as the Chair wavered between a free-wheeling let-everyone-speak approach and a more formal parliamentary style."[77] The tone of the convention could be see in the photographs taken by *UMW Journal* photographer Earl Dotter, such as the one seen in Figure 5.3, which depicted an unidentified committee meeting. The participants were younger than before, in a wide array of dress compared to the uniform suits of the Boyle days, and with one miner even wearing his helmet. Children stand in the pictures foreground while Vice President Trbovich, fourth standing from the left, explains speaks to the gathered men and women who look upon him with some apparent skepticism.

The energy crisis was built into every aspect of the convention. In their speeches to the convention, both President Arnold Miller as well as Vice President Trbovich argued that the energy crisis was not just a political problem that could be tackled by COMPAC (the Coal Miners Political Action Committee), but one which had to be addressed in the union's approaches to the bargaining of the 1974 national bituminous coal contract, the expansion of mine safety protections, and new organizing drives. All of these relied on an historical narrative of civic duty and historical stability

[77] From the unpaginated introduction to *Proceedings*, which went unsigned but was likely written by Kyle Andrews. *Proceedings*, 1973.

which the UMW leadership carefully constructed over the course of the convention, a narrative which strategically downplayed the long history of labor struggle in the industry—from coal shortages which had threatened supply in cities to the coalfield "wars" which had been the bloodiest labor conflicts in the nation's history.[78] Miller repainted American history with the brush of coal, drawing a direct line from westward expansion to the "financial empires" which "were built on our labor." He cast industrial growth as a war, one which the nation's miners had helped win time and again, linking the coal that had powered battleships and fueled World War II industrial mobilization to the growth of the plastics industry and the expansion of electric power:

> Throughout our nation's history, coal miners have been the front line troops of its industrial growth. We bore the most casualties and we worked in the most wretched conditions. And in times of crisis, we were always called on first to come to the nation's aid. Now it is 1973 and we face an energy crisis. And once again, the nation is calling on its coal miners for help. We accept that call as we have in the past…but…the pick and shovel days are over.[79]

Miller asserted that "the pick and shovel days are over," because beside his narrative of American history from the perspective of coal, he was also describing a particular view of the structure of power in the United States—one which sacrificed miners "who labored their lives away in the bowels of the earth to fuel this nation's progress and reaped as their reward a back bent like a stunted tree and lungs that wouldn't work because they were full of coal dust."[80] Miners new position as energy workers had, in Miller's mind, altered the dynamic of this power, but had not changed the fundamental fact that coal still powered the nation.

To illustrate the transformation from pick-and-shovel coal miners into energy workers, he also highlighted other changes to the mining workforce, particularly the surge of young coal miners in the industry, who were Vietnam veterans instead of World War II and Korean war veterans

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[78] Much has been written on deadly conflicts in the coalfields. Key texts in the recent literature include Andrews, *Killing for Coal* (Cambridge: Harvard University Press, 2008); James Green, *The Devil Is Here in These Hills*; Robert Shogan, *The Battle of Blair Mountain*. George Titler, who would go on to play a central role in Boyle's administration, also wrote his own account of his time as an organizer for the UMW in the mine wars in Eastern Kentucky, *Hell in Harlan* (Beckley, West Virginia: BJW Printers, 1972).
[79] Arnold Miller, "State of the Union" Address, transcribed in *Proceedings*, 1973, 9.
[80] *Ibid*.

which dominated Miller's generation. Going out of his way to point to the number of Vietnam veterans who filled the ranks of the nation's coal miners as he discussed the state of the coal industry, Miller not only sought to cast these men as morally upstanding men fulfilling a civic duty, but in turn also pointed to the ways in which the collective bargaining agreement between the UMW and the BCOA was underwritten by a social contract between citizens and the state. For Miller, himself a World War II veteran and disabled miner, this continued a pattern of organizing strategy that saw the union contract and public service as intrinsically connected.[81]

The new "routes of power" which had been forged by industry restructuring also placed the UMW in a new bargaining position, which the new leadership hoped to use to their advantage in contract negotiations.[82] The energy companies ran much larger profit margins than the independent coal industry had, but as Miller said, "[t]o hear the operators tell it, the coal industry is the oldest, non-profit organization in the nation."[83] Increasing scrutiny of industry restructuring had exposed the financial accumulation that had accompanied restructuring: $353 million a quarter for Exxon in 1972, $68.2 million for Shell in the same time period, $42.5 million each for Continental and the American Electric Power Company. Critically, these numbers were from 1972—the year before the 1973 oil shock; profits would increase by as much as 80 percent the following year. [84] The increase in profitability was—as shown earlier—partly due to increased productivity, partly driven by an increase of coal prices which began in the late 1960s, and partly due to industry diversification, which allowed companies to reap the benefits of high coal prices at the same time that they cashed in on the highly profitable gasoline market. The new UMW leadership argued that, in addition to massive investment into coal research and development

[81] Miller first ran for the Kanawha House of Delegates in 1969 before taking the lead position on the Miners for Democracy ticket for UMW leadership in 1972.
[82] Jones, *Routes of Power.*
[83] Miller, "State of the Union" address, transcribed in *Proceedings*, 1973, 9.
[84] Michael C. Jensen, "Profits at Exxon Soar 80 Per Cent," *New York Times*, October 20, 1973. *PQHN*. Miller also quoted figures in his "State of the Union" speech, transcribed in *Proceedings*, 1973, 9.

which might help alleviate the energy crisis, that this money should go back to the coalfields. He called not just for contract provisions—higher payouts to the Welfare and Retirement Fund, sick pay, cost of living adjustments—but for an end to "politics-as-usual" which had watched "profits drained from our states and [left] slag heaps and fallen tipples."[85] The companies didn't adhere to a clear distinction between industry and government, and neither, it appeared, would the new leadership of the UMW.

Yet it was not only the ability or responsibility of the industry to increase payouts which had increased miners' bargaining leverage as they prepared for the 1974 contract battle. The energy panic caused by the embargo gave a new force to miners' ability to threaten the nation's energy supply. The long energy crisis had put new pressure on miners to massively increase the nation's coal output on a relatively short time-scale—going into bargaining for the 1974 national bituminous wage agreement, Vice President Trbovich suggested that "The energy crisis is going to give us a lot of problems. Today we're mining close to 600 million tons and within five or ten years the production has to go to a billion tons of coal."[86] The increased production targets suggested a rapid move away from oil and back to coal even before the energy crisis reached its first peak at the end of 1973, even though the capital investments required for this reconversion were much more substantial than the conversion from coal to oil had been, largely due to the "hierarchy of complexity" in which coal's conversion into electric power was the most complex followed by oil and with natural gas being the simplest to transform into consumable electric power.[87] The move back to coal then, pointed to the new long range profitability forecasts as well as a change in the relationship between the electric utilities and the energy companies away from

[85] Miller, "State of the Union" address, transcribed in *Proceedings*, 1973, 12.
[86] Interview with Mike Trbovich on energy, the '74 contract, organizing with the UMW Journal editorial staff. March 15, 1973. UMWJR, Box 4, Folder 7.
[87] Charles River Associates Report to the Appalachian Regional Commission, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy." (Cambridge: N.p., 1973), 8-9.

on the spot coal markets to long-range contracts modeled on TVA acquisition schemes. These contracts would lock in production levels and employment, and if implemented, would have increased leverage for coal miners at the bargaining table.

The energy crisis, then, presented the opportunity for coal miners to go on the offensive as they prepared to bargain the next national bituminous coal agreement. "Such profitable futures," Arnold Miller declared, must be shared with the nation's miners who had been on "an economic treadmill" under the old regime.[88] Thanks to industry diversification, the strikes couldn't threaten company profits in the way they used to, but coal miners had a broader kind of power: to dwindle the coal stockpiles that represented a lifeline in an age of fuel shortages. The power of the strike was political pressure to keep the nation's lights on. In this way, miners drew a direct connection between their working conditions and the wide web of energy relationships that were crucial to national stability and prosperity.

The idea of workers sharing in the economic benefits of industrial growth was hardly new; indeed, it had been a centerpiece of Keynesian industrial relations, particularly as industrial relations narrowed its focus from a broadly defined idea of the employment relationship to the problems of different "collective forms of workforce governance," especially the unions which had emerged from World War II as a central force in American political life.[89] What was new about this moment was the understanding that the landscape of workplace power had shifted along with the transformation of the American energy regime, and in the process, it opened a new place for discussions of energy democracy that were rooted in the workplace.

This new opening was once again addressed by OCAW president Al Grospiron, speaking at his second consecutive UMW convention. But unlike the 1968 convention, where Boyle

[88] Arnold Miller, "State of the Union" address, transcribed in *Proceedings*, 1973, 9-10.
[89] Bruce Kaufman, "The Theoretical Foundation of Industrial Relations and Its Implications," *Industrial and Labor Relations Review* 64, no. 1 (2010), 74-108.

interrupted a committee report to allow Grospiron time to speak and introduced him only as a leader of a fellow labor organization, in 1973 Grospiron was scheduled as the opening speaker on the fourth day of the convention, and Miller took time to introduce him at length. "Our next speaker," Miller said:

> is the president of a union that we United Mine Workers can learn a lot from…the Oil, Chemical, and Atomic Workers. And its members, like coal miners, help supply the basic energy that keeps America running. [OCAW] perform a lot of different jobs in the energy field. They produce and transport oil and natural gas. They refine oil and uranium. And if you put oil, gas and uranium together with coal, you have just about all the fuels our nation relies on.[90]

After he had explained the energy connection between the two unions, Miller continued by outlining how different forms of energy work compared to each other. OCAW workers, he said, "face deadly health hazards in their daily work. We coal miners breathe deadly coal dust. Oil, Chemical, and Atomic Workers breathe deadly fumes and chemicals."[91] In scaling down from the larger industrial connections between the types of fuels workers in the two different unions produced to the occupational hazards they faced at work, Miller attempted to connect the amorphous idea of energy which meant OCAW and UMW members might work for the same large energy conglomerates with the material conditions and safety hazards which had long driven organizing in both unions. And as he introduced Grospiron, he went out of his way to paint him as a dissenter and militant democrat.[92] Grospiron, if possible, was even more explicit. "We are in the energy industries. We are the unions of the energy industries…In this day of diversification, in this day and time of major conglomeration, it is very fundamental for…those unions affected…by any particular company to unite behind the common cause."[93]

Grospiron also raised the potential power of joint bargaining, organizing, and political action—his proposal would have been as closely as two unions could collaborate without

[90] Arnold Miller, quoted in *Proceedings*, 1973, 123.
[91] *Ibid*.
[92] *Ibid*, 123-124.
[93] Al Grospiron, address to the United Mine Workers, December 6, 1973. Transcribed in *Proceedings*, 1973, 126.

consolidating, especially in bargaining where he even suggested OCAW and the UMW sit at the same table across from the negotiators of companies like Continental Oil, Shell, and Exxon. "In the area of bargaining," he said, "certainly we ought to work together. I want President Miller to know, and you to know, that our union is fully willing to make common bond on collective bargaining wherever this can be done…with common employers."[94]

These gestures toward joint bargaining were not mere platitudes but built on a four year long effort by OCAW to engage the UMW more seriously toward joint cooperation. As early as 1968, OCAW had begun compiling their own data on the emergence of the energy industry, concluding that "It now appears that the oil companies want to be 'total energy' companies…the question is not only one of oil companies controlling *rival* energy sources, but also one of the conversion of other energy sources (coal and oil shale) into petroleum products."[95] By July 1968, Grospiron had reached out to the UMW, enclosing a letter which pointed that the "trend toward [energy] monopoly is taking place at the very time of an increasing demand to place labor unions under anit-trust [sic] controls."[96] Grospiron likely felt the need to reach out to the UMW because, especially for workers at oil companies which refused to sign multi-plant contracts, "labor power is less concentrated than company power."[97] The UMW, on the other hand, had been working under nationwide contracts in bituminous mines since 1897.

As OCAW president, Grospiron had come to understand that:

> When a union is forced to bargain on a single-plant basis [and] strikes, for example, one oil refinery, the company can meet its market commitments from one of its many other un-struck refineries. Or, the company may buy gasoline from another company, since gasoline is a simple commodity rather than an individualistic item such as an automobile.[98]

[94] *Ibid*, 127.
[95] Norm Weintraub to A.F. Grospiron, "Movement of Major Oil Companies into Other Energy Sources, Primarily Coal and Uranium," June 10, 1968. UMWPO, Box 40, Folder 16.
[96] A.F. Grospiron to W.A. Boyle, July 19, 1968, enclosure. UMWPO, Box 40, Folder 16.
[97] A.F. Grospiron to Senator Edward V. Long, July 19, 1968. UMWPO, Box 40, Folder 16.
[98] *Ibid.*

Grospiron appeared to take the threat that horizontal diversification would make this structural weakness much worse for OCAW members seriously. After receiving only a brief—and late—reply to his first communication with Boyle, he wrote again in August 1968 that, "We believe the interests of the membership of both [the UMW and OCAW] are closely related. Thus, it behooves us to request a conference to survey the possibilities of cooperation."[99] So eager to win Boyle's attention was Grospiron that he even praised Boyle's anti-atomic crusade at length, despite the fact that Grospiron was charged with representing the interests of workers in the atomic industry. Two weeks later, Boyle responded, apologizing for not returning Grospiron's phone call. He seemed unmoved by the idea of a joint conference, but did invite Grospiron to the 1968 convention if he could "possibly arrange to do so." His response, however, did not invite further personal communication.[100]

In September 1968, OCAW's International Executive Board pledged cooperation because "members of both unions are engaged in producing energy fuels, and our industries, once widely separated, are moving closer together [and] the members of the two unions are beginning to work for the same companies." The resolution went as far as to call for joint efforts at the negotiating table: "We want to see cooperation in collective bargaining so that better conditions can be won for all of the workers from the vast, conglomerate companies."[101] The next day, at the 1968 UMW convention, held in Grospiron's hometown of Denver, the UMW delegates unanimously adopted a "Resolution of Mutual Interest," which, despite being written in much weaker language than the OCAW resolution charged "our International officers to work closely with the officers of the Oil, Chemical, and Atomic Workers and other unions in the energy industry when the best interests of

[99] A.F. Grospiron to W.A. Boyle, August 15, 1968. For Boyle's first response, see W.A. Boyle to A.F. Grospiron, July 24, 1968. UMWPO, Box 40, Folder 16.
[100] W.A. Boyle to A.F. Grospiron, August 27, 1968. UMWPO, Box 40, Folder 16.
[101] Resolution on Cooperation with United Mine Workers of America adopted unanimously by OCAW International Executive Board, September 10, 1968. UMWPO, Box 40, Folder 16.

our membership will be served by such cooperation."[102] The 1968 UMW resolution, though completely lacking in substance, made possible the more substantial relationship between OCAW and the Miners for Democracy leadership which took over the UMW in 1972. By 1973, the call that "energy workers must organize!" was something with tangible meaning to UMW rank-and-filers. When Grospiron said, "You have your Duke Power; we have our Shell Oil," he relied not only on the tradition of labor solidarity, but also conjured a narrative of energy workers which had to confront energy companies.[103]

However, as Trbovich's confrontation with the floor delegates on the second day of the conference demonstrated, the ways in which these relationships of energy would be re-made, the lines along which they would be re-forged, could not easily be limited to the bargaining table or even the workplace. A remade concept of energy which built on the longstanding vision of workers' control and also the vision of a more expansive social and ecological contract not only suggested a reinvigorated, more democratic approach to the bargaining of contracts but a new place for the coal miner in American society. Negotiating tougher contracts against companies like Continental Oil required coal miners to challenge the idea that the company knew best how to mine coal. As the relationships of power which had structured coalfield bargaining had shifted, making murky the boundary between company and state, industry and nation, it had also opened a new terrain for the question of *who decides?* Why, after all, was Nixon any better posed to solve the energy crisis than Consolidation Coal had been to solve the safety crisis after the 1968 Farmington explosion which had killed 78, or the company doctors had been to solve the black lung crisis which had accompanied mechanization? Miller connected the issues explicitly. Nixon, he said had left:

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[102] Resolution of Mutual Interest adopted unanimously by delegates to the International Convention, United Mine Workers of America, Denver, Colorado, September 11, 1968. UMWPO, Box 40, Folder 16.
[103] Al Grospiron, address to the United Mine Workers, December 6, 1973. Transcribed in *Proceedings*, 1973, 126.

> the long-range decisions on energy to the people [the oil companies] who got us in this mess in the first place…politicians wish that miners would stay underground…and never see the light of day. Well, unfortunately for some of our politicians, coal miners have seen the light of day. We saw it in West Virginia…when we fought for black lung legislation…We learned a powerful lesson—that if coal miners organize…we don't have to settle for politics as usual in the coalfields. And we don't intend to settle for politics as usual any more.[104]

Thus the destabilization of the tripartite power relationship of the coalfields, combined with a supply crisis amid rapidly increasing demand had opened the possibility of alternatives that would have been unthinkable under the old energy regime. And as the energy crisis peaked in autumn 1973, the full power of a changing energy regime structure where workers could make claims on a new concept of democratic politics moved from a topic of convention speeches to the picket line.

Energy Workers Must Organize!

The strike at the Eastover Mining Company, a subsidiary of Duke Power, completely encompassed the 1973-47 oil shock and became a test case for organizing energy workers who faced a large company with other fuel sources besides coal. Immortalized in Barbara Kopple's Academy Award-winning documentary, *Harlan County, USA*, the strike has mostly been remembered for the role it played in shifting gender roles inside the UMW, and the film focused on the strike as the high-water mark of the reform movement inside the union. It also highlighted that even after the War on Poverty, not much had seemingly changed in coal country since the days of Bloody Harlan in the 1930s—gun thugs shot into miners' homes, strikers confronted scabs with large sticks before being dragged to jail by police who claimed to be preventing violence, and the company appeared to control the county.[105] However, the strike, because it was so heavily

[104] Arnold Miller, transcribed in *Proceedings*, 1973, 12.
[105] Barbara Kopple, dir. *Harlan County*, USA [1976], (New York: Criterion, 2006). On the Brookside strike, see Sally Ward Maggard, "Gender Contested: Women's Participation in the Brookside Coal Strike," *Women and Social Protest*, eds. Guida West and Rhoda Blumberg (New York: Oxford University Press, 1990), 75-98; Marat Moore, *Women in the Mines: Stories of Life and Work* (New York: Twayne Publishers, 1996); Suzanne E. Tallichet, *Daughters of the Mountain: Women Coal Miners in Central Appalachia* (University Park: Penn State University Press, 2006); Trish Kahle, "A Woman's Place is in the UMWA: Women Miners and the Struggle for a Democratic Union in Western Pennsylvania, 1973-1979," *Labor: Studies in Working-Class History of the Americas* 13 no. 1 (March 2016), 41-63.

documented by Kopple and her team as well as photographers like Robert Gumpert, also offers a window into the UMW beyond the leadership structure into the rank-and-file and the debates among miners themselves over key issues that surrounded the project of organizing energy workers. Although the first oil shock of the 1970s played no major part in the narrative Kopple ultimately presented, the Brookside strike is best understood in the context of the long energy crisis, for it helps us to understand why the strike became such a flashpoint for a nation and a union which ultimately faced other crises with a seemingly further reach at the same time. Similarly drawn out recognition strikes, like bloody eleven-month recognition strike at the Stearns Mining Company in McCreary County, Kentucky in 1977, ultimately failed to so powerfully situate itself amidst an energy crisis. The strike at Eastover then, was a strike borne of a particular moment.

The origins of the strike lay in the industry restructuring that took place from 1963 to 1971. In the wake of the fuel shortages which had accompanied the series of buyouts and mergers, Duke Power, a North Carolina electric utility which operated under the slogan of "citizenship and service" decided to join the new industry. Although it had long purchased Appalachian coal for its coal-fired operations, wildcat strikes and industry consolidation had suddenly made the supply of coal seem far less stable. In late 1970, Duke formed two new subsidiaries to oversee the electric utility turned energy company's entry into the coal business. Eastover Land Company would oversee the acquisitions of reserves, and the Eastover Mining Company would handle the "actual mining of these reserves." Brookside, which had been a part of the initial investment, was placed under the management of Norman Yarborough, who was charged with massively expanding the operation to meet Duke's growing energy requirements. He later recalled, "At the time we bought it there was twenty-one men working there…the idea was to expand Brookside and put about three or four hundred people to work down there."[106] Within three years, the Eastover Land Company

[106] Norman Yarborough, interview with Kelly Motley, October 1, 1988. Louie B. Nunn Center for Oral History, University of Kentucky Libraries, Lexington, Kentucky, Accession Code 1988oh231_app195.

had acquired for Duke Power more than 21,000 acres of coal reserves in four counties in Eastern Kentucky, and were already mining coal from the operations in Bell, Knox, and Harlan Counties and had $24.6 million in production commitments.[107]

Duke's interest in Eastern Kentucky was not only, however, the five million tons of coal they hoped to produce annually once the mining operations could run at full capacity. They also saw an opportunity in the newly passed strip mine reclamation laws. "Eastover will begin planting trees on these areas in the spring of 1973," the company explained to its shareholders. "The young trees will…when mature, provide a valuable timber resource." The move demonstrated that as much as Duke Power tried to portray themselves as a service provider, they were really masters of extraction, able to manage the seemingly at-odds goals of coal and timber extraction. Clearing the land before replanting the trees would allow them to plant the kind of trees they felt would be most useful to the company's long-term interest—whether it be the fastest growing or the species which they felt would eventually reap the highest market value for the company's timber subsidiary, which had been organized alongside the growth of strip mining in the early 1960s. That Duke Power made such an explicit connection, moreover, demonstrated the salience of the MFD's connection between their workplace struggle and other questions about long-term viability of the Appalachian ecosystem.

Yet despite the promise the mountains of Eastern Kentucky held for Duke Power, by early 1974, more than three years after the company had moved into the coalfields, it still had to report to its shareholders that coal production was "under development"—despite the fact that the company's coal reserve holdings had increased by fifty percent in just one year and they expected,

[107] Duke Power, *Annual Report*, 1972, 30-32. Provided electronically by Duke Energy Corporate Archive, Charlotte, North Carolina.

when running at full capacity, they would be able to produce now seven million tons of coal annually. The reason: "a strike which has idled the Brookside mine since July 26, 1973."[108]

The Brookside strike was in some ways an aberration: a long and protracted strike for union recognition in an industrial workplace, one which was already heavily unionized at other firms. At the same moment the miners voted in the UMW at Brookside, inflation was raising prices across the United States, and a growing conservatism sought to blame the unions for the higher prices. One of the people in Harlan County who opposed the union's re-entry to the county, for example, blamed recent price spikes on organized labor: "When they go back to work…[the company] will have to raise that price…The unions is what's doing it. The unions is ruining the United States." While such anti-union criticisms were hardly new, they took on a new weight as the national economy moved into recession and stagflation and malaise came to define a decade. Duke Power was also emblematic of Southern anti-unionism reshaped for an era of industrial restructuring. As UMW organizer Houston Elmore described, "Duke Power is a Southern, conservative company. Less than ten percent of their employees in their power plants and their line crews are organized." [109] Duke Power, he felt, was worried about unionization drives spreading into the Carolinas where the company was based, but recent scholarship has argued that by the early 1970s, the "Southern Strategy" in labor relations was not on the defensive but rather on the offensive. MacLean's most recent contribution on the subject shows how this offensive, which began in earnest in the mid-1950s, secured the marriage of Southern conservatism and Mont Pelerin Society neoliberal thought.[110]

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[108] Duke Power, *Annual Report*, 1973, 31. Provided electronically by Duke Energy Corporate Archive, Charlotte, North Carolina.
[109] Barbara Kopple, *Harlan County, USA*.
[110] The United Mine Workers, she points out, were direct targets of this unity, which her central subject, James Buchanan targeted as unfairly benefiting from labor monopoly at the expense of social welfare in Appalachia. Nancy MacLean, *Democracy in Chains: The Deep History of the Radical Right's Stealth Plan for America* (New York: Viking, 2017), especially 45-60.

Moreover, compared to the way older miners used a narrative of the state as the "muscle man" for the company which had been a key organizing tool for the UMW in the 1930s, by the 1970s, younger miners would often use taxation as a way to understand the relationship between themselves and the state as well. Betrayal of the democratic promise of government could be traced in the tax dollars and misspent that went to fill the gasoline tanks of police cars that were driven to break up their picket lines—"tax money at work breaking organized labor," one striker described. The strikers power was emblazoned on the buttons they wore each day to the picket line—"UMWA Coal Power"—and the signs they carried as they traveled the New York Stock Exchange in April 1974 in an effort to warn investors of the risks of owning Duke Power stock during a strike amidst the energy crisis: "The nation needs coal, not Duke Power."[111]

In some ways, the story of Eastover was quite simple: an intransigent company, bent on meeting the demands of the changing marketplace felt that its employees' right to a collectively bargained contract would inhibit their capacity to compete and overlooked the "benevolence" of capitalist development. Yarborough, meanwhile, extolled his efforts to place "our people…my people" into better housing but the President of Duke Power at the same time that Carl Horne, the president of Duke Power, wanted the union "off our backs."[112] But when viewed in the context of the energy crisis, the story becomes more complex—at once a microcosm of the larger trends in the industry and a moment of truth for the newly reformed United Mine Workers. Could the messy power and process of rank-and-file democracy so powerfully on display throughout the 1973 convention hold up to the fast pace of industrial change and political crisis which miners faced throughout the early years of the energy crisis?

[111] Kopple, *Harlan County*, USA.
[112] *Ibid*.

The complaints at Brookside were familiar. In addition to pay below the UMWA wage scale, there were safety complaints and an overwhelming sense that the miners were expendable to the company. As one striking miner described to Kopple and her team:

> I got hurt there at Brookside about a year ago. I got about three hundred pound of steel on my head. And they took me to the hospital, sewed my head up…and I was off one day. And the superintendent sent a fellow over, said, uh, 'Get him to come on back up here and work.' Said, 'We'll make it easy on him so he won't lose no time.' And I went back up there and it knocked me out of compensation or anything…I got my head busted open. That's the way they want you to work down there.[113]

Women raised concerns as well, saying that, like miners' wives across the country, they didn't want "their husbands going into these scab mines with the rock a-falling and running these here motors with no brakes…they go in there praying that they get out and they feel like maybe their prayers would be answered sooner if they were working under a UMWA contract." But protection also extended beyond the mine face. As they appealed to drivers on the mountainside road, strikers called for the men to support the UMW to "protect your families." And for Lois Scott, one of the women who helped sustained the picket lines, "Duke Power's control over these men that voted in the UMW contract" represented a violation of their "Constitutional rights" as "American citizens." To read this as a reference to the Wagner Act is too narrow. Instead, she compared herself to the "protesters calling 'Impeach Nixon! Impeach Nixon!'"[114] At a moment in history when the negotiation of labor contracts between industrial firms and large national unions had been so deeply institutionalized into the structures of private industry, they claimed labor rights as citizens to protest against a structure of coalfield power rather than as a claim to a seat at the negotiating table.

The claims of citizenship at Brookside thus brought something that initially appeared to lie squarely in the terrain of private industrial relations into the realm of public interest. The days the miners spent appealing to Duke Power stockholders in New York City were especially telling.

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[113] Barbara Kopple, *Harlan County, USA*.
[114] *Ibid*.

While it might be tempting to label the effort as a corporate campaign, the appeals of the Brookside miners differed from corporate campaigns, which had become an increasingly important part of the labor movement's repertoire during this period.[115] While corporate campaigns sought to expose the corruption, mismanagement, or conflicts of interest on a corporation's board of directors in order to gain organizing or bargaining leverage, the Brookside strike was the product not only of Duke Power's intransigence, but also on a newly reorganized energy regime which demanded both horizontal integration and increasingly also saw vertical integration from the nation's utility companies which sought to stabilize supply. In fact, the union spent remarkably little time going after Duke Power as an individual entity and instead focused on the place of the Brookside miners in the nation's energy regime. Miners called forward an image of civic sacrifice in their appeals as well as pointing the to the nation's electrical supply as a target rather than Duke Power's profit line. "A lot of people don't understand that that electricity burning over there, there's somebody dying every day for it. There's one man dies every day."[116] In one sentence, the miners were able to deftly connect their experiences working—and dying—in the Appalachian coal seams with the omnipresent energy which appeared so much more easily controlled when called forth by a light switch.

Still, this strategy which tied Duke Power into a critique of the broader energy regime actually had a substantial impact of Duke Power's strategy of expansion into the energy industry. By the end of 1974, their stock was performing well below book value, and in 1975, faced with concerns over the ability to raise investment capital, they were forced to begin the process of selling off their largest investment in nuclear power generation, the Catawba nuclear power station strategically located south of Charlotte, North Carolina on the shores of Lake Wiley, to a

[115] Cynthia L. Estlund, "The Ossification of American Labor Law," *Columbia Law Review* 102 (2002), 1527.
[116] Kopple, *Harlan County, USA*.

cooperative of wholesale buyers. Construction on two other nuclear plants was halted and the size of their coal reserves had stagnated.[117]

But for the Brookside miners, energy was not only something produced for the far away cities. In going on strike, they were also protesting a set of energy relationships which had kept them in energy poverty. Across Harlan County, miners lived in company housing that fell far below the expectations of workers in their wage bracket nationally. Their houses lacked, among other things, running water. Kopple captured a mother giving her young daughter a bath in a bucket; the girl, who could no longer fit all the way into the bucket, listened to her mother fantasize about how after the strike they would have "a big ol' bathtub" with hot, running water.[118]

While not merely a strike over energy, the question of energy democracy was integral to how the Brookside miners understood the stakes of their struggle. Moreover, the entrance of Duke Energy into the Appalachian coalfields can only be explained in the context of the long energy crisis and attendant restructuring of the American energy regime. That the strike ended in Duke agreeing to the contract demonstrated the ways in which the newly remapped relationships of energy could be pressured in new ways that leveraged both pressure against company profits and against the flows of energy that kept the lights on across the United States. The strike also exposed that different forms of energy could be leveraged against another; the fear of dwindling stockpiles strengthened the miners claims on a union contract that would have, in the minds of the miners, more fairly distributed access to energy in Harlan County—whether that was the lighting in better housing or the power to run a water heater and pump water out of the ground directly into the house. That miners made such claims in the midst of a nationwide move toward energy austerity was truly remarkable, but made possible by the comparatively low standard of living that the

[117] Duke Power, *Annual Report*, 1975, 8-11. Provided electronically by the Duke Energy Corporate Archive, Charlotte, North Carolina.
[118] Kopple, *Harlan County, USA*.

Brookside miners enjoyed compared to the dominant image of the suburban American family. On the picket line, one miner captured the vision of a positive future on his sign: "Some miners," the sign read, "see things as they are and ask why? We see things as they should be and ask why not?"[119]

No Gas, No Coal

In February 1974, as the Brookside strike continued, a coordinated wildcat strike broke out across southern West Virginia, an outgrowth of a small initial strike of 300 miners in McDowell County, among miners who were decidedly less destitute—both in economic and energy terms—than the Brookside miners.[120] On February 24, miners held a mass meeting on whether to strike in McDowell county before telegramming Arnold Miller to tell him that "THE MINERS ARE IN A DESPERATE POSITION DUE TO THE FACT THEY CANNOT GET GAS TO GET TO WORK." Even stations that did have gas had made the energy inaccessible, they said, by "JACKING THE PRICE ON EACH GALLON."[121] By February 25, forty-eight mines were closed, not for safety violations, or management infringements, but because the area's miners were incensed over the disproportionate impact which gasoline shortages were having on them. Faced not only with rationing and shortened gas station hours, miners also contended with long, winding stretches of roads through unforgiving terrain. The quarter-tank rule imposed by West Virginia Governor Arch Moore—which limited gasoline sales to people whose fuel gauges registered one-quarter full or less—proved unworkable for people who required half a tank of gasoline to travel to and from work each day. In a state like West Virginia, coal miners appeared to be the group

[119] Kopple, *Harlan County, USA*.
[120] Although the UMW kept records of which mines were on strike which days, they did not report the number of miners in each mine. This was only reported in local papers. UPI, "Temporary Injunction Issued by Federal Court," *Bluefield Daily Telegraph*, March 13, 1974. UMWPO, Box 203, Folder 15.
[121] Telegram, Danny Deskins (Chairman of the meeting which called the strike) to Arnold Miller, February 24, 1974. UMWPO, Box 203, Folder 16.

most impacted by this rule. Following the decline of company housing, the distances between miners' homes and the mines in which they worked had increased dramatically. It wasn't uncommon to travel fifty miles each way to work on isolated mountain roads. Even once Governor Moore granted exemptions to those who drove more than 250 miles traveling to and from work each week, complaints filtered in that gas station owners refused to honor the exemption slips. Making matters worse, shift times often prevented miners from filling up in gas stations even when they were open.[122]

The UMW Research Department found that most "stations were pumping last week only between 8-10 a.m., opening too late for miners *en route* to the day shift and closing before they were headed for home," despite the union's calls for mandatory "staggered hours of service"—if they had gasoline at all.[123] On March 1, the UMW office called every gas station in District 29—119 stations in all. 27 percent had no gasoline on hand; an additional 18 percent were critically undersupplied and had less than 1,000 gallons; 37 percent more had less than 5,000. This included stations like the Gulf Oil station in Iager which had 215 gallons on hand on March 1. Before rationing began the station owner reported he sold on average 10,000 gallons each day. Filling stations managed by the coal operators as part of company stores reported that they had enough to provide for their employees but imposed individual limits and such stores were notorious across the area for exploiting miners and their families. Moreover, the FEO and other state authorities were completely excluded from the energy logistics responsible for making sure gasoline reached the most affected areas. This information was, instead, completely in the hands of the gatekeeper

[122] These reports and the testimonies of various miners came from multiple sources, including transcripts of the Don Lucas Show, research and field documents from UMW officers, local newspapers and government documents contained in UMWPO Box 203, Folders 15 and 16. Especially see: Don Lucas Show transcripts, March 11-13 1974, UMWPO Box 203, Folder 15. Tom Bethell to Rick Bank, Memorandum on West Virginia gasoline shortage, March 11, 1974. UMWPO, Box 203, Folder 16. UMW Press Release, March 11, 1974. UMWPO, Box 203, Folder 16. CBS Saturday Evening News, Transcript, March 9, 1974. UMWPO, Box 203, Folder 16.

[123] UMW Research Department Memorandum, "West Virginia Gas Shortage," March 3, 1974. UMWPO, Box 203, Folder 16.

energy companies. The UMW research department, in the process of working with District 29 officials to survey the shortages across the southern part of the state, had discovered that "neither FEO nor the state had…comprehensive data on wholesale and retail outlets; no maps existed, for example, pinpointing distributors, bulk plants, etc."[124]

Gas station owners had reported that lacking "effective statewide association…individual owners fear getting the short end of the supply stick." So powerless did the filling station owners feel that they had been "lobbying miners to stay out." Unlike the miners, the filling station owners, who were connected to the consumption end of the energy industry but owned no stake in production, worried they were "at the mercy of…distributors, the major companies, state and federal officials." In their eyes, "the miners' political power as providing the necessary leverage to buckle the Governor and force [the Federal Energy Office] to re-allocate for West Virginia."[125] The position of the gas station owners spoke to the particular power of the state's union miners—energy workers with organization.

Though his position would later change as he came under increasing state, industry, and public pressure to end the strike, in its early days, Arnold Miller castigated the state leaders, federal government, and most of all, the energy companies which "[e]ven in the middle of this mess they are still consolidating their economic and political power…They have no real fear of public reaction…And they couldn't care less about West Virginia."[126] In the context of industry restructuring, he pointed out the "absurdity in the energy crisis when producers of one fuel—coal—can't get to work because of inadequate supplies of another fuel—gasoline."[127] From February 25 to March 14, from 16,000 to 30,000 miners were on strike each day and at the peak

[124] Survey of District 29 Gasoline Filling Stations, March 1, 1974. UMWPO Box 203, Folder 16; UMW Research Department Memorandum, "West Virginia Gas Shortage," March 2, 1974. UMWPO, Box 203, Folder 16.
[125] UMW Research Department Memorandum, "West Virginia Gas Shortage," March 3, 1974. UMWPO, Box 203, Folder 16.
[126] UMW Statement, March 3, 1974. UMWPO, Box 203, Folder 16.
[127] UMW Press Release, February 26, 1974. UMWPO, Box 203, Folder 16.

of the wildcats, nearly two hundred mines across the state were closed. (Chart 5.3). Rep. Carl Perkins of Kentucky worried that the strikes would soon spread into the eastern part of his state, warning that "coal production is declining because miners don't have enough gasoline to get to work."[128] Bituminous coal production from one of the world's richest coal seams had effectively ground to a halt.[129] The ten West Virginia counties which were most affected by the gasoline shortage contained 21 percent of the nation's miners (31,075) and produced 85.6 million tons of coal annually—15 percent of overall national production.[130]

By March 7, the UMW leadership had reached out to both the energy companies and the state to try to resolve the matter. They convinced West Virginia governor Arch Moore to lift the quarter-tank restriction for miners, who traveled much further distances to work than most other workers in the state, and persuaded the energy companies to invest more resources into the logistics required to make sure an adequate gallon-age was trucked into the mining areas. Miller recorded a radio announcement which played across Southern West Virginia. "Gasoline is now pouring into the Southern part of the state," where the strikes were concentrated, he said. His statement concluded with a truly remarkable claim: "I am confident that I can obtain adequate gasoline on a fair and equitable basis not only for UMWA members but for all other West Virginians."[131] It was an adaption of the approach to strip mining that the Miners for Democracy had employed during their campaign for the UMW leadership: suggesting that the union could stand in where the state

[128] AP, "Perkins Warns Kentucky Coal Miners are on Verge of Strike," *Richmond (KY) Register*, February 27, 1974. UMWPO Box 203, Folder 15.
[129] AP, "Miners Continue Protest," *Uniontown (PA) Standard*, February 28, 1974. UMWPO, Box 203, Folder 17. Matt Witt, "Energy Report: Gas Shortage Closes W.Va. Mines," UMW Journal, March 1-15, 1974, 4. Don Lucas Show transcripts, March 11-13, 1974. UMWPO, Box 203, Folder 15. David D. Johnson and Forrest H. Roles, Brief on Behalf of Appellants in Support of Their Motion for an Injunction Pending Appeal, in the case of *Armco Steel Corporation, a corporation, et al. v. United Mine Workers of America, et al*., Temporary Emergency Court of Appeals of the United States, March 12, 1974. UMWPO, Box 203, Folder 15.
[130] UMW Research Department Memorandum, "COAL-PRODUCING COUNTIES PRIMARILY AFFECTED BY GAS SHORTAGE," March 2, 1974. UMWPO, Box 203, Folder 16.
[131] Arnold Miller, WLOG Announcement, aired once on March 7th and three times on March 8th, 1974. UMWPO Box 203, Folder 15.

and the companies had failed not only miners, but also citizens. It blurred the lines between the different ways in which miners, as energy workers could interact with different axes of power.

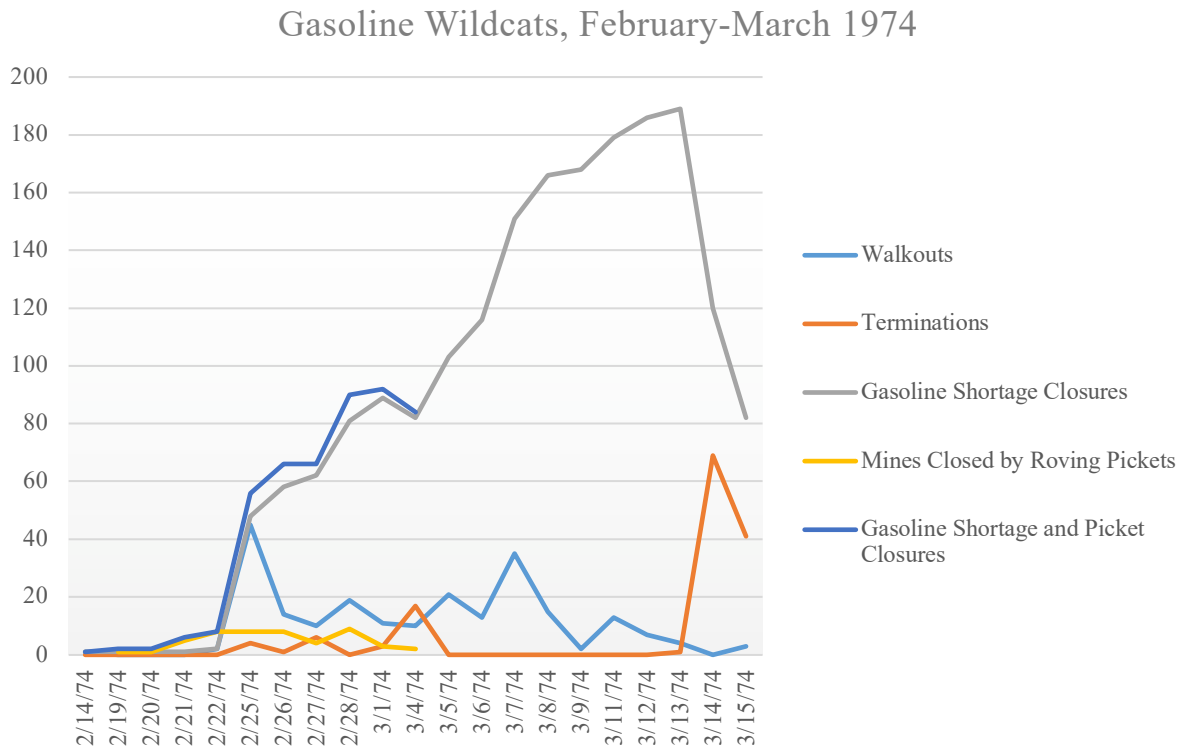

Chart 5.3: Gasoline Wildcats, February-March 1974. The apparent discrepancy between walkouts, terminations, and total mines affected for February 25, 1974 is because the wildcats at the Itmann #2, #3, and #4 mines on that day only lasted for one shift, from 12:01am until 8:01am. These short strikes were an aberration; most gasoline wildcats lasted for one to two weeks, with a handful lasting only three to four days. This data shows that despite the reports of the strike being the result of a few "outlaws," roving pickets counted for only a small portion of the mine closures. Unauthorized Work Stoppage Reports, February 26, March 8, 14, and 15, 1974. UMWPO, Box 203, Folder 17.

Critically though, by suggesting once again "if the state won't do it, the union will," as an expression of democratic principles, this position by Miller's administration also challenged the widely accepted idea of the mechanisms of democracy, which in the United States were intimately tied to representative elections and public protest. Here, Miller was suggesting that the union, which represented a majority miners in the coal industry but only a tiny proportion of the national voting age population, represented a stronger institution more capable of democratizing energy access than the representative democracy which had been charged with allocating fuel resources under the Emergency Petroleum Allocation Act, or the agencies like the Federal Energy Office

which had been created at the executive level in response to the oil embargo and subsequent tightening of the fuel shortages. These agencies had been created with a specific vision of energy democracy in mind—"to make sure that the fuel shortage does not fall with unfair severity on any region or on 'independent' refiners and distributors not affiliated with major oil companies."[132] As Nixon had noted, such programs were heavily reliant on "voluntary public cooperation" in order to be effective, but cooperation looked very different depending on which kind of relationship to the Act's controls one had, and by casting the Act as a set of programs the nation's citizens would make work together, the acts which aimed to stabilize price relationships in the fuel sector and assure allocation also opened up a new space to question how those decisions were made when the mechanism of representative democracy didn't achieve the desired ends of those who had the least direct input into how they were carried out.[133]

Claiming energy democracy in practice, however, proved difficult, and in the southern coalfields, divisions soon began to emerge. At stake in challenging a system of energy democracy which seemed equally camped in a mobilization-style liberalism as in a shifting free market terrain was both the American-ness of the strikers, who some perceived as transgressing the energy austerity which the crisis appeared to require of most working-class Americans, and also what it meant to "be union." Miners found that by 1974 the two identities were so tightly wound together that it was difficult to extricate claims to one from the other, even when it might have benefited them to do so. And although Miller's announcement also encouraged miners to return to work in order to allow the energy regime to continue to function, both the gasoline shortages and the strikes

[132] This was indeed an expansion of government planning in the fuels area—a practice which had begun with the Economic Stabilization Act, signed by Nixon in 1970, which had focused on a broader system of price controls. The new act moved this area of federal stabilization of price relationships directly into the area of fuel allocations as the crisis deepened. Edward Cowan, "Oil Allocation Act Signed as Nixon Ends Opposition," *New York Times*, November 28, 1973, *PQHN*. On the impact of the 1970 Economic Stabilization Act, see John J. Rigby, "The Administration of Economic Controls: The Economic Stabilization Act of 1970," *Case Western Reserve Law Review* 29 (1979), 458-498.

[133] Richard Nixon, Statement on the Economic Stability Act Amendments of 1971, December 22, 1971. *APP*.

persisted. Miller's call to return to work went unheeded as "meetings were being held by miners on what to do, and sentiment seemed to be running strongly on staying out of work unless Moore's quarter-tank rule was dropped and substantial improvements were made in supply availability."[134]

With each day that passed, the UMW noted, "our nation loses more than 200,000 tons of vitally needed coal."[135] As the stoppages continued into their second week, the impact on industry began to intensify, and a growing rift appeared between the union leadership—under increasingly heavy fire to get the miners back to work—and the strikers who continued to argue that the disproportionate impact of the shortages required immediate and non-negotiable remedy.

As the third week of the strike began, one of the wildcat leaders, a West Virginia miner named Ellis England, was receiving death threats, being called "everything from Robin Hood to a radical" and "even had a gentleman who referred to [him] as an anarchist," when he was invited to answer West Virginians' questions about the now protracted strike on the show of Dan Lucas, a local radio host.[136] The nature of the strike's perceived transgression became apparent as Lucas questioned Ellis about the strike's intentions:

> Lucas: If you were called an outlaw today, how would you respond to it?...
>
> England: Well, everyone has a right to their opinion.
>
> Lucas: Yeah, but how would you respond? Are you an outlaw?
>
> England: No.
>
> Lucas: A union outlaw. You know outlaw (quote, unquote). I don't mean a criminal, you know, being chased down by the law. I'm talking, Ellis, are you an outlaw, are you a union radical?[137]

Lucas's comment, certainly steeped in a Cold War fear of radicalism, also spoke to a system of adjudicating right and wrong that had been upended, and which couldn't be defined by the bounds

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[134] UMW Research Department Memorandum, "West Virginia Gas Shortage," March 2, 1974. UMWPO, Box 203, Folder 16; CBS Saturday Evening News Transcript, March 9, 1974. UMWPO Box 203, Folder 16.
[135] Joseph A. Yablonski, on behalf of the UMW, to William E. Simon, FEO administrator, March 11, 1974. UMWPO, Box 203, Folder 16.
[136] Don Lucas Show, transcript, March 11, 1974. UMWPO Box 203, Folder 15.
[137] *Ibid.*

of legislation and common law, nor could it be contained within the question of the collectively bargained labor contract. This exchange, however, becomes intelligible when viewed from the perspective of competing views of what energy democracy meant and how it should be carried out. It also fit into a long history of new working-class formations being established through such forms of transgression against an established form of order, as E.P. Thompson outlined in *The Making of the English Working Class.*[138]

Since 1968, black lung strikes had snowballed into safety strikes which then grew into political strikes and had now expanded into strikes over energy access. Peace in the coalfields across the 1950s, it appeared at the moment, had disappeared entirely and the weakness of the old regime form of collective bargaining suddenly found itself on full display. After all, one of the miners who called in to challenge Ellis on the radio was right when he said, "nowhere in that contract does it call for a strike of any kind. A gas strike to me is illegal so…I think we ought to go back to work."[139] Many miners supported the strike however, even if they were critical of figures like England. One miner who spent most of a three page letter to Arnold Miller complaining about the wildcat leaders nonetheless felt "the ¼ tank strike was justified."[140] Like the black lung and safety strikes in previous years, which had challenged the boundaries between workplace and politics structured by the postwar system of industrial relations, the gasoline strike pointed to the ways in which the transformed industry had blurred the lines between worker and citizen, producer and consumer, in new ways, and how energy served as a key bridge by which miners could negotiate these new muddy waters. Charlie Swaggerty, one of the strikers, captured the tension

[138] E.P. Thompson, *The Making of the English Working Class* (New York: Vintage, 1963).
[139] *Ibid.*
[140] John Doe (letter writer used this pseudonym to sign his letter) to Arnold Miller, March 26, 1974. UMWPO Box 203, Folder 15.

when he joked with a reporter that striking "was my patriotic duty…Like the President said, I was just conserving my energy."[141]

On the one hand, miners' employment in the energy industry contractually bound them, as part of the national BCOA-UMWA agreement, to produce coal—coal which overwhelmingly went to providing the nation's electricity. On the other hand, they felt that it was their right as citizens to be able to secure gasoline to travel to and from work without running out of gas and being forced to sleep in the mine bathhouse, or without a gas station attendant poking his head into their car to check the fuel level. The fact that they occupied both roles, they felt, was the basis of their claim to a greater allocation of the nation's gasoline—an argument which the union's leadership accepted and used as they tried to devise a legal argument which could be used in a suit against the Federal Energy Office. Joseph A. Yablonski—the union's general counsel and the son of Jock Yablonski—wrote a memorandum to the international officers that he felt the miners did in fact have a legal claim to higher allocations because the "miners were engaged in energy production."[142] Most people felt it was the obligation of miners to produce coal in a moment of national crisis, but this obligation was one unique to an age of energy crisis and did not clearly fit into pre-existing relationships of workplace democracy or citizenship.

Miners, on the other hand, continued to argue that the energy companies were ultimately responsible for the strike. First, the demand for increased coal production and subsequent investment in new mines and additional shifts by the energy companies meant that the need for gasoline could not be accurately estimated by the Federal Energy Office, which was relying on 1972 usage for a baseline. Although the Federal Energy Office had a goal of supplying the southern coalfields at 83 percent of normal usage—9.13 million gallons a month, based off the 1972

[141] Quoted in James T. Wooten, "West Virginia's Mines Conserving Their Own Energy in Gasoline Strike," *New York Times*, March 12, 1974, *PQHN*.
[142] Memorandum, Joseph A. Yablonski to Arnold Miller, Mike Trbovich, Harry Patrick, Rick Bank, Tom Bethell, James Haviland, and Steve Jacobson, April 23, 1974. UMWPO, Box 203, Folder 15.

consumption numbers—the UMW research office concluded that 83 percent of estimated need would have actually totaled about 12.7 million gallons of fuel. The problem, however, was not only that the estimates were far short of actual need, but the promised gasoline rations didn't appear to be reaching the region at all. Of the 9.13 million monthly gallons promised, UMW research director Tom Bethell wrote, "during the past 2-3 months of shortages, they have been getting only about 6 million gallons per month." In other words, 55 percent of the 1972 usage numbers, which constituted just two-thirds of the promised fuel resources. He concluded that "neither the quarter-tank rule nor any other conservation measure will be sufficient to prevent widespread dislocation of the area's economy sooner or later." The real problem which had to be addressed, he suggested was the "sluggish" response of the energy companies which couldn't seem to agree "on the extent of the crisis." Even after the FEO had ordered the major energy companies to supply 1.18 million gallons in additional gas in late January, the gasoline had failed to materialize by mid-February. As the acute shortage deepened, the FEO ordered another injection of energy on February 19—"a 'booster-shot' amounting to 3.98 million gallons." Instead, on February 20, Governor Moore instituted the quarter-tank rule, and less than five days later, he also ordered gas stations to close on Sundays.[143] While the UMW worried that waging war against the FEO would destroy the miners' claim that "UMWA members want [energy] fairness for everybody," Moore's restrictions appeared to work in favor of the energy companies, which the UMW believed were hoarding fuel to drive up prices.[144] The problem wasn't necessarily the idea of allocations; but rather that access to energy under Governor Moore's system of allocations was not reflective of the general public interest.

[143] UMW Research Department Memorandum, "West Virginia Gas Shortage," March 2, 1974. UMWPO, Box 203, Folder 16.
[144] Tom Bethell to Rick Bank, March 11, 1974. UMWPO, Box 203, Folder 16.

Such inequities in access seemed all the more undemocratic in such an energy-rich region of the country, even if coal could not be pumped into miners' gasoline tanks. Bethell noted that many believed the whole crisis had resulted from conspiracy on the part of the energy companies:

> There is a general belief that the whole gas shortage is contrived by major companies who are hoarding/storing supplies while whipsawing the public and government in order to get wide-scale price increases. This belief was simply strengthened by the Governor's order.[145]

As the energy companies appeared to negotiate with small injections of fuel—650,000 gallons from Conoco, another 650,000 from Continental Oil's facility in Roanoke, Virginia—the UMW charged the energy industry with consolidating its new regime with newfound economic and political power. By mid-March, UMW officials still doubted the ability of the FEO to "guarantee that the flow of gas into West Virginia will be distributed equitably." As long as the energy companies continued to control the final sales of gasoline, Arnold Miller's assistant Rick Bank wrote in an office memo, "this nightmare is far from over."[146]

However, despite the fact that the energy companies appeared to be the target of the strikes, and although the stoppage did impact electricity production, the first companies impacted severely enough to take the matter to court were not the energy companies but the steel companies.[147] Energy industry diversification might not have stabilized the nation's energy supply efficiently, but as gatekeepers, the energy companies could control energy access sufficiently to protect their own bottom line. The steel companies, on the other hand, relied on quite specific qualities of bituminous coal which could be used in steel production; the process couldn't easily substitute other fuels. The quality of coal they relied on was primarily sourced from southern West Virginia.[148] As the strike entered its third week, US Steel indicated that unless production resumed,

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[145] UMW Research Department Memorandum, "West Virginia Gas Shortage," March 2, 1974. UMWPO, Box 203, Folder 16.
[146] Tom Bethell to Rick Bank, March 11, 1974. UMWPO, Box 203, Folder 16.
[147] Memorandum Opinion, *Armco Steel Corporation et al v. United Mine Workers of America et al*, March 12, 1974. UMWPO, Box 203, Folder 16.
[148] UMW Research Department Memorandum, "COAL-PRODUCING COUNTIES PRIMARILY AFFECTED BY GAS SHORTAGE," March 2, 1974. UMWPO, Box 203, Folder 16.

and quickly, "it may need to furlough more than 50,000 steel workers because of its decreased supplies of metallurgical coal."[149]

The steel industry began a full legal and legislative campaign against the striking miners and their union. Bethlehem Steel led efforts to appeal for legislative change that would prohibit strikes in the energy industry. In a March 11 telegram to Representative Ken Hechler (D-WV), Bethlehem Steel president Lewis W. Foy called for "EMERGENCY LABOR DISPUTES LEGISLATION…WHICH WOULD PROHIBIT ANY STRIKES IN PROTEST OF ENERGY RELATED PROBLEMS."[150] Importantly, although Bethlehem produced steel, it also understood this strike as fundamentally about the energy crisis. The legislation it sought was not confined to an injunction against strikes at their mines, nor was it concerned with securing supply for steel production, but instead chose to exploit the energy crisis to upend a system of industrial relations which had—grudgingly, on the part of the companies—accommodated contracts which lacked a no-strike clause. Just as the UMW reformers had sought to rearticulate the boundaries of what constituted the industries where their members worked, this intervention by the steel companies represented an attempt to reshape a culture of labor relations supported by the New Deal system of labor law.

As Bethlehem appealed to legislators, Armco Steel led the charge to the courts. The brief the companies' counsel filed in support of a court injunction against the strike opened by arguing the "avowed purpose of the strike is to cause such economic damage to the plaintiffs, those who do business with them, and the public in general, that the executive branch of the Federal Government…will be compelled to change certain…regulations…affecting the allocation, distribution, and sale of gasoline." They further argued that the since the steel industry had "no

[149] Joseph A. Yablonski, on behalf of the UMW, to William E. Simon, FEO administrator, March 11, 1974. UMWPO, Box 203, Folder 16.
[150] Telegram, Lewis W. Foy to the Hon. Ken Hechler, March 11, 1974. UMWPO, Box 203, Folder 16.

power over the allocation and distribution of gasoline, and are wholly unable to grant to the defendants the demands which are the avowed object of the strike."[151]

H.E. Widener, a US Circuit Court judge, granted the injunction the next day echoing nearly verbatim the argument presented by the counsel of the companies. The striking miners, he agreed, were indeed outlaws because they demanded "a sufficient supply of refined petroleum products to suit their whims," without regard to the provisions of the 1973 Emergency Petroleum Allocation Act. This action, he concluded, in full agreement with the companies, unfairly targeted "the flow of bituminous coal in interstate commerce…as a source of energy" and had rendered the companies "unable to fulfill contracts." It also represented a defiance of the court's view of democracy, Widener concluded, since the Emergency Petroleum Allocation Act was an extension of power by a democratically elected government. He drew a fundamental distinction between the "disruption" caused by the fuel shortages and the "disruption" caused by the miners. One was an expression of Nixon's "law and order;" the other was antithetical to that order.[152]

Crucial to appreciate is newness of this is the newness of legal reasoning, since it tied together employment law and energy regulation together in the context of the energy crisis. Widener believed there was a public interest not only in protecting the contract obligations of employers but also in ensuring that energy democracy was carried out by the body that had the vested power to do so: the federal government. The ruling rested on the tying together of three legal threads—the Sherman Act, a pillar of antitrust legislation, the authority to regulate flows of energy which had been instituted by the Emergency Petroleum Allocation Act, and the common law precedent which prevented interference with the employment contract. This legal move

[151] Appellant's Brief*, Armco Steel Corporation v. United Mine Workers of America*, Temporary Emergency Court of Appeals of the United States, March 12, 1974. UMWPO, Box 203, Folder 15.
[152] Memorandum Opinion, *Armco Steel Corporation et al v. United Mine Workers of America et al*, March 12, 1974. UMWPO, Box 203, Folder 16.

represented a legal basis for the consolidation of the new energy regime which tightly bound control of labor relations with the flows of energy domestically.[153]

Within forty-eight hours of the ruling, and alongside escalating violence on the picket lines, striking miners began to return to work, but with substantial concessions from the state and federal governments.[154] Governor Moore was forced to lift the quarter-tank cap, meaning miners could now fill their tanks completely, and the Federal Energy Office promised 18 million gallons of increased gasoline supplies for the state in March.[155]

A Crisis of Power

Such upheaval, with such large implications, remained tied back to the December 1973 debate over the convention hall lights in the early days of both the energy crisis and the Miners for Democracy administration. While disparities in financial power couldn't explain both, energy democracy could. The long energy crisis, and especially the peak from 1973 to 1974, transformed energy democracy from an unmoored potentiality into a cogent pole of organizing across the coalfields. It allowed miners to connect an increasingly abstract concept of energy with the organizing based on material perils that had driven the reform in the UMW over the same time period. This connection between the transformation of coal into energy reflected a transformation of coalfield power—from coal into energy, from coal miners into energy workers. More than a mere semantic shift, it represented that as the new energy companies' control of the industry the new American energy regime was challenged, it helped to cement the energy regime more broadly.

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[153] Memorandum Opinion, *Armco Steel Corporation et al v. United Mine Workers of America et al*, March 12, 1974. UMWPO, Box 203, Folder 16.
[154] Wayne Scarberry, "Two Mine Pickets and One Woman Shot at Keystone," *Welch Daily News*, March 13, 1974. UMPWO Box 203, Folder 15.
[155] UPI, "10,000 Miners End West Virginia Strike, 15,000 Still Idle," *New York Times*, March 15, 1974, *PQHN*. UMWA Statement, March 13, 1974. UMWPO, Box 203, Folder 15.

It also shaped the balance of power with which miners would contend as they bargained their subsequent national contracts in late 1974 and 1977-78. While on the one hand the wildcat gasoline strikes had resulted in what appeared to be a major political victory for the miners—despite the injunction which had ordered them back to work and had laid the basis for a new legal regime to govern energy workers—on the other hand it also represented a material weakening as miners lost more than $10 million dollars in wages across the coalfields, draining down the savings they needed in order to hold on during the strike most of them expected later in the year.[156]

The process of democratic reform inside the UMW had simultaneously encouraged a new generation of miners to take politics into their own hands as they sought to rebuild their union while they also faced the challenges of a newly reformed and consolidated energy regime. Energy democracy had emerged as a key battleground in the Appalachian coalfields, and while it built on the broader vision for the coalfields forged by Jock Yablonski's campaign and continued by the Miners for Democracy, the relationships of power miners had to contend with in order to exercise it were in flux as the energy crisis had thrown the nation into political turmoil.

[156] Joseph A. Yablonski to William E. Simon, March 11, 1974. UMWPO, Box 203, Folder 16. Don Lucas Show Transcripts, March 11-13, 1974. UMWPO, Box 203, Folder 15.

Chapter Six

The Revolution of Declining Expectations
Energy Crisis, Malaise, and the Remaking of Coalfield Power

As Jimmy Carter crossed the United States seeking re-election in 1980, he stopped in West Frankfort, Illinois to give an energy policy speech at one of the nation's largest industrial graveyards. On the site of a mine explosion which killed 120 "brave" miners in 1951, Carter thanked coal communities for their "great contribution" to the United States' industrial history, and—he hoped—its energy future. Carter chose the site, which he believed—incorrectly—was "the worst of any mining disaster in the United States," to promote his plan for a national energy policy, to affirm that "America indeed is the Saudi Arabia of coal." He appealed to miners to see their fates bound up with the fate of coal: "I believe that you recognize that coal production is not only good for you and for your families, with a sustained income and a healthy life." Furthermore, he reminded them that the importance of coal extended far beyond the coalfields, for production of the nation's most abundant fossil fuel was central to the "economic and national security of the United States."[1]

Carter's one-term presidency was in many ways defined by the energy crisis, which he presented as not only a threat to national security, but a basic and existential threat to the American way of life, built on fossil-fueled affluence. Usually remembered from the perspective of the 1979 oil shock that coincided with the Iranian revolution, the final years of the energy crisis in fact encompassed a destabilization of the entire energy regime. The institutions which governed suffered problems of legitimacy, the public firms which organized its production with increasing suspicion and shifts in international geopolitics and economics disrupted the global flows of energy upon which American hegemony had been premised. These years of the crisis were defined by

[1] Jimmy Carter, West Frankfort, Illinois Remarks to Miners and Employees of Old Ben Coal Mine No. 25. October 13, 1980. *APP.*

three events that stretched across fuels—the oil shock, the 1977-78 national coal strike, and the 1979 accident at the Three Mile Island nuclear generating station. Coal, however, stood out from oil and nuclear power because it was seen not only as part of the problem, but as a central part of any resolution to the crisis. Energy democracy, as it had come to be defined since the beginning of the energy crisis in the 1960s, still drew on imaginary coal-fired stability.

Carter chose to visit West Frankfort not only because of the industrial history it represented, but because increasingly trans-regional relationships of electric power tied the West Frankfort community to his home state of Georgia. These relationships had been forged during Carter's time as governor, when "we made a basic decision…that our electric power would stick with coal." He claimed "These two mines originated…because of orders from Georgia Power Company." As he continued his appeal for their votes, he drew on this energetic relationship in language that pointed to the way that energy relationships intertwined with other forms of exchange, both commercial and political: "I have a special deal with you, right? As a Georgian, good customer, and also as President."[2] The effort of the Georgia Power Company to expand coal use came as the aftermath of the first peak of the energy crisis in the fall of 1973 sent fuel prices spiking—oil prices yes, but also the prices of coal and natural gas—even as Georgia Power was in the process of modernizing electricity access across the state.[3]

But if Carter chose a site that emphasized his electric connections to the miners in West Frankfort, his visit also underscored how the balance of coalfield power had shifted, and how recent landmark events, like the deadly explosion at the Consol No. 9 mine just twelve years

[2] Jimmy Carter, West Frankfort, Illinois Remarks to Miners and Employees of Old Ben Coal Mine No. 25. *APP*.
[3] UPI, "Ga. Power Says Economic Future Looks Disastrous," *Atlanta Daily World*, November 17, 1974; UPI, "Ga. Power Gets US Loan of $513 Million," *Atlanta Daily World*, January 9, 1975. *PQHN.* These efforts were also undertaken in response to the passage of the Georgia Territorial Electric Service Act, which consolidated electrification services and set a framework for energy governance on the consumer end in the state. Many, including municipal utilities, saw this as a power grab, and the sign of growing power and influence by the large utilities which demonstrated a "gnawing, cancerous kind of greed that grips one who sees a monopoly within reach." Casey Cater, "Regenerating Dixie: Electric Energy and the Making of the Modern South," Ph.D. diss., Georgia State University, 2016.

earlier, had faded from public memory. Carter never visited the site of that disaster, in Farmington, West Virginia. And while the West Frankfort disaster had killed more miners than the 78 killed in the Consol No. 9, it was also far from the worst American mining disaster; that dubious distinction belonged to the 1907 Monongah disaster which killed at least 362 miners.[4] In drawing a line between the old and deadly coal industry represented by the West Frankfort disaster and modern American energy production, he also ignored the more recent disaster at the Consol No. 9 just twelve years before. While the Consol disaster had brought national attention to the structural problems of postwar energy production, the reopening of the West Frankfort mines suggested that eastern coal, thought to be in decline, could still power a presidency—a presidency that had finally forged a national energy policy and created a cabinet position dedicated to it. In the process, he sought undermine the claim that the basic problems of danger and pollution—which had driven more than a decade of activism and regulatory efforts—represented a threat to a coal-fired future:

> We are showing that this country can produce more and discover more and conserve more energy and that we can use American resources, American knowledge, and American jobs to do it…We're also mining and using coal more safely…The American people have to accept coal as both a clean fuel and a safe fuel.[5]

This was a statement directed as much at the nation's miners as at the general public, which in the wake of the "environmental decade" and nearly three decades of efforts to address air pollution had become increasingly skeptical of coal's ability to power the nation.[6] The memory of Consol No. 9, a mining disaster from the machine age rather than the pick-and-shovel era, would certainly have undercut the message that coal, in its modern form, was a clean and safe fuel, one capable of propelling the nation through an energy transition away from oil and gas and toward a more stable

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[4] McAteer, *Monongah.*
[5] Jimmy Carter, West Frankfort, Illinois Remarks to Miners and Employees of Old Ben Coal Mine No. 25. October 13, 1980. *APP.*
[6] Committee on Government Operations, "The Environmental Decade: Action Proposals for the 1970s," (Washington, DC: US Government Print. Off., 1970); Sellers, *Crabgrass Crucible*; Samuel. P. Hays, *Explorations in Environmental History* (Pittsburgh, PA: University of Pittsburgh Press, 1998); Scott Hamilton Dewey, *Don't Breathe the Air: Air Pollution and US Environmental Politics* (College Station: Texas A&M University Press, 2000); Benjamin Kline, *First Along the River: A Brief History of the US Environmental Movement* (Lanham, MD: Rowman and Littlefield, 2011); for conservative backlash, see Layzer, *Open for Business.*

energy future. Although his national energy program spoke to a distant future potential for renewables and other "nonconventional" forms of energy, the immediate energy transition which Carter envisioned was "to plentiful coal, while taking care to protect the environment."[7] Whether such a transition was possible drew doubt from many quarters. From doubt re-emerged the basic tensions which had characterized the American energy regime as coalfield Fordism struggled to find stasis in the postwar era, the atomic age, the Great Acceleration: labor unrest, environmental degradation, the expansion of corporate control, the moral unease at the suffering of the nation's miners, the difficulties of democratizing energy access and production simultaneously.

Four decades after the Wagner Act had declared the routinization of collective bargaining as the answer to "industrial strife or unrest," conditions in the US coalfields—and the American workplace more generally—had forced a reconsideration of these basic assumptions about the ability of legally mandated and recognized avenues to mediate workplace conflict in a tumultuous period defined not only by energy crisis, but also by the linked problems of stagflation, deindustrialization, and globalization.[8] These problems, despite being embedded in an increasingly global system of commodity trading and financialization, were powerfully regionalized experiences which seriously undermined the prospects for effective national policy-making, including making policies governing the production or consumption of energy.[9]

The terrain on which the "political mediation" of the second peak of the long energy crisis took place had shifted from just a decade before—structurally, culturally, and legally—and as the United Mine Workers struggled to find its place in the nation's energy landscape, it found its ability to secure a seat at the table had declined substantially. With national security and workplace

[7] Jimmy Carter, The Energy Problem, April 18, 1977. *APP*.
[8] National Labor Relations Act, 29 U.S.C. § 151; Jefferson Cowie, *Stayin' Alive*, 357-369; Leo Panitch and Sam Gindin, *The Making of Global Capitalism: The Political Economy of American Empire* (New York: Verso, 2013), 111-172.
[9] Cowie, *Capital Moves*; Frederickson, *Looking South*; Needham, *Power Lines.*

democracy at odds in a nationally visible way, the rights and obligations of energy citizenship once again became the subject of contestation. But if in the earlier peaks of the energy crisis—1969 and 1973-74—the Federal government had "puzzled" the changing energy landscape, in the last years of the 1970s, it "powered" it incompetently, neither prepared to cultivate raised expectations for national energy policy, nor up to the task of governing diminished ones.[10] In the nation's energy base—the coalfields—the crisis consolidated the larger energy regime, remaking the bounds of acceptable workplace action and diminishing the expectations of energy governance.

Despite the widespread belief that the energy crisis which gripped the nation under the Carter administration represented the end of an energy-abundant society, in the end, the second peak of the energy crisis perhaps better demonstrated the capacity of energy politics to reshape other relationships—like those of employment. The lowered expectations of the nation's unionized coal miners, in turn, curbed their own political imagination and further yoked the nation to its mixed fossil fuel portfolio, even as the potential of climate change became increasingly worrisome.

The Energy Crisis from the Coalfields

If coal was going to solve the energy crisis as Carter hoped, it's production would have to expand rapidly, and far beyond serving mostly as the nation's primary source of electricity to also deliver long-promised synthetic fuels.[11] That challenge seemed less and less likely to be met as productivity declined in the nation's mines despite massive capital investment.[12] Operators insisted these productivity declines were the result of safety and environmental regulations, and that the

[10] The "puzzle before they power" way of understanding new forms of governance is adapted from Margot Canaday, *The Straight State: Sexuality and Citizenship in Twentieth-Century America* (Princeton, NJ: Princeton, 2009) and Hugh Heclo, *Modern Social Politics in Britain and Sweden: From Relief to Income Maintenance* (New Haven, CT: Yale University Press, 1974), 305.
[11] Jimmy Carter, West Frankfort, Illinois Remarks to Miners and Employees of Old Ben Coal Mine No. 25. October 13, 1980. *APP.*
[12] General Accounting Office, *US Coal Development—Promises, Uncertainties: Report to the Congress*, (Washington, DC: US General Accounting Office, 1977).

regulations would have to be undone, at least in some measure, in order to allow the industry to meet its obligation to the nation.[13] The moral economy of the American energy regime, which had been tentatively rebalanced by these regulations amid a precarious fuel supply situation, seemed fundamentally incompatible with the demand for increased coal production. Coal supply was not a resource problem in the 1970s—the industry had 150 million tons of untapped capacity, left idle as coal executives worried they would not be able to sell the coal if it were mined.[14] As underground mining continued to be a volatile operation, strip mines presented a relatively safer alternative, but inflicted even higher ecological costs on coal communities. And while strip mining was effectively expanded in the west, particularly the Powder River Basin, it remained controversial in the eastern coalfields, where the practice was more likely to be seen as mechanization in its most destructive form, and to be denying jobs to underground miners As stripping continued to expand, the share of coal produced in the West began to outpace development of reserves in the east. Problems of coal supply were inflected not by short term concerns about supply but instead by long-range concerns about the fuel's compatibility with a new political landscape. As ambivalence about the future of growth spread, it constituted a form of what the political scientist Walter Rosenbaum referred to as "ambiguous abundance."[15]

The externalities of coal production presented the nation with a paradox: that the fuel Carter administration officials claimed might secure the nations' energy future caused death at both the

[13] CQ Researchers, "America's Coal Economy," April 21, 1978; GAO, *US Coal Development—Promises, Uncertainties*; Opening bargaining statement of the Bituminous Coal Operators Association, October 6, 1977. MFDR Box 11, Folder 16.
[14] *Proceedings of the President's Commission on Coal Labor-Management Seminar I*, March 21, 1979, 28-29.
[15] Walter A. Rosenbaum, *Coal and Crisis: The Political Dilemmas of Energy Management* (New York: Praeger, 1978), 1. The roots of the 1970s degrowth movement could be found in texts like *The Limits to Growth* and *Small is Beautiful*, but the general ambivalence about growth ran deeper, and was the result of economic and political uncertainty as much as environmental constraints. Donella H. Meadows, Jorgen Randers, Dennis L. Meadows, and William W. Behrens, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (Milford, CT: Universe Books, 1974); E.F. Schumacher, *Small is Beautiful: Economics as if People Mattered* (New York: Harper Perennial, [1973] 2010); Robert M. Collins, *More: The Politics of Economic Growth in Postwar America* (New York: Oxford University Press, 2000); Robert Brenner, *The Economics of Global Turbulence: The Advanced Capitalist Economies from Long Boom to Long Downturn 1945-2005* (New York: Verso, 2006).

point of production and the point of consumption, dealing a double blow to consumer-producers like the nation's miners. How could the externalities of coal production be passed on to the very people being killed by coal pollution?[16] As the energy crisis reached its zenith in the last years of the decade, the nation's emerging bench of energy leadership—not least among them the new cabinet department granted to energy—came to accept that the costs of coal production, measured in the damage to public health and the nation's environment, had to be balanced with the severity of the energy situation. A threatened energy future represented a crisis of the highest order, "the moral equivalent of war," and war had a way of rebalancing the ledgers of political risk.[17]

Coal seemed all the more appealing in the wake of the most recent oil shock, driven by the Iranian revolution. Carter was desperate to appear as though the situation was under control—"this time our country has been ready…you've not seen any lines, and you've not seen the world brought to its knees by a temporary shortage of oil."[18] Keen observers, however, understood that the problem ran deeper, and that it was not an Iranian problem, but an American one. In the wake of the 1969 Consol disaster, J. Cordell Moore had chided West Virginia Democrat Ken Hechler that, "nobody did this on purpose," invoking the power of the machine and the potentially dehumanizing effect of large technical systems which sometimes appeared to take on mythic proportions.[19] Now, the advent of malaise offered time to consider the predicament differently, tinged with national tragedy.[20] Rep. Nick Rahall (D), who represented the southern West Virginia coalfields, described the energy crisis as self-inflicted, if not altogether tragic:

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[16] The General Accounting Office wrestled with this problem when it studied the feasibility of Carter's National Energy Plan. GAO, GAO, *US Coal Development—Promises, Uncertainties*, especially 9.11-9.12.
[17] Jimmy Carter, Address to the Nation on Energy, April 18, 1977. *APP.*
[18] Jimmy Carter, West Frankfort, Illinois Remarks to Miners and Employees of Old Ben Coal Mine No. 25. October 13, 1980. *APP.* According to Clayton, amid a longer period of generalized anxiety about oil markets and production, the 1979-1980 period represented a true shortage which disrupted global supply chains driven primarily by political unrest. Blake C. Clayton, *Market Madness: A Century of Oil Panics, Crises, and Crashes* (New York: Oxford University Press, 2015), 95-130.
[19] Alf Hornborg, *The Power of the Machine: Global Inequalities of Economy, Technology, and Environment* (Lanham, MD: AltaMira Press, 2001)
[20] Zaretsky, *No Direction Home.*

> No one forced us into this predicament. The sheiks in Abu-Dabi [sic] didn't force us to drink their oil. They didn't force it down our throats and say, "Here, drink up." No one forced us to build nuclear power plants…No one has forced us to price our coal out of the competitive world markets. No one forced us not to develop a synthetic fuels program many, many years ago. No one forced us not to convert our oil and gas-burning facilities to coal. No one forced us to do these things. We did it to ourselves, and we have no one to blame but ourselves.[21]

The major coal disruption in this period—the national coal strike of 1977-78—proved however, that coal did have one major and immediate problem: the complete breakdown of normal labor relations. Only weeks after the Shah had been toppled in the wake of months of strikes and protests across Iran, destabilizing global oil supply chains for the second time in less than a decade, the members of the President's Commission on Coal met to discuss the energy crisis from another vantage point: the collective bargaining crisis in the coalfields. After the nearly simultaneous democratization of the United Mine Workers and impact of the oil shock that together brought the problem of energy to national forefront, five years of nearly unabated and seemingly random work stoppages had undermined the typical American practice of collective bargaining, in which strikes only occurred once a contract had expired, and usually only within the parameters set by the national leadership of the union. Even in a decade that would become increasingly remembered among historians for wildcat activity, coal mines experienced strikes at three to five times the average workplace by the late 1970s.[22] These wildcats spiked even after the first peak of the energy crisis had passed in 1974. They grew beyond the rates of the 1969 rebellion, despite the fact that landmark health and safety legislation had been passed. The rapidly increasing rate of wildcat

[21] Address of Rep. Nick J. Rahall (D-WV), transcribed in *Proceedings of the Forty-Eighth Consecutive Constitutional Convention of the United Mine Workers of America* (Washington, DC: UMWA, 1979), 3.

[22] In 1976, 6.75% of working time was lost in unionized coal mines, compared to 0.19% in all industry; in 1977, this disparity sharpened, with 10.33% of working time lost in unionized coal mines and 0.17% lost in all industry. "Comparison of Idleness Rates Due to Strikes," Bureau of Labor Statistics Data compiled for BCOA contract negotiation preparations, MFDR Box 11, Folder 16. The rates are confirmed by other observers, including in transcript of the President's Commission on Coal Labor-Management Seminars. Miners, of course, were not the only American workers to employ wildcat strikes during this period. For a good survey of rank-and-file rebellion in the United States, particularly in the public sector and the industrial working class, see Brenner et al, *Rebel Rank and File*. As the political climate shifted, collective rebellion became less common, and individual acts of violence—"going postal" became more common in the American workplace. Jeremy Milloy, *Blood, Sweat, and Fear: Violence at Work in the North American Auto Industry, 1960-1980* (Urbana: University of Illinois Press, 2017).

strikes had not even been dissipated by the negotiation and democratic ratification of the first contract under MFD leadership. It led Donald Cook, chairman of the coal-dependent American Electric Power Company, to decry the "new democracy" as "the new anarchy."[23]

If coalfield collective bargaining was to be compatible with a vision of national energy security then "labor peace" would have to be restored. The UMW, who had staked claims to political power on the basis of coal's centrality to national security for decades, and had, since the 1973-74 oil shock, gone as far as to say that miners were the "frontline troops" of national energy policy, had much to lose by being considered an unreliable security ally—though the thousands of young miners who had joined the industry seemed increasingly unimpressed with this national security role, focusing instead on the erosion of their right to strike while under contract.[24] But by the late 1970s, the meaning of national energy security had shifted from an earlier idea of defense mobilization capacity to instead signify the way that energy powered particular visions of consumptive citizenship and provided a certain element of social cohesion. Wildcat strikes called seriously into question the Carter administration plan to whitewash the costs of coal so the nation could rely more heavily on it as a short-term policy to reduce dependence on oil. As journalist Walter Mossberg observed, the "problem of labor stability is causing some serious skepticism about added dependence on coal."[25] As miners' industrial action increasingly appeared at odds with a nationwide vision democratic stability, their labor rights became profoundly politicized.

With the fossil fuel components of the US energy regime already destabilized, a third shock roiled the nation's energy regime in early spring 1979, when a crisis unfolded at the Three Mile Island-II nuclear generating station near Harrisburg, Pennsylvania. The accident—and near

[23] "Coal Negotiations," *Editorial Research Reports* 25 (October 1974): 818. Accessed online.
[24] Arnold Miller, transcribed in *Proceedings* (1973), 9. On the right to strike, see William Cleaver, "Wildcats in the Appalachian Coalfields," in *Midnight Oil: Work, Energy, War, 1973-1992* (Jamaica Plain, MA: Autonomedia, 1992), 169-184; Paul J. Nyden, "Rank-and-File Movements in the United Mine Workers of America, early 1960s-early 1980s," in *Rebel Rank and File*, 173-198.
[25] Walter S. Mossberg, "A Doubtful Ace in the Hole," *Wall Street Journal*, March 16, 1978. *PQHN.*

catastrophe—exposed the structural weaknesses of existing models of energy regulation to the wider public. The accident also affirmed what miners had been saying for a decade, since the black lung strike which had shut down the West Virginia coalfields in the early months of 1969: that assessing the risk of energy choices, and weighing them against the benefits of one system of energy use over another, could not be governed by technocrats. To be solved adequately, they had to be subjected to political mediation. Energy was firmly a subject of democratic concern.[26]

For ascending conservatives, a decade of reckoning over the meaning of democracy and the acceptable risks of energy systems offered incredible opportunity for asserting a new political culture and new economic values.[27] Although conservative ascendance in labor politics remains most powerfully associated with Reagan's 1981 breaking of PATCO, the air-traffic controllers' union, conservatives viewed the crises of the long 1970s as a key ideological battleground over the US economy. The energy crisis was no exception, and as Bethany Moreton has noted, concerns over energy became a powerful mobilizing force for "free-enterprise education" both in classrooms and the national media.[28] One conservative minerals economist, W. Philip Gramm, wrote that "free enterprise" was the "cure" for the national sickness of which energy crisis was the symptom. Deregulation, he argued, had to be the centerpiece of national energy policy so fossil fuel scarcity might finally spur innovation: "The Petroleum Age will pass as did the Stone Age…Only if we eliminate the market incentives for innovation and investment must we face a real, long-term 'resource crisis.'"[29] This attitude was reflective of an ongoing cultural shift that saw incentives and innovation as "resources" in and of themselves on which economic growth

[26] President's Commission on Three Mile Island, *The Need for Change: The Legacy of TMI* (Washington, DC: N.p., 1979), 7.
[27] Jacobs, *Panic at the Pump.*
[28] Moreton, *To Serve God and Wal-Mart,* 146-147.
[29] W. Philip Gramm, "Free Enterprise is the Cure for Energy Crisis," *Human Events (Special Supplement)*, July 9, 1977. *PQHN*. In fact, early efforts at deregulation in the energy sector were more successful in the utility sector. Hirsh, *Power Loss.*

might be built. However, masked by the focus on intangible growth, the integration of computing rendered new forms energy dependency into the practices of investment and trading on which the "new capitalism" was built—servers, monitors, and hardware all ran on electric power.[30] But Gramm's attitude also belied a more basic motive—profit—as he concluded Carter might as well have called his proposal "How Not to Profit from the Energy Crisis."[31]

"The Moral Equivalent of War"

When Carter addressed the nation in the first months of his presidency about the energy crisis and the need for the development of a national energy policy, he claimed the nation faced a "problem unprecedented in our history."[32] Another 1973, he suggested, lurked just around the corner but to worry about gas lines and Middle Eastern politics missed the deeper, structural crisis that would "test the character of the American people, and the ability of the President and Congress to govern this nation." To meet the challenges of the energy crisis would require "the moral equivalent of war:" a government-led campaign to promote economic growth *through* energy conservation, which required equality of sacrifice among all Americans. Through these sacrifices and cultural changes, the nation would finally reckon with the real cost of energy, which could no longer be kept "artificially cheap" by allowing the externalities of production to be foisted on the landscape, to run off into the water, and to be emitted into the air.[33]

Conjuring war to rally the nation was a fraught proposition.[34] Given the still open wounds of the Vietnam war, it seems unlikely that Carter intended to call forth the incredible volatility, the

[30] Richard Sennett, *The Culture of the New Capitalism* (New Haven: Yale University Press, 2006), 83-178.
[31] W. Philip Gramm, "Free Enterprise is the Cure for Energy Crisis," *Human Events (Special Supplement)*, July 9, 1977. *PQHN*.
[32] Jimmy Carter, Address to the Nation on Energy, April 18, 1977. *APP.*
[33] Jimmy Carter, Address to the Nation on Energy, April 18, 1977. *APP.* On energy and culture, see Johnson, *Carbon Nation*; Sheena Wilson, Adam Carlson, and Imre Szeman, eds., *Petrocultures: Oil, Politics, Culture* (Montreal: McGill-Queens University Press, 2017).
[34] Julian Zelizer, *Arsenal of Democracy: The Politics of National Security: The Politics of National Security—from World War II to the War on Terrorism* (New York: Basic Books, 2009), 273-300.

open insurrection, or the fractious polarization that had nearly ripped the nation in two, and which, unresolved, continued to simmer beneath the nation's surface.[35] In spite of Vietnam's lurking shadow, Carter more likely sought to evoke the memory of the "good war," World War II, which in the space of a generation had taken on mythic proportions in American politics. This mythos had been further constructed and strengthened by the growth of national governance, and had been enshrined in the very institutions that had begun to crumble amid the crisis of the 1970s.[36] In conjuring war, Carter called forth images not only of sacrifice, rationing, and battle, but also of large-scale mobilization which—consciously in this case—would remake the American political ethos "in every town and every factory, in every home and on every highway and every farm," through energy transition.[37]

Energy transition was a political, rather than descriptive term. Although Carter sought to ground his vision of the coal-fired transition to a "nonconventional" future in a long trajectory of energy change, from wood to coal, and then from coal to oil, the clean transitions suggested by the term rarely reflected the energetic lives of everyday people—or the political economic systems which governed them—which were more likely reflective of a mix of different energy forms. The place of coal in Carter's energy future was a political claim, one that called for production to more than double within a decade. This proposition, according to the General Accounting Office, was ambitious, and perhaps unattainable—meant more to gesture at energy transition and

[35] Christian G. Appy, *American Reckoning: The Vietnam War and Our National Identity* (New York: Penguin Books, 2016), especially 183-304; David Cortright, *Soldiers in Revolt: GI Resistance During the Vietnam War* (Chicago: Haymarket Books, 2005); Kevin M. Kruse and Julian E. Zelizer, *Fault Lines: A History of the United States since 1974* (New York: W.W. Norton & Co., 2019).
[36] Gerstle and Fraser, eds., *The Rise and Fall of the New Deal Order.*
[37] Jimmy Carter, Address to the Nation on Energy, April 18, 1977. *APP.* Carter has not been the only person to make this kind of connection. See Sparrow, *Warfare State*. More recently, Naomi Klein, Daniel Aldana Cohen, and Kate Aronoff have used this analogy to describe the level of mobilization needed to confront the climate crisis. Klein, *This Changes Everything.*

independence than to actually obtain it. "We will mine [coal] of course," the GAO concluded, "but it is not quite that simple."[38]

To meet the President's energy plan goals, the nation would need to open between 438 and 825 new mines and sink between $26.7 million and $45.5 million in capital into industry development. Between 288,300 and 531,600 new miners would need to be recruited—if enough mining equipment could be manufactured to put them to work. And through it all, miner productivity would have to increase rapidly, after it had been declining for eight straight years. The GAO doubted the massive growth in the industry could take place, especially if environmental protection and worker health and safety were not to be undermined. In practice, they argued, the "true cost" of energy would difficult to assess through markets. "How," they asked, "do you include the cost of a human life [in electricity prices] when coal pollution," both at the mine site and around generating plants, "causes a premature death?"[39] They worried the tenuous moral economy that had been balanced by the Federal Coal Mine Health and Safety Act of 1969, the growth of state laws governing the reclamation of strip mines, and the expansion of environmental protections through legislation such as the Clean Air Act would not accommodate such an increased use of coal. But if the energy crisis was a war, "transition" implied a period of change rather than an indeterminate conflict, a shift of speed rather than a change in direction.

Coal miners and policy makers eager to expand American coal use were not the only ones to see energy production as a war, the mining workplace as a warzone, or to perceive miners as soldiers. Industry leaders also latched onto this language, but by the late 1970s, they were caught up in their own war—a different war—against regulation. The industry leaders' war on regulation not only targeted individual laws and regulations, particularly the Federal Coal Mine Health and

[38] GAO, *US Coal Development—Promises, Uncertainties*, vii.
[39] GAO, *US Coal Development—Promises, Uncertainties*, vii, 9.11.

Safety Act, but also the political culture of regulation, something which was increasingly questioned by people who fell far outside the business community.[40]

When journalist Gordon Chaplin interviewed Bill Long, vice-president of the Dingess Rum Coal Company, Long showed off a "satirical drawing" which he kept close by on his desk of the "modern" coal miner. (Figure 6.1) The figure, however, looked more like a glimpse into a post-apocalyptic future than the images Americans usually associated with modernity: the spectacles long associated with department stores that had shifted to the "lucrative frontier" of the suburban shopping center; the massive infrastructure projects that conveyed a political commitment to growth.[41] As Chaplin surveyed the image, Long assured him, "It's not as funny as it looks. Those safety regulations have cut our production in half."[42] This miner was dressed for war, in Long's view—war against the operator's bottom line. The average observer would have been less likely to see the humor.

Looking closely at the image, one would have to scrutinize the tightly written labels, which included things like "ear protectors," "acid-proof suit," and "methane detector," to find the only thing which might in fact be considered satirical—a "dial a prayer button" about halfway down the miner's left arm.[43] But however illustrative the drawing was of the operator's perspective on regulation, the fact of declining productivity was contested by no one, even if there was some debate over the real cause of the decline—some pointed to safety and environmental regulations,

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[40] Phillips-Fein, *Invisible Hands*; Moreton, *To Serve God and Walmart*; Harris and Milkis, *The Politics of Regulatory Change*; Rodgers, *Age of Fracture*, 60-62. For a deeper study of American regulatory regimes, see Richard A. Harris, "The Political Development of the Regulatory State," in *The Oxford Handbook of American Political Development*, Richard Vallely, et al., eds. (New York: Oxford University Press, 2016).

[41] Lizabeth Cohen, *A Consumers' Republic*, 257; Marshall Berman, *All That Is Solid Melts into Air: The Experience of Modernity* (New York: Penguin, 1988); William R. Leach, *Land of Desire: Merchants, Power, and the Rise of a New American Culture* (New York: Vintage, 1993; David Ekbladh, "Meeting the Challenge from Totalitarianism: The Tennessee Valley Authority as a Global Model for Liberal Development, 1933-1945," *International History Review* 32 no. 1 (March 2010), 47-67.

[42] Quoted in Gordon Chaplin, "King Coal's Klondike: Boom Time for West Virginia," *Washington Post*, February 8, 1976. *PQHN*.

[43] Reproduced in Gordon Chaplin, "King Coal's Klondike: Boom Time for West Virginia," Washington Post, February 8, 1976. *PQHN*.

others to less formal labor disputes and a general disinclination of miners to go to work or to be adequately incentivized by production bonuses. Underground productivity was particularly impacted and had declined by nearly fifty percent since its 1969 high—more than double the rate of declining productivity in surface mines.[44] (See Table 1.)

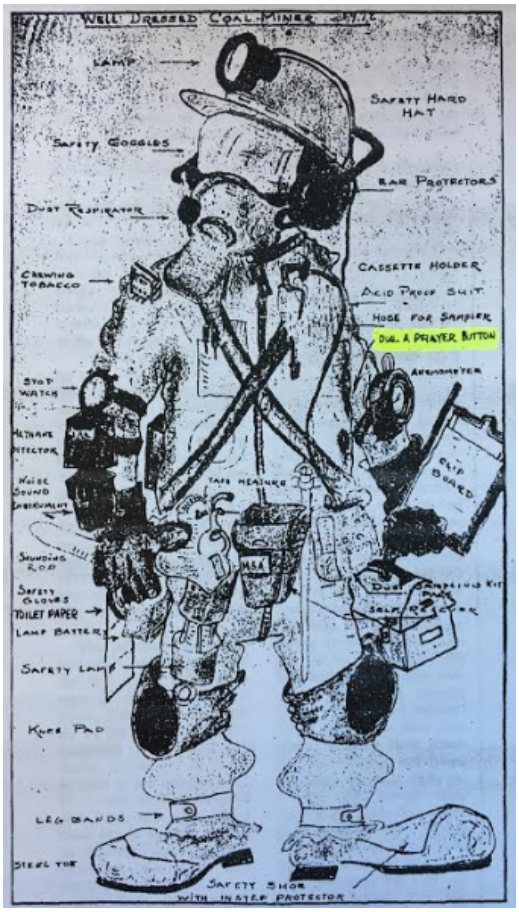

Figure 6.1: Bill Long, vice-president of the Dingess Rum Coal Company drew this "satire" of the "modern" miner. "Dial a Prayer Button" highlighted for legibility. Reproduced in Gordon Chaplin, "King Coal's Klondike: Boom Time for West Virginia," *Washington Post*, February 8, 1976. *PQHN*.

[44] Losses in surface mine productivity also resulted from environmentalist protests, which included sabotage and protesters, often women, sitting in front of bulldozers and chaining themselves to mine equipment. See for example, Sandy Gage, "Women Close Down Strip Mine," *Southern Patriot*, February 1972. Also see Shannon E. Bell, *Our Roots Run Deep as Ironweed: Appalachian Women and the Fight for Environmental Justice* (Urbana: University of Illinois Press, 2013); Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (Chapel Hill: University of North Carolina Press, 2003); Shannon Bell and Y.A. Braun, "Coal, Identity, and the Gendering of Environmental Justice Activism in Central Appalachia," *Gender and Society* 24 no. 6 (2010), 794-813; Joyce M. Barry, *Standing Our Ground: Women, Environmental Justice, and the Fight to End Mountaintop Removal* (Athens, OH: Ohio University Press, 2012).

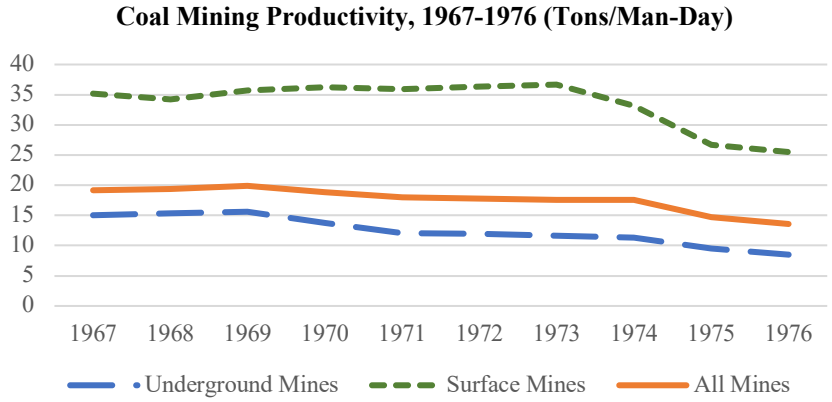

Chart 6.1: Coal Mining Productivity in Underground and Surface Mines, 1967-1976, the figures available at the beginning of the 1977 contract negotiations. Given the spike in wildcat strikes reported by the Bureau of Labor statistics for the early months of 1977, negotiators on both sides expected productivity to decline once again in 1977. From its peak, productivity in surface mines had declined 30.46 percent while in underground mines it had fallen 45.55 percent. The underground decline, which took place over eight years instead of three, and which still constituted a majority of unionized production, was of particular concern for BCOA operators. US Bureau of Mines, "Trends in Productivity, Deep & Surface Mines, 1967-1976," October 6, 1977. MFDR Box 11, Folder 16. This data supported by a broader analysis of productivity trends by the Energy Information Administration, *Annual Energy Review* (2011), Table 7.7.

Whether the expansion of coal use was feasible or not, Carter's framework of energy transition was meant to signal an end to a particular way of life, one which took as given fossil-fueled abundance.[45] The future appeared peculiar and frightening: a world of economic growth and energy conservation, a world that was unfamiliar and illegible to the American public. President Carter had thus escalated the stakes of the energy crisis from an imbalance of supply and demand to an existential crisis about the political and economic fate of the nation before the coal strike—the first of a series of event which plunged the country back into energy crisis—had ever begun. He was echoed by James Schlesinger, the one-time leader of the Atomic Energy Commission and Department of Defense, now head of the newly formed Department of Energy, who decried the fact that the American public "still have not recognized the fact or nature of limits." The political turmoil that followed the unveiling of Carter's energy plan, Schlesinger

[45] For a summary of the place of abundance in American life see David M. Potter, *People of Plenty: Economic Abundance and the American Character* (Chicago: University of Chicago Press, 1958). Also see Nye, *Consuming Power*, 9-10.

suggested, reflected the fact that "It's hard to adjust to the closing of the American frontier and we still haven't adjusted."[46]

Carter's effort to build a national energy policy in the name of conservation certainly cut against earlier leaders who had generally framed domestic energy use in cornucopian and utopian terms. Even amid the 1973-74 oil shock, Nixon's proposals for energy conservation had cast it as a problem of dependence that could be countered by increasing domestic supply, and which still involved the high-energy spectacles of space travel. Where permanent alterations in national energy use might be necessary, Nixon had marshalled the long tradition of American conservationism, a tradition which supported a relatively robust regulatory framework for resource management in the nation's forests and called forth ideas like "sustainable yield" that should not have so easily mapped onto fossil fuel supply.[47] Moreover, Nixon had also sought to assure the public by authorizing new energy development projects which were accompanied by assertions such as "we want enough energy so that America is not dependent on any other country. But we want this to be a beautiful country, and we can have both."[48] In this one statement, he had articulated a national vision for unitary energy and public lands policy that drew on a strong tradition of "multiple use" approaches to land management in the nation's public lands. It had also allowed him to authorize the construction of the trans-Alaskan oil pipeline, a pipeline that would run through the most expansive wilderness areas in the United States—which in the middle of the "environmental decade" might have faced far more scrutiny.[49]

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[46] James R. Schlesinger, quoted in James Reston, "A Philosophic Schlesinger," *New York Times*, October 2, 1977. *PQHN.*

[47] Christopher McGrory Klyza, *Who Controls Public Lands? Mining, Forestry, and Grazing Policies, 1870-1990* (Chapel Hill: University of North Carolina Press, 1996).

[48] Richard Nixon, Remarks on Signing a Bill Authorizing the Trans-Alaska Oil Pipeline, November 16, 1973. *APP.*

[49] On the role of oil and the trans-Alaskan pipeline in the development of public lands policy in Alaska, as well as wilderness policy more generally, see G. Frank Williss, *Do Things Right the First Time—Administrative History: The National Parks Service and the Alaska National Interest Lands Conservation Act of 1980* (Washington, DC: US Department of the Interior, 1985); Charles Davis, ed. *Western Public Lands and Environmental Politics* (Boulder, CO: Westview Press, 2001).

When Carter addressed the nation on the energy crisis in the first months of his administration, he attempted a different approach. Appearing before a national audience in a cardigan, he attempted to grapple with the limits of high-energy capitalism on television. How would the American obsession with growth adapt to the age of conservation?[50] Dependence on fossil fuels, particularly oil and natural gas, had rendered the nation's "economic and political dependence…increasingly vulnerable." In the short term, this dynamic might increase dependence on Arab nations the US viewed as unreliable after the 1973-74 oil embargo, but long-term, he argued, "we would not be able to import enough oil from any country, at any acceptable price."[51] The energy regime which governed the production, distribution, and acceptable use of energy across the nation could not meet the challenges that loomed at the turn of the millennium.

Figure 6.2: Associated Press, Officers of Indiana National Guard survey a convoy of fifty-seven coal trucks guardsmen escorted into the Cayuga Power Plant, February 1978. Printed alongside Reginald Stuart, "Cities Turn Off the Lights as They Run Out of Coal," *New York Times*, February 16, 1978.

[50] On growth in the postwar US, see Collins, *More*; Gordon, *The Rise and Fall of American Growth*.
[51] Jimmy Carter, The Energy Problem, April 18, 1977. *APP*.

The growth through conservation model was uncertain on its own terms. It is difficult to imagine it emerging at another point in American history than from the ominous period of stagflation in the 1970s, when the US economy defied Keynesian economic expectations: inflation and unemployment grew, while the economy stagnated and even contracted. Even though according to Judith Stein, Carter had the economy "under control" by the time the energy crisis peaked for a second time, the national mood struggled,[52] and the realignment of fuels it called for was soon called into question. Coal as the stable fuel that would bridge the gap between the age of oil and nonconventional future seemed far from certain when in December 1977, the United Mine Workers of America walked off the job. The strike, which would last nearly four months, effectively halted half the nation's coal production. Before the strike was over, across Appalachia and the Rust Belt, the energy crisis would be amplified still further, as miners fired on coal-carrying barges and national guardsmen were called in to escort priority coal deliveries, treating Americans to war-like images from the home front. (See Figure 2.) "The moral equivalent of war" was becoming Carter's "equivalent of the Vietnam war" as he faced a threat of open insurrection from the "front-line troops" of energy policy.[53]

Encountering Energy in Everyday Life

The "battle line" strike of 1977-78, usually remembered as one of labor's last stands in the face of a strengthening ongoing employer offensive,[54] was an event which both marked the extent to which American coal production had already changed and also prompted the further catalyzation

[52] Collins, *More*; Judith Stein, *Pivotal Decade*, 205; Harvey, *A Brief History of Neoliberalism*,12-13; Cowie, *Stayin' Alive*, 12.
[53] Curtis Seltzer to Stuart Eizenstat, March 7, 1978. Reproduced in Seltzer, *Fire in the Hole*, 158. Arnold Miller used the phrase "front-line troops" to describe unionized coal miners in the early weeks of the 1973-74 oil embargo. *Proceedings* (1973), 9.
[54] Kim Moody, *Battle Line: The Coal Strike of '78* (N.p.: Sun Press, 1978); Cowie is more ambivalent about the strike's outcome, saying "Few have a clear idea who won," *Stayin' Alive,* 258-259. Navarro concludes it was an even draw, "Union Bargaining Power in the Coal Industry, 1945-1981," *ILR Review* 36 no. 2 (January 1983), 228.

of that process. The BCOA primarily represented operators across the Eastern coalfields. Despite the national shift westward in production, and amid the overwhelming move of coal into the electric power sector over the previous three decades, the BCOA also disproportionately represented the steel companies that were increasingly marginal to the sector overall, particularly as steel plants began to close and relocate.[55] By 1977, the percentage of US coal mined under UMW contracts number had dropped to 50 percent and would continue to decline from its 1968 peak of 74 percent.[56]

Still, like most aspects of US energy politics, regional variation and inequities were substantial in both the miners' strength and, consequently, the strike's impacts. These disparities centered the importance of place in the energy crisis, in how crisis was felt, and how it was imagined, and how people thought it might be resolved. The nine state region most impacted by the strike—Ohio, Pennsylvania, Indiana, Michigan, West Virginia, Kentucky, Tennessee, and the western portions of Maryland and Virginia—relied on coal for more than 90 percent of its electric power, and more than half of that electricity went to industrial use.[57] Although the portion of UMW coal in total national production had been falling over time, and losing tonnage to the western coalfields, the fact that the US lacked "an integrated nationwide system for moving coal around," amplified union power in the region.[58] The distribution problem had been brewing since the dieselization of the railroads decoupled the focus of their capital investments from easy access to

[55] Stein, *Running Steel, Running America*; John P. Hoerr, *And the Wolf Finally Came: The Decline of the American Steel Industry* (Pittsburgh, PA: University of Pittsburgh Press, 1988); Staughton Lynd, *The Fight against Shutdowns: Youngstown's Steel Mill Closings* (San Pedro, CA: Singlejack Books, 1982).
[56] This trend was laid out by the BCOA bargainers in their opening statement and was later corroborated by Peter Navarro. BCOA, statement at opening of the 1977 contract negotiations, October 6, 1977. MFDR Box 11, Folder 16. Navarro, "Union Bargaining Power in the Coal Industry, 1945-1981," 228.
[57] Walter S. Mossberg, "Miner Problems: Federal Effort to Offset Effects of Coal Strike is Likely to Fall Short," *Wall Street Journal*, February 15, 1978. *PQHN*; The disparate impact a strike would have was understood well before the walkout began. Helen Dewar, "A Coal Walkout No Longer Poses an Instant Crisis," *Washington Post*, November 20, 1977. *PQHN.*
[58] Walter S. Mossberg, "Miner Problems: Federal Effort to Offset Effects of Coal Strike is Likely to Fall Short," *Wall Street Journal*, February 15, 1978. *PQHN.*

coal. As coal firms came to need the railroad more than the railroad needed the coal, rate patterns shifted as did the availability of rail cars.[59] Distribution problems were only exacerbated by security concerns: miners or other strike supporters knew well both the terrain as well as the railroads and rivers. By February, one power company had secured 27,000 tons of coal up-river, only to find that the barges could not bring it down to the generating station because "six of the barges have been fired upon, and the barge operators fear other attacks from people sympathetic to the mineworkers."[60] Around the region, "dozens of coal trucks" had been "forced at gunpoint to dump their loads." In one desperate case, Federal officials responded to a "frantic call from the power plant in Logansport, Ind. saying that it would run out of coal in two days." Carter deployed the army to deliver 300 tons of coal "from nearby Fort Benjamin Harrison." The seemingly powerless UMW leadership threw up their hands: "We may see the 1930s again," one official commented to a reporter. "These miners have fought the Army before."[61]

Moving power across the national grid was easier and less likely to be subjected to sabotage. Damaging electric infrastructure would have obscured the moral distinctions that miners made in allowing coal through for hospitals, which often had the ability to burn coal in their own emergency power systems, but not generating stations.[62] However, the most impacted states were also among the largest energy consumers. Other regions didn't have the capacity to sustain the diversion of power long-term, or to increase it much further if the power plants which remained

[59] Beck and Rawlings, "Coal: The Captive Giant." MFDR Box 63, Folder 9. Also see Rosenbaum, *Coal and Crisis,* 36-37; GAO, *US Coal Development—Promises, Uncertainties*, 5.1-5.37; President's Commission on Coal, Summary Findings and Recommendations, March 3, 1980. UMWPO Box 208, Folder 25.
[60] Walter S. Mossberg, "Miner Problems: Federal Effort to Offset Effects of Coal Strike is Likely to Fall Short," *Wall Street Journal*, February 15, 1978. *PQHN.*
[61] "Entering the Doomsday Era: Shutdowns and Blackouts Loom as the Coal Strike Rumbles On," *Time* 111 no. 9 (February 27, 1978), 12.
[62] The article quotes Jim Elias, 50 and a veteran miner from western Pennsylvania: "If anybody tries to move coal to power plants around here, there's going to be hell to pay. We've been letting coal go through for private homes and hospitals all along, but we've got to draw the line somewhere." Quoted in "Entering the Doomsday Era: Shutdowns and Blackouts Loom as the Coal Strike Rumbles On," *Time* 111 no. 9 (February 27, 1978), 12.

on-line had to shut down. Trying to avoid political catastrophe, Energy Secretary Schlesinger admitted he hoped to put off rationing power among the states as long as possible.[63]

The new energy regime centered around the new energy conglomerates, but its transformation was driven by the changing political imperatives driving energy policy—social stability through reliable energy access, democratic governance of energy policy, a balance between the rights and obligations that energy producers and consumers had to one another. The transformation of the regime had been consolidated by the companies largely with a focus on managing energy production in a moment of rapidly expanding demand. Market growth, from this perspective, could be fostered by acquiring new sources of energy—or at least the right to develop them. This supply focused approach emphasized reserves, but it also shifted the terrain for coalfield collective bargaining.

The experience of the 1977-78 BCOA-UMW contract strike also demonstrated how the newly reforged relationships of energy had undermined the bargaining power of union coal miners. Even if the loss of market share to the western coalfields and the formation of energy conglomerates were primarily responsible for miners' loss of power in the sector overall, the ability to "wheel in" power across state lines seriously undercut the effectiveness of picket lines, armed confrontations, and effective sabotage. Still, these new tactics of moving energy and the new stream of coal flowing from non-union mines in the West were not entirely successful. While economists hoped that the increasingly "flexible" economy would be able to respond to the regionalized shortages, across the nation's industrial heartland cutbacks in power access were already underway: the 30 percent reduction in electric power consumption had resulted in a 15 percent reduction in employment.[64]

[63] Quoted in Art Pine, "Economy on Brink of Setback," *Washington Post*, March 6, 1978. *PQHN.*
[64] Alan Greenspan, quoted in Pine, "Economy on Brink of Setback," *Washington Post*, March 6, 1978. *PQHN.*

Within eight months of Carter's infamous pronouncement on the energy crisis, the nation found itself in the uncomfortable position of looking to coal as the nation's first defense against energy crisis even as the certainty of coal's place in the US energy regime once again appeared called into question over whether coal miners could be relied upon to fulfill the obligations of energy citizenship by providing fuel for industrial growth and electric power. This uncertainty was underscored by nagging but persistent environmental concerns which only continued to grow. Increasing attention to acid rain and potential climate change were particularly potent; they could not be easily marginalized to the hinterlands, hollow or reservation.[65]

By 1978, Americans almost exclusively encountered coal in the form of electricity, delivered by wire, usually over a substantial distance. These encounters not only shaped how Americans imagined the way energy worked and framed their images of scarcity—they also played a crucial role in reshaping energy governance, creating new sites for regulation, new moments of ambiguity, and new places in which power relationships might be legitimated or undermined.[66] Paradoxically, the same socio-technological process which had made energy for most Americans into "the abstraction of electricity," with "power generation [becoming] farther removed from

[65] GAO, GAO, *US Coal Development—Promises, Uncertainties*, 6.51.

[66] The idea of the "encounter" as a way of knowing an expansive or intangible object has not been widely applied in the historiography of energy, but is richly developed in other areas of historical scholarship, particularly in understanding the mutual constitution of the state and the gender and sexuality of its citizens, or the way that colonial forms of governance are understood through the encounters with empire that of necessity preclude one from encountering it whole. Canaday used Heclo's formulation of "states must puzzle before they power" to explain how states developed "conceptual mastery" over the objects of its regulation—in this case, homosexuality and gender non-conformity. In the context of colonial history, Luise White and Ann Laura Stoler have both shown how the encounter can help us uncover the ambiguities in colonial worlds often structured by dichotomies. Meanwhile, Sparrow has used the encounter to illuminate the legitimization of state power at the grassroots. Legitimacy, he writes "as a cultural process of political accommodation worked out within the social spaces and economic transactions of everyday life opens up the empirical middle ground," in a manner not unlike the ambiguities Stoler finds in the creation of colonial categories of governance. Canaday, *The Straight State*; Luise White, "Cars Out of Place: Vampires, Technology, and Labor in East and Central Africa," in *Tension of Empire: Colonial Cultures in a Bourgeois World*, Ann Laura Stoler and Frederick Cooper, eds. (Berkeley: University of California Press,1997), 436-450; Ann Laura Stoler, "Rethinking Colonial Categories: European Communities and the Boundaries of Rule," *Comparative Studies in Society and History* 31 no. 1 (1989), 134-161; Sparrow, *Warfare State*, 9-15.

power consumption," both physically and conceptually[67] had also ultimately propelled the politicization of particular fuels to sustain itself. Energy could, *potentially*, be produced from any of a number of sources, but the particularities still mattered. The chemical composition of bituminous coal varied so much across the North American continent that, according to one utility executive, burning Western coal in one designed for Eastern coal was akin to "burning regular gasoline in a car that's supposed to use only unleaded gasoline."[68] While miners throughout this long energy crisis had forced themselves into the national debate, and continued to have a political impact outsized to their numbers or financial clout, they increasingly competed with the electrical utilities—entities with which they had very few channels for direct interaction—over who would shape the narrative of energy in American society, and who would shape the way that ordinary Americans encountered energy in their everyday lives. Amid the strike, the utilities went on the offensive, even as disorganization in the UMW press office undermined the projection of miners' voices and demands into broader American society that had so effectively carried their castigations of the moral failures of energy policy a decade earlier.[69] Utility leaders like Gerald Blackmore, Senior Vice-President for Fuel Supply at the American Electric Power System, argued that "between the coal mining industry on the one hand [and] the independence of energy on the other," the utilities represented "a connecting force," the reaction that turned dirty black coal into bright and clean electricity.[70]

The primary mechanisms utility companies had to shape public perceptions of energy and crisis were through instituting both voluntary conservation programs and mandatory power cuts.

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[67] Daniel French, *When They Hid the Fire: A History of Electricity and Invisible Energy in America* (Pittsburgh: University of Pittsburgh Press, 2017), 102-124.
[68] Stanley G. Schaffer, President of Duquesne Light, quoted in Walter S. Mossberg, "Miner Problems: Federal Effort to Offset Effects of Coal Strike is Likely to Fall Short," *Wall Street Journal*, February 15, 1978. *PQHN.*
[69] On the disparity in the UMW press office between the early years of the MFD and the 1977-80 period, see Curtis Seltzer, *Fire in the Hole,* 152-153.
[70] Proceedings, First public hearing of the President's Commission on Coal, Charleston, West Virginia, October 20, 1978, 57.

These actions communicated powerful messages about the priorities of and for power. These programs also allowed utilities to reclaim the narrative of blackout from a symbol of systemic uncertainty to an omen of recession. In the wake of a massive 1977 blackout which plunged New York City into chaos—an event which Nye argues "foreshadow[ed] a future of [energy] rationing"[71]—utilities intervened in the narrative of the coal strike and energy crisis by leveraging fears of decline: job loss, declining consumption, a world without growth.

Particularly across Appalachia and the Rust Belt, utilities instituted power cut backs, or threatened to do so if energy consumption was not curtailed voluntarily. As a result:

> At the world headquarters of the Westinghouse Electric Corporation, typists and secretaries are using carbon paper instead of electric copying machines to make duplicates of typed materials. Nearly a quarter of the lights in the huge building had been shut off, as have some elevators.[72]

The result of voluntary participation in energy conservation, particularly among retailers, was to communicate the potential of the coal strike's impact to spread into other sectors. Substantial doubt was cast on Energy Secretary James Schlesinger's claim that the strike could put 3.5 million people out of work.[73] Nevertheless, the message of the blackout in the context of stagflation had shifted from portended instability to the promise of unemployment. "People are getting worried," one department store chair told the *New York Times*, "I think it's because of the possible loss of jobs in industry and the fact that this whole thing could snowball."[74] Important to recognize was that this wider impact of a coal shortage operated differently than in other forms of commodity production. In auto, for example, the interruption of a single part's production might radiate out to the industry because it was impossible to build cars without them, and local areas around factories impacted by substantial layoffs might suffer economically, but the threat of a coal strike loomed even larger. Electricity shortages might impact areas and industries with no seeming connection

[71] Nye, *When the Lights Went Out*, 118.
[72] Reginald Stuart, "Cities Turn Off Lights as They Run Out of Coal," *New York Times*, February 16, 1978. *PQHN*.
[73] Seltzer, *Fire in the Hole*, 159-162.
[74] Reginald Stuart, "Cities Turn Off Lights as They Run Out of Coal," *New York Times*, February 16, 1978. *PQHN*.

to the coal industry or coal communities; the potential to snowball was exponentially larger. Less than a year after Carter announced "the energy problem" to be a problem of limits, a darkened workplace read threatened degrowth.

Industrial Citizenship in an Energy Crisis

As the strike lumbered into its third month in late February, negotiations had reached a breaking point, and the Carter administration, which had hedged on coal for their national energy plan, was split over how to resolve it. Some cabinet members advocated federal seizure of the mines, while trade advisor Robert Strauss fell firmly in support of the operators. Energy Secretary James R. Schlesinger, former head of the Atomic Energy Commission, stood behind the BCOA as well, and argued the President should invoke Taft-Hartley.[75] "The coal strike," he argued, had "taught the nation the absolute necessity of achieving long-term stability in the mines…the industry is just going to have to be induced to institute proper labor relations."[76] Yet despite all the wildcats of the previous decade, the 1977-78 strike fell well within the UMW's contractual rights and legal obligations. "Proper labor relations," instead, suggested that finally, three decades after Taft-Hartley had passed amid unrest at the nation's atomic facilities, the special state of emergency that had existed in the atomic workplace could now be generalized—particularly in the energy sectors which Federal officials saw as uniquely tied up with the political destiny of a nation confronting fuel shortages, a fragile economic situation, and oil supplies called into question as rebellion against the rule of the Shah began to emerge across Iran.[77]

[75] Seltzer, *Fire in the Hole*, 151-153.
[76] Schlesinger, quoted in Walter S. Mossberg, "A Doubtful Ace in the Hole," *Wall Street Journal*, March 16, 1978.
[77] On the special state of emergency in the atomic workplace, see Sparrow, "Behind the Atomic Curtain"; Olwell, *At Work in the Atomic City*; Irving Bernstein, Harold L. Enarson, and R.W. Fleming, *Emergency Disputes and National Policy* (New York: Harper, 1955).

While normalizing labor relations in the coal industry couldn't solve the whole crisis, it could ensure a basic level of energetic functionality. Being threatened with Taft-Hartley, however, only spurred miners' defiance. Pete Bizok, who had spent 37 years underground, told *Time* that "Taft-Hartley is OK for wartime. But it's not going to get me down there except at gunpoint. Even then, no gun can make me work faster than I want to, and I can work awful slow when I put my mind to it." David Forms, a former local president from West Virginia, noted how easy it would be for miners to sabotage the heavy capital that made modern mining methods possible: "You've got $250,000 pieces of equipment in each of these mines, and it wouldn't take much to tear them up."[78] If the solution was going to be effective, it would have to take place through a mechanism the miners recognized as legitimate: their contract.

The Carter administration invested heavily in facilitating the final rounds of negotiation. At the end of February, Carter brought both parties to the White House and then convened a coordinating meeting with his energy secretary and advisers as wells as the governors of twelve states from the eastern coalfields most heavily impacted by the strike. The stakes were high: with a democratic-but-lengthy ratification process that meant it would take at least thirty days to restore production, one of Schlesinger's aides commented that "The power is just draining away."[79] The efforts came to naught and miners overwhelmingly rejected the agreement presented to them by UMW negotiators. Worried the breakdown in the bargaining process would render the nation "the innocent victim," of the "total breakdown" in the system of labor governance that had clearly been broken for more than a decade, Carter finally invoked Taft-Hartley emergency provisions on March 6, beginning a process that forced the individual firms inside the BCOA to break ranks with

[78] Quoted in "Entering the Doomsday Era: Shutdowns and Blackouts Loom as the Coal Strike Rumbles On," *Time* 111 no. 9 February 27, 1978, 12.
[79] *Ibid.* For description of the Federal intervention in negotiations, see Seltzer, 152-160.

the hardliners who had led negotiations to that point, and would finally result in miners narrowly accepting a contract on March 24.

Federal intervention also resulted in the splintering of the national bargaining structure. Federal arbitrators identified a Gulf Oil subsidiary—Pittsburgh and Midway—as a "wedge company," that they believed could be convinced to settle their own contract in advance of the national agreement. By offering an alternative to the BCOA agreements—which smaller companies not party to the BCOA had traditionally followed rather than pursuing individual bargaining—arbitrators opened a new avenue for piecemeal transformation of the mining workplace outside the purview of the extensive, mature national agreement. Miners, however, rejected the idea, but the fracturing of the BCOA nonetheless commenced.[80] The BCOA was an outdated institution because by 1978, miners negotiated—indirectly—with utilities and the public as much as with individual firms or even associations of firms. The old, top-heavy system of industry wide bargaining increasingly had locked out other parties to the energy regime who had no direct stake in the collective bargaining process. The fragmentation of the national bargaining structure signaled not only the decline of the UMW, but also the diffusion of sectoral power across the different points of energy governance including mines, utility plants, grid infrastructure. Within a decade, the BCOA would splinter. Representing more than 130 member companies in 1978, by 1988, it would represent a mere 14 firms.[81]

At one hundred and ten days, the 1977-78 national bituminous strike was not the longest national coal strike of the twentieth century, but it was the longest since 1946—and certainly since electric power generation had come to dominate coal's use markets in the mid-1960s. Still, many observers of the strike, as well as those who assessed it in the immediate aftermath, argued that

[80] Helen Dewar and Edward Walsh, "President Invokes Taft-Hartley Act," *Washington Post*, March 7, 1978. *PQHN*; Seltzer, 153, 165.
[81] Jane D. Poulsen, "The Feeble Strength of One? Interdependence, Strategic Interaction, and the Decentralization of Collective Bargaining," *Sociological Forum* 21 no. 1 (2006), 3-30.

the strike was not the emergency suggested by the invocation of Taft-Hartley, the mobilization of the Army and the National Guard to secure coal shipments, or the tales of "layoffs and dark streets" emerging from across the Midwest.[82] For these observers, energy politics was background to a familiar industrial battle. These assessments, however, missed the broader long-term implications of what had taken place. Through the creation of an emergency, the fabric of labor relations in the coal industry had been remade.

Despite the impressive boost in compensation—37 percent increase over a three-year period—the 1974 provision for annual cost of living adjustment (COLA) was removed, a substantial blow in the era of stagflation. Moreover, industry took the day on the rule changes, and finally succeeded in reintroducing production-based incentive plans for the first time since 1945, a major blow to mine safety efforts.[83] Perhaps no change in the contract better signaled the remaking of coalfield power than the restructuring of the healthcare system that had been in place since the establishment of the landmark 1946 UMW Welfare and Retirement Fund. The new plans introduced copays and reordered the funding structure for one of the most important regional health systems. According to Curtis Seltzer, the Appalachian News Service reporter, with the shift to company-based plans, private insurance had "little interest in building a coalfield medical infrastructure, raising the quality of healthcare, or maintaining the clinics and hospitals organized over the years by the Fund." In the aftermath of the strike, one hospital in southern West Virginia closed entirely and sixty or more doctors left the region.[84] On the topics which had been key sources of contention then, the 1978 agreement represented a major step backward for miners.

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[82] David Ignatius, "Cities Turn Off the Lights as They Run Out of Coal," *New York Times*, February 16, 1978. *PQHN.* For accounts that suggest the emergency may not have been as much of an emergency as it seemed, see Navarro, "Union Bargaining Power in the Coal Industry, 1945-1981," 222-224; Seltzer, 148-169; John A. Ackermann, "The Impact of the Coal Strike of 1977-1978," *Industrial and Labor Relations Review* 32 no. 2 (January 1979), 175-188.
[83] Navarro, "Union Bargaining Power in the Coal Industry, 1945-1981," 224.
[84] Seltzer, 164.

Wages, while always important, had never been a primary focus of the coalfield organizing of the previous decade. Instead, miners' organizing had focused on issues like health and safety, democratization, and environmental destruction. Toward the end of the 1970s, housing problems had once again emerged as key issue of contention, one that could not be solved by raises, since at stake were key issues of absentee land ownership, the safety and viability of the land in areas subject to surface mining, and the lack of affordable housing options in reasonable proximity to jobs. The situation was particularly acute in central Appalachia, where the majority—80 percent—of the mining workforce was still concentrated even as production shifted west. The primary issues were land shortages for home building—due both to what residents saw as excessive corporate land holdings as well as ecological degradation—an underdeveloped construction industry, insufficient lending capacity among regional banks, and Federal programs that seemed at odds with one another. Laid across the region's difficult terrain, they together caused a severe housing shortage.[85]

The ongoing effort to democratize the UMW and coalfield politics were similarly met with renewed contempt. Former Consolidated Coal chair John Corcoran argued that negotiations had been "severely hampered by the fact that the new officers of the Union tried to make the bargaining function a completely democratic process without understanding the consequences of their actions."[86] Donald Cook, chair of American Electric Power—a company which in addition to being a utility also was heavily invested in coal production—felt that "the new democracy," was too much democracy; it was for him, in fact, the "new anarchy."[87] What Cook saw as anarchy, as too much democracy, however, was perhaps better described as an incomplete process of

[85] The President's Commission on Coal, "Recommendations and Summary Findings," 18. UMWPO Box 208, Folder 25.
[86] John Corcoran, "Coal Commission—Take It Easy," *Coal Industry News*, January 22, 1979.
[87] "Coal Negotiations," *Editorial Research Reports* 25 (October 1974): 818. Also see Katina Cummings, "Decentralized Bargaining in the Coal Industry? Emerging Shifts in Power Relations," MA Thesis, Massachusetts Institute of Technology, 1980, 19.

democratization. Years of reform efforts which had been seen as falling under this broad purview of democratization—a concept both substantial and nebulous enough to encompass a wide range of aspirations and ambiguity—had not been able to address the fundamental underlying problem: namely that as energy industry consolidation proceeded, the balance of power in the industry and at the bargaining table had become substantially skewed. The miners who had demanded the moral attention of the nation just a decade earlier found the prospect had, structurally, become much more difficult.

Learning the Rules of the Game

The 1977-78 strike was indeed a "watershed" moment in the history of the American coal industry because it cast in clear terms the rebalancing of power which had shifted the boundaries of industrial and energy citizenship amid more than a decade of energy crisis. Despite a relative loss of power, however, miners remained a liability in such a fragile new system, so in May 1978, Carter formed the President's Commission on Coal, tasked with "conduct[ing] a comprehensive review of the state of the coal industry in the United States." The body would be composed primarily of five voting members—one representing labor, one representing industry, and three representing the "general public" as an interested party in coal's place in the nation.[88] Although set up as an inquiry into the problems facing the coalfields and the industry, the Commission more accurately functioned as a seminar for the members of the disintegrating state-labor-industry tripartite governance structure to re-evaluate the rules of the energy game.

While the commission was charged with covering a wide range of topics—from mine safety, to the Appalachian housing crisis, to developments in industrial technology—the

[88] Jimmy Carter, Executive Order 12062, President's Commission on the Coal Industry, May 26, 1978. *APP;* Although the Commission was not appointed until May, when Carter formally announced it, he had first voiced his intention to "find answers to the basic questions of health, safety, and stable productivity," which had been raised by the strike in the same speech in which he announced to the nation a negotiated settlement in the strike—a settlement which the rank-and-file rejected 2-1. Jimmy Carter, Labor disputes in the coal industry, remarks announcing a negotiated settlement, February 24, 1974. *APP*.

overwhelming emphasis of the Commission was focused around reviewing labor-management relations, trying to figure out what had gone so terribly wrong that the bedrock of the nation's energy policy—"Appalachian coal," which "fired the furnaces that made this Nation a great industrial power…fueled the engines that first connected from sea to shining sea the people who live in the great land area of the United States"—had suddenly become a liability. Carter placed the importance of the Commission on par with "discussing with one of our major allies the strength of NATO, and trying to discuss the future of peace in the entire world," but energy, he was quite clear, was a "war, and in this war, the most formidable defense weapon in our arsenal is coal."[89] The war analogy extended beyond metaphor and to one of the members he chose to represent the general public, former Secretary of Labor Willard Wirtz, whom Carter lauded an expert "whose experience in labor-management problems goes back to his membership on the War Labor Board during World War II."[90]

The stakes were high and neither Carter's administration or the nation—but mostly Carter's administration—could afford mishaps.[91]. Could coal serve as a baseload fuel for democratic politics? Could the Commission actually solve the nation's energy crisis and the coal sector's problems in one fell swoop? Or would this be coalfield Fordism by another name, an exercise in nostalgia for a system that had already proved an inadequate system of energy governance that had contributed to the emergence of the energy crisis in the first place? Would the Commission be blinded to the importance of the booming Western coalfields by its focus on the problems faced by BCOA operators and the regional problems plaguing Appalachia—a bias not only implied by

[89] Jimmy Carter, remarks announcing the establishment of the President's Commission on the Coal Industry, Charleston, West Virginia, May 26, 1978. *APP*. The Commission members confirmed that "Labor-management issues, in the broadest sense, were the focus of the Commission's assignment." Summary findings, The President's Commission on Coal, March 3, 1980. UMWPO Box 208, Folder 25.
[90] Jimmy Carter, remarks announcing the establishment of the President's Commission on the Coal Industry, Charleston, West Virginia, May 26, 1978. *APP*.
[91] Theodore A. Snyder, Jr. "Our Energy Future—A Time to Choose," *Sierra*, Sept./Oct. 1979, 4-5; W. Philip Gramm, "Free Enterprise is the Cure for Energy Crisis," *Human Events (Special Supplement)*, July 9, 1977. *PQHN*.

the tone and location of Carter's announcement but also by appointing West Virginia governor Jay Rockefeller as the Commission's chair and carving out a substantial role for West Virginia Senator and Democratic stalwart Jennings Randolph?

Some also worried the Commission lacked both the political will and the legal legitimacy to really grapple with the problem. Beth Spence, a miner ally and member of the Appalachian Alliance, used her testimony to press the Committee on their supposed purpose when it:

> [H]as no authority to do anything more than make recommendations. It was set up without any input from rank-and-file coal miners and other ordinary coalfield citizens. It has no mandate to develop legislation. As far as we know, it lacks the authority to subpoena corporate financial records and other documents that might actually shed some light on the problems we face in the coalfields. A Commission of such limited scope and purpose is hard to take very seriously.[92]

But her critique went still deeper: she suggested that the Commission had missed the fundamental of power relations altogether. Her testimony reflected a growing political sentiment across Appalachia that the region had been subjugated as a resource colony, and as such, with the exception of the power miners had in the workplace, its residents had been in any meaningful sense stripped of their power in most realms of national politics.[93] Instead of taking testimony from those who had made "windfall profits" through spiking energy prices, she worried the Commission

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[92] Testimony of Beth Spence, representative of the Appalachian Alliance, at the first public hearing of the President's Commission on Coal, Charleston, West Virginia, October 20, 1978, 71.

[93] Anti-colonial Appalachian thought from this period is gathered in Helen M. Lewis, Linda Johnson, and Donald Askins, *Colonialism in Modern America: The Appalachian Case* (Boone, NC: Appalachian Consortium Press, 1978) and also collected by John Alexander Williams, "Appalachia as Colony and Periphery: A Review Essay," *Appalachian Journal* 6 no. 2 (Winter 1979), 157-161. Spence herself used her this framework in her writing and organizing as editor of the *Logan News* in Logan County, WV. "After [the coal companies] create communities, buy up all the land, take political and economic control of people's lives and establish colonial rule, they have the gall to tell people how good they are to them," she wrote in an early 1976 column, which was quoted in the *Washington Post*. Gordon Chaplin, "King Coal's Klondike: Boom Time for West Virginia," *Washington Post*, February 8, 1976. While remarkably persistent, the internal colony framework has been challenged, adapted, and reframed as Appalachian scholars engage with critique from postcolonial theory and consider the benefits of understanding these relationships of power in alternative ways. Steve Fisher and Barbara Ellen Smith, "Internal Colony—Are You Sure? Defining, Theorizing, and Organizing Appalachia," *Journal of Appalachian Studies* 22 no. 1 (Spring 2016), 45-50; Mary Anglin, "Toward a New Politics of Outrage and Transformation: Placing Appalachia within the Global Political Economy," *Journal of Appalachian Studies* 22 no. 1 (Spring 2016), 51-56; Dwight B. Billings, "Rethinking Class beyond Colonialism," *Journal of Appalachian Studies* 22 no. 1 (Spring 2016), 57-64; Silas House, "The Road Back: Appalachia as an Internal Colony," *Journal of Appalachian Studies* 22 no. 1 (Spring 2016), 65-68; Stephen J. Scanlan, "'Mined' for Its Citizens? Poverty, Opportunity Structure, and Appalachian Soldier Deaths in the Iraq War," *Journal of Appalachian Studies* 20 no. 1 (Spring 2014), 43-67.

would "look at the impact of government regulations on productivity," led by West Virginia Governor John D. Rockefeller IV, whom she decried as "the leading spokesman for the strip-mining industry, arguing that the decapitation of our mountains is the best way to solve our problems." In so doing, the Commission would become a vehicle for undoing the already paltry safety and environmental regulations that were in place to protect miners and the mountains they called home. The entire goal of the Commission, as its mandate laid out, was at odds with her own vision of reclaiming energy citizenship for Appalachia: "the kind of democracy envisioned in this country's Constitution—a democratic system in which we have much more direct control of our own resources and can develop them in a planned, rational way, minimizing the damage and maximizing the benefits."[94] Spence's argument was reminiscent of the links envisioned between control over economic development and the exercise of self-determination by anticolonial thinkers. Although considering Appalachia a resource colony was a fraught proposition given the ongoing settler nature of the American state, Spence's comparison nonetheless suggested that the form of extractivism that connected the region to modernity was defined by othering rather than inclusion, by subjugation rather than citizenship.

Still, despite the power of her critique, the Appalachian Alliance represented a minority of the voices considered by the Commission. Arnold Miller enthusiastically endorsed the project, particularly after viewing its interim report: "For such an illustrious group of this nation's energy leaders to advocate some of the same solutions to the nation's energy problems that I have been calling for since the first energy crisis in the early 1970s is both encouraging and gratifying."[95] Miller repeated a claim he had made in the early years of his presidency: that miners could lead the way to solve the nation's energy problems, "to end the energy crisis that cripples our country"

[94] Testimony of Beth Spence, representative of the Appalachian Alliance, at the first public hearing of the President's Commission on Coal, Charleston, West Virginia, October 20, 1978, 72-74.
[95] Arnold Miller, Statement following the release of the interim report from the President's Commission on Coal, July 13, 1979. UMWPO Box 208 Folder 25.

so that "once again America shall truly be the independent democracy it was created to be."[96] Miners adopted the slogan, "Let us do it!" which both evoked war mobilization efforts and fueled the idea that coal was being held back from having its new renaissance in US energy politics. (See Figure 3.) Those rank-and-file members who testified seemed committed to idea that in order to have a seat at the table, they must meet their obligation to provide the nation with a stable energy source—an apparent reversal from earlier efforts to democratize the coalfields that saw the rights of industrial democracy and the obligations of energy citizenship as coproduced, rather than one providing the precedent for the other.

Figure 6.3: An unidentified woman miner waits to speak at a coalfield meeting with Department of Energy officials, 1979. UMWJR Box 55, Folder 9.

Ultimately, however, the Commission seemed more invested in analyzing the black box of the recent wave of wildcat strikes and the bitter national strike, more concerned with the development of fail safes to avert a future coal catastrophe at its weakest point—labor relations—

[96] Arnold Miller, Statement following the release of the interim report from the President's Commission on Coal, July 13, 1979. UMWPO Box 208 Folder 25.

than in pondering new forms of energy governance that might give miners and people living in energy-producing communities a greater role in shaping the national energy plan.

Thus, the outcome fell far short of Carter's promises, which had echoed Yablonski's vision of a new social wage for the coalfields. Even after a decade of social movements, legislative action, and regulatory development that had, among other things, resulted not only in Federal black lung legislation, but also the Surface Mining and Reclamation Act (1975) and the Safe Drinking Water Act (1974), the Commission was unable to solve the basic problem of instituting a more robust social wage in the coalfields: the contradictions of high-energy capitalism which on the one hand tied modern citizenship to energy access while also intensifying dangerous and destructive extractive methods in the nation's sacrifice zones. Carter had admitted as much announcing the Commission:

> in West Virginia it's long been known that what was under your land was the key to your prosperity and sometimes the cause of your problems…For a long time the hills of West Virginia were abused…Your creeks and your rivers were polluted, your land was scarred and left raw, and too many of those who dug the wealth from under the ground were left poor and sick after their labors were completed. In recent years we've learned how to stop this devastation, learned how to restore the hills as we have extracted their wealth, learned how to make life safer and more prosperous for those who bring it out of the earth. The land and the people of Appalachia have sacrificed much…to our national development. And I'm determined that in the future this land and its people will share in the benefits of meeting our nation's needs.[97]

But even if Carter spoke in a language that echoed the UMW reform efforts begun a decade earlier and the growing environmental consciousness of the nation, he did not plan to meet these new social and environmental obligations by changing the conditions of coal production. Instead he proposed a five-year program of "impact assistance," consisting of $675 million in grants and securities to back $1.5 billion in loans, to "offset some of the social and economic costs of increasing coal production." He also promised to enforce already-on-the-books laws regulating air pollution and strip mining, but argued the rest would come from private sector capital investment,

[97] Jimmy Carter, remarks announcing the establishment of the President's Commission on the Coal Industry, Charleston, West Virginia, May 26, 1978. *APP*.

research, and development. If coal mining was still, as he said that brisk spring day, "one of the dirtiest and most dangerous jobs on Earth," it was strange indeed to argue that even amid "the rising demand for coal to meet our nation's energy needs," the nation had begun to "heal" the scars the industry had historically inflicted on West Virginia through regulations that many now argued should be removed in order to exploit the nation's coal resources to their fullest.[98]

It was with precisely with the weight of this paradox that the President's Commission on Coal moved forward, conducting the most wide-ranging examination of the coal industry in living memory. Utility executives used the opportunity to air their concerns about SO_2 emissions standards. AEP Chairman Gerald Blackmore asked the commission to help set present and future guidelines for sulfur emissions standards because "if the utility industry—which burns seventy-five percent of the country's coal output—is to perform its function, it must know the rules of the game, and this is a real problem at the moment."[99] Learning the "rules of the game" was a common theme, and it captured how not only coal miners, but utilities, consumers, politicians, and even the operators themselves sought to use the Commission, particularly its public hearings and labor-management seminars, to understand an energy landscape that had in a short time become unfamiliar, and in which few understood how to operate effectively. UMW President Arnold Miller, exasperated at the US failure to implement a national energy policy in line with environmental expectations, recounted a recent trip he had taken to Germany, where he "found a cooperative spirit," that enabled—in his mind—more effective energy governance:

> The operating company there was making the money. They dealt with all the environmental problems and everyone was happy. We don't have anything like that in this country, but that is where I think we ought to be. They have got everything pre-planned, but you simply cannot pre-

[98] Jimmy Carter, remarks announcing the establishment of the President's Commission on the Coal Industry, Charleston, West Virginia, May 26, 1978. *APP*.
[99] Questioning of Gerald Blackmore, First Public Hearing of the President's Commission on Coal, Charleston, WV. October 20, 1978, 63.

> plan if you don't know what rules you are going to have to follow…I don't know the answer to that. …Someone has to set the policy.[100]

But by the time they delivered their report two years later, little progress had been made on setting a national energy policy. Still, the members of the Commission felt that "domestic and world events [had] broadened and heightened the significance of the Commission's mandate." They pointed to "OPEC price increases," which had shot oil prices to "approximately ten times its 1973 level," driving domestic inflation; the "accident at Three Mile Island" which had "raised new doubts about public acceptance of nuclear power as an alternative to oil,"; and "the revolution in Iran and the Soviet invasion of Afghanistan," which the Commission believed had endangered the world's oil supply in new ways.[101]

A stable, "independent" energy regime for the coming years, including the 1980s, an imminent "decade of dangerous energy vulnerability," would rely, in the eyes of the Commission members, on the return of coal as the nation's baseline energy source, with natural gas for home heating and cooking and petroleum reserves only being used for petrochemicals and transportation. To this end, the Commission recommended immediately halting the increased use of oil and natural gas by utilities and using a $15 billon Federal reconversion program to reduce oil and natural gas use by utilities by forty percent within a decade and to ensure the costs of reconversion were shared equally by all regions of the country. Furthermore, industrial coal use would be expanded by prohibiting oil and natural gas use in industrial boilers with 5-megawatt capacity or greater. They argued the Interstate Commerce Commission should encourage railroad coal transport by reducing the disproportionately high rates that coal received,[102] and that state utility

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[100] Testimony of Arnold Miller, May 29, 1979. Transcribed in United States President's Commission on Coal, *Special Public Hearings: Lessening Oil Dependency through Greater Coal Use* (Washington, DC: The Commission, 1979), 45.

[101] President's Commission on Coal, Summary Findings and Recommendations, March 3, 1980. UMWPO Box 208, Folder 25.

[102] High freight rates for coal than for other freight had slowed conversion back to coal, the Commission noted, but the ICC had allowed them because "coal haulage subsidizes other freight traffic" and these rates had increased the most in the West, where more and more coal was being produced that also had to travel longer distances to generating

regulators should adjust delivery rates to attract any necessary capital investment for new coal-fired infrastructure. The Federal government should further intervene, they argued, by developing a new industry capable of producing "significant quantities of synthetic fuels" by the 1990s.[103] Moreover, if this new energy regime was going to come to fruition, the Federal government would have to step in to ensure "environmental integrity, stability in labor-management relations, and adequate living conditions in mining communities."[104] The nods to miners' aspirations and environmental concern aside, the recommendations, under the guise of state authority, appeared to support the company's vision for expanded coal use through a friendly regulatory landscape that shifted its focus from the externalities of coal to the impossibility of an alternative.

"Still Our Most Stable Fuel by Far"

Back in Washington, the nation's growing cohort of energy policymakers struggled with the implications of the strike in the context of a worrying global energy landscape. While "coal can be a problem in terms of dependability," Assistant Secretary of Energy Alvin Alm conceded, it was "still our most stable fuel by far."[105] As the Carter plan increasingly gravitated toward a dual-strategy solution based on coal and nuclear power to make the US "independent" from foreign oil, it became clear that early tensions between nuclear power and the development of the coal industry had only been pushed to the background temporarily, rather than resolved. Ralph Nader, although increasingly critical of coal as a power source, nevertheless echoed the statements of DOE officials who cast coal as the bedrock of American energy policy despite its limitations:

> the choices for the future are not limited to nuclear vs. coal…but even if the choices were so limited, nuclear power would lose…the problems of coal power are largely technical—safer mines,

stations if a "mine-to-mouth" system could not be built. As a result, some utilities found it was cheaper to use "imported coal—principally from Australia, Poland, and South Africa." President's Commission on Coal, Summary Findings and Recommendations, March 3, 1980. UMWPO Box 208, Folder 25.

[103] *Ibid.*

[104] *Ibid.*

[105] Alvin Alm, quoted in Walter S. Mossberg, "A Doubtful Ace in the Hole," *Wall Street Journal*, March 16, 1978. *PQHN*.

> reclamation of land from strip mining, and pollution control measures…all of these technical problems are amenable to technical solutions…The problems of nuclear power, in contrast to other energy technologies, are institutionally serious as well as technically unresolved….The export of power plants also exports the means for weapons proliferation. Nuclear power will strain civil liberties; it will require massive, government-financed corporate socialism; and the government handouts necessary to perpetuate nuclear technology could forestall the development of non-nuclear options…The second reason nuclear power must be rejected is…that to be a viable energy alternative it must be free of catastrophic accident. Were a catastrophe to occur…nuclear power plants all over the country might be shut down—forever. The nation would then be faced with simultaneous radioactivity and energy crises. Clearly this country cannot let such an unstable technology become a major energy source, now or in the future.[106]

Across the 1970s, even as they advocated the development of renewable sources, leading environmentalists like Barry Commoner appeared to prefer the dangers of coal to the catastrophe which they associated with nuclear power. They saw coal as the primary bridge fuel to a solar-powered future.[107] The problems of coal, however, were not as "amendable to technical solutions" as Nader suggested. Indeed, a growing body of research pointed to "increasing atmospheric concentrations of carbon dioxide—resulting, in part, from the burning of fossil fuels—could result in the warming of the Earth's atmosphere" within a century; others placed the time frame for rapid changes in climatic conditions at less than fifty years.[108] Such a problem, trapped in coal's carbon bonds, defied the technical fixes that had helped to reduce SO_2 emissions during the burning process, or the improvements in land reclamation that had been implemented across the environmental decade.[109] As increased attention was devoted to the problems of climate change and acid rain. In early 1980, Sam Church, who had stepped into the UMW presidency following Miller's resignation, echoed people like Nader and Commoner when he insisted that while coal had problems with safety and environmental damage, "the costs of coal use are well known."[110]

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[106] Ralph Nader and John Abbotts, *The Menace of Atomic Energy* (New York: W.W. Norton and Co., 1977) 257-58.
[107] Commoner wrote two books about the energy crisis, including one prior to the accident at Three Mile Island, that, despite reservations, came out firmly in favor of coal over nuclear power. Commoner, *The Poverty of Power*; Barry Commoner, *The Politics of Energy* (New York: Alfred A. Knopf, 1979).
[108] President's Commission on Coal, Summary Findings and Recommendations, March 3, 1980. UMWPO Box 208, Folder 25; GAO, *US Coal Development—Promises, Uncertainties*, 6.51.
[109] For a summary of these efforts, see GAO, *US Coal Development—Promises, Uncertainties*, 6.1-6.51
[110] Sam Church, Jr. to Jimmy Carter, February 12, 1980. UMWPO Box 208, Folder 26. Miller formally resigned for health reasons after suffering a heart attack, but many doubted his presidency could have survived much longer. See Seltzer, *Fire in the Hole*; Clark, *The Miners' Fight for Democracy*, 138-159.

The climate impacts of coal and other fossil fuels which were more widely known at the end of the 1970s than was previously believed,[111] appears in retrospect to have offered a false choice between coal and the atom in a Faustian bargain.

While the dependencies and vulnerabilities that existed in the global oil supply chain as the result of global decolonization were also well understood, they existed largely outside the scope of direct American control. What control the US did exert over the global oil industry was promoted through expertise or exercised through financial mechanisms like interest rates.[112] Still, Schlesinger, recently fired from his cabinet position at the DOE considered the uprising in Iran a Tocquevillian crisis, a "subject so delicate that it is rarely even alluded to…the subject is…of the utmost gravity."[113] But OPEC's control of the oil, in Schlesinger's analysis, was not up for debate. The time had come, he argued, to leave behind "institution-bashing" and "demagoguery" to instead "review *all* our presuppositions: what supplies are likely, what prices are acceptable, what risks are acceptable, and what environmental and other regulations are workable."[114] While the revolution in Iran had great potential to make energy matters worse in the United States, even a favorable resolution to the political crisis would not have solved the nation's fundamental energy problems.

Once again, just as nearly two decades before, the focus shifted to the atom. Worried that a "new pro-coal consensus" would "be dragged down by nuclear power," Church demanded that

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[111] So well-known was the growing body of climate science that it resulted in the passage of the National Climate Program Act in 1978. For more, see Benjamin Franta, "Global Warming's Paper Trail," *Project Syndicate*, September 12, 2018; Joshua P. Howe, ed. *Making Climate Change History: Documents from Global Warming's Past* (Seattle: University of Washington Press, 2017); Joshua P. Howe, *Behind the Curve: Science and the Politics of Global Warming* (Seattle: University of Washington Press, 2014).

[112] Betsy Beasley, "White-Collar Wildcatters and Wildcat Strikes: Oil Experts, Global Contracts, and the Transformation of Labor in Postwar Houston," in *Working for Oil: Comparative Social Histories of Labor in the Global Oil Industry*, Touraj Atabaki, Elisabetta Bini, and Kaveh Ehsani, eds. (New York: Springer International Publishing, 2018), 257-284. On the financialization of US power over global oil supplies, see Galbraith's discussion of the Volcker shock. James Galbraith, *The End of Normal: The Great Crisis and the Future of Growth* (New York: Simon & Schuster, 2015), 53-54.

[113] James Schlesinger, remarks to the National Press Club, August 16, 1979. *PQHN.*

[114] *Ibid.*

Carter withdraw his proposal to link the fate of coal with the fate of nuclear power. "If the administration wants to support a nuclear bailout, it should be proposed as a separate program," since "future attempts in the Congress to make nuclear power safe will greatly increase its cost." The costs of the returning atomic menace were not only questions of liability and construction costs, Church argued, but rather "the health and security of [not only] UMWA members, but all Americans." One only had to look to Three Mile Island, where "Just yesterday there was another radiation leakage."[115]

The initial partial meltdown at Three Mile Island had occurred nine months before in March 1979—just a year after the resolution of the national coal strike and part of the cascading series of events that together turned a transformation in energy governance into a crisis.[116] The accident, which was described as everything from an "incident" to a "catastrophe,"[117] became a "monumentally conspicuous" tragedy. An accident which the NRC ordered report suggested "might well have been relegated to 30-second shots on the network news and inside pages of metropolitan dailies—a significant disaster in which no one died, in an industry few understood" had taken a place beside "certain other functional structures on the modern American landscape—the bridge at Selma, Alabama; the Watergate Complex; the Texas Schoolbook Depository in Dallas." Three Mile Island, they argued, had "slipped into an unprojected half-life," a reminder of "steep depressions in our national lifeline."[118]

In the midst of this broader national concern, the accident at Three Mile Island also propelled anti-nuclear politics back to prominence within the United Mine Workers. The rank-

[115] Sam Church, Jr. to Jimmy Carter, February 12, 1980. UMWPO Box 208, Folder 26.
[116] J. Samuel Walker, *Three Mile Island: A Nuclear Crisis in Historical Perspective* (Berkeley: University of California Press, 2004).
[117] For a discussion on the nomenclature used to refer to the accident, see Zaretsky, *Radiation Nation*, 203-204.
[118] Rogovin, Stern, and Huge, *Three Mile Island: A Report to the Commissioners and to the Public* (Washington, DC: Nuclear Regulatory Commission, 1980), 1.

and-file members charged with reporting the activities and recommendations of the UMW legislative arm—COMPAC, the Coal Miners Political Action Committee—reported that:

> the recent accident at Three Mile Island reinforces our conclusion that—at this time and for the foreseeable future—the economic, health and safety, and environmental disadvantages of nuclear power far outweigh any advantages it may have…T-shirt slogans declare 'I survived Three Mile Island,' but what about twenty years from now; what about the effects on our children and grandchildren…The irony of all of this is that Three Mile Island sits on top of the nation's largest anthracite reserves.[119]

The delegates unanimously voted to support the committee's report, which included a resolution that "reaffirm[ed]" the union's:

> opposition to the use of nuclear power, until adequate safeguards against radiation poisoning are developed; until safe, permanent waste sites are devised; and until protection against a catastrophic nuclear power plant accident is assured.[120]

Just as notable as the fact of the accident itself was the way that it reshaped the narrative of the energy disaster, displacing the efforts of miners to focus on the materiality of the workplace as the terrain of the energy disaster. Before the nuclear age, an energy disaster was a mine explosion; a gob dam failure; an oil spill. Things that were tangible, that contaminated the energy workplace and the landscape around them. The slow violence radiation portended, laced with both doubts about whether it was actually occurring and the certainty and extent of harm, had to be projected onto landscapes and institutions.[121] In many ways the danger of radiation found its closest analogy in the energy sector in black lung, the public health disaster which built in a miner's lungs slowly and could only be detected after irreparable harm had occurred.[122] But the ability of radioactive contamination to spread, and the inevitable connection made by the public the nuclear arms race ensured a more lasting impact on national energy politics than miners' efforts around energy safety had ever been able to achieve.

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[119] *Proceedings* (1979), 294.
[120] *Proceedings* (1979), 294.
[121] On the concept of "slow violence" in the environmental context, see Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011)
[122] The public health framework of public health is employed by Derickson to examine the broad range institutional stress and social impact that black lung had on coal mining regions. Derickson, *Black Lung.*

Beyond the connections obviously established between them, the report of the President's Commission on the accident captured how the failures of energy governance were not confined to the fossil fuel sectors, especially coal, where wildcat strikes were seen as indicative of regime failure. Finding that the technical problems of "equipment safety," which figured powerfully into the public imagination of the accident, were ultimately not the primary cause, the Commission then turned its focus to "fundamental problems" which it believed were "people-related." They were quick to clarify that this assessment referred not to basic human fallibility, but instead "the structural problems in various organizations," the "deficiencies in various processes, and…a lack of communication." Together, these problems "revealed problems with the 'system' that manufactures, operates, and regulates nuclear power plants."[123] Amid a general decline in American's confidence in ruling institutions, the regulatory system took the blame for a set of failures that went much wider, and for which industrial management was at least equally responsible.

"This Revolution of Declining Expectations"

Little more than a decade after Lyndon B. Johnson had warned that without additional coal to fuel it, the furnace of freedom might run cold, the entropic nature of the American energy regime appeared to have come into full view. The turn to coal in the late 1970s was "a matter of necessity rather than choice," according the assessment of the General Accounting Office. "If it were strictly a matter of choice, coal's decline relative to other fuels would continue." Coal was "dangerous and difficult to extract," it was "bulky" in a streamlining economy," and most of all, it was dirty, whether viewed from Southern West Virginia, the Powder River Basin, or a street near a coal-fired power plant in a densely populated area.[124] Still, coal's promoters, from the United Mine Workers

[123] President's Commission on the Accident at Three Mile Island, *The Need for Change,* 8.
[124] GAO, *US Coal Development—Promises, Uncertainties*, 9.1.

to the National Coal Association to President Carter, continued to hail coal as the nation's energy cornerstone, no matter how heavily opinion weighed against it. The alternatives—excepting mostly ignored solar, wind, and geothermal which lacked the ability to carry baseload—were simply too volatile.

The summary findings of the President's Commission on Coal illuminated a path to this newly imagined coal dominated energy regime—one, which it is important to underscore, never came to fruition—and the hearings which the Commission conducted illuminate a key moment in a longer arc story: the way the 1977-78 national coal strike, in the context of the long energy crisis, concluded a long transformation of coalfield power which had been underway for most of the post-World War II period. Coal, once king, by the end of the 1970s found itself less monarch than baseload, providing the basic energy source for national economic, political, and social life. Even in a world of dwindling reserves, a petroleum-centered logistics industry vastly expanded. The dominance of petroleum, which drove a globalizing world political economy, fueled its container ships, semi-trucks, airplanes, and automobiles, was only possible because, hidden away in the Appalachian hillsides and—increasingly the Wyoming Powder River Basin—coal continued to power the nation.[125]

The ability of the new agencies which had been formed to govern energy, particularly the creation of a new cabinet position, was meant to boost confidence in the country's ability to meet its energy problems, but this already heady prospect was made even more difficult by the resurgence of the market in political life. Herbert Jones, president of the Amherst Coal Company,

[125] The problem of course with the "dwindling reserves" model is that increasing prices render commercially viable previously unprofitable reserves. Still, despite this moving target, oil is still considered to be scarcer—geologically and geopolitically—than coal. Steve Sorrell et al, "Global Oil Depletion: An Assessment of the Evidence for a Near-Term Peak in Global Oil Production," UK Energy Research Centre, August 2009. On the logistics revolution, see Levinson, *The Box*; Deborah Cowen, *The Deadly Life of Logistics: Mapping Violence in the Global Trade* (Minneapolis: University of Minnesota Press, 2014), especially 23-52; Edna Bonacich and Jake B. Wilson, *Getting the Goods: Ports, Labor, and the Logistics Revolution* (Ithaca, NY: Cornell University Press, 2008).

a relatively small operation in the Appalachian coalfields, framed it in a way that was similar to the arguments made by coal's advocates in the early years of the atomic age, but different in subtle ways that elided the changes in the energy sector over the previous fifteen years. As he testified before the Commission he said, "Make no mistake about it, the market is master in the coal industry."[126] By the late 1970s, this statement, despite its declarative nature, raised questions. Which market? Master over whom? Neither had obvious answers. The statement drew power from its ability to speak in multiple registers at once. It could be interpreted as referring to intra-industry practices, and coal companies competing amongst each other while also referring to the competitiveness among fuels vying for share of the energy market. It also worked to obscure the relationships of power which defined coalfield life as the byproduct of abstract market forces of supply and demand, rather than the complex political web that comprised the energy choices of the nation, of capital, and consumers, and which had to be contextualized by the fears and aspirations which had been yoked to energy access and use since the end of WWII.

But beyond the coalfields, or even the energy sector, Jones's testimony evoked the new power of the word "market," which "insinuated itself into more and more realms of social thought" and "meant something much more modest than the financial markets' churning, and, at the same time, something much more universal and audacious." "Loosed from institutions and power," markets "silently did their work: optimizing, signaling, making tangible the domain of choice."[127] For the coal operators, the encroachment of the market on all areas of social life described by Rogers simultaneously helped cast the crisis as deeper than a crisis of management, as a fundamental problem of the ideas which governed energy production. In any case, the firms were in large part responsible for those too, and they lost in either scenario. If in 1963, the "competitive"

[126] Testimony of Herbert E. Jones, Jr., President, Amherst Coal Company. First Public Hearing of the President's Commission on Coal, Charleston, WV, October 20, 1978, 75.
[127] Rodgers, *Age of Fracture*, 41, 49, 75.

proclivities of coal had been marshalled to signal its moral place in the nation's energy mix as the energetic standard bearer of the American way of enterprise, as the President's Commission on Coal convened, the image of the energy market was conjured in a different fashion, as the shaper of political possibility, setting the bounds on political feasibility for actions like regulation or workplace democracy. "In the coal business," Jones continued, "the market, not the producer, determines the price which customers are willing to pay."[128] Leading neoliberal economist Milton Friedman had also raised energy as a perfect object for market power as he suggested that the Department of Energy had "the potential of being the most powerful, and the most harmful, of all Federal agencies," since it would "control the lifeblood of our economic system."[129] He claimed, that "No government engineer," could choose better than a consumer how to allocate their household energy budget, and that:

> No government engineer is in as good a position as the owner of a factory to choose the most economical fuel for his purposes or the cheapest way to conserve energy. No government engineer can replace the market in calculating the indirect effects of energy use or conservation.[130]

Coal's perceived competitiveness in the regulated energy market had been hard fought, and it had come at a high cost to the nation: morally, ecologically, socially, politically, financially. Years of tumult and uncertainty in the energy sector came as newly formed regulatory agencies and cabinet departments puzzled over the problem of energy governance. While the 1977-1978 bituminous coal strike, combined with the decade's second oil shock and the near-disaster at Three Mile Island, together highlighted how the fundamental tensions of energy production had never been solved, the new institutions and infrastructures of energy governance may have helped stave

[128] Testimony of Herbert E. Jones, Jr., President, Amherst Coal Company. First Public Hearing of the President's Commission on Coal, Charleston, WV, October 20, 1978, 75.
[129] Milton Friedman, "A Department of Energy?" *Newsweek*, May 23, 1977, 62.
[130] *Ibid.*

off national decline in coal production and consumption compared to similar economies like the UK and Germany.[131]

Political actors, once confident that economic growth could absorb competing and isolated priorities related to energy politics—environmental protection, social spending, economic growth—found that the growth of new institutions and regulatory systems created to manage the national energy regime had only underscored the interdependence of these issues. This, according to Michael Koleda, the executive director of the President's Commission on Coal, represented the death of the "single-minded approach, the single-issue citizen"—even as it suggested a place above all of them for energy, the thing which bound the whole system together.[132] However much Carter's energy policy—and many commentators of the time—insisted on a new world of hard limits,[133] energy's constraint on politics was not primarily a problem of BTU availability but of the inequities and imbalances in their production, use, and distribution which riddled the energy regime with instabilities. Adapting to limits offered not sustainability then, but instead ease of management—management which whether it took place through markets or increased governance might ultimately undercut the promises of high-energy capitalism which had driven the expectations of ordinary Americans in the post-World War II period.

Yet this newfound and hard-won stability harbored what Schlesinger called a "decline in our historic expectations."[134] He echoed Carter's address just the month before, where the

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[131] For a summary of trends in international coal production and use, see Mike Parker, *The Politics of Coal's Decline: The Industry in Western Europe* (London: The Royal Institute of International Affairs, Energy and Environmental Programme, 1994).

[132] Remarks of Michael S. Koleda, Executive Director of the President's Commission on Coal, at the Fourth Annual Governor's Conference on the Environment. Owensboro, Kentucky, September 20, 1979. UMWPO Box 208, Folder 25.

[133] The most widely-remembered example of this would have been the impact of *The Limits to Growth*, which used innovative modelling techniques to predict the outcomes of humanity's transgression of planetary limits. Meadows, et al, *The Limits to Growth*; also see Kevin T. Baker, "World Processors: Computer Modeling, Global Environmentalism, and the Birth of Sustainable Development," Ph.D. dissertation in progress at Northwestern University. But there are also numerous other examples of "limits" thinking in American policymaking circles, including Lawrence Rocks and Richard P. Runyon, *The Energy Crisis* (New York: Crown Publishers, 1972); Paul R. Ehrlich, *The End of Affluence: A Blueprint for Your Future* (Cambridge, MA: Ballinger, 1980).

[134] James Schlesinger, "Energy Risks and Energy Futures," *Wall Street Journal*, August 23, 1979. *PQHN.*

President had emphasized how the effort—and failure—to meaningfully grapple with the energy crisis had made "clear that the true problems of our Nation are much deeper—deeper than gasoline lines or energy shortages, deeper even than inflation or recession."[135] The myth of cornucopian energy had contorted American politics in strange ways, unsustainable ways. Michael Koleda, the executive director of the President's Commission on Coal, argued that the "naivete" and "luxury of temporary abundance" had allowed the American system of politics to "compartmentalize our thinking and policies with respect to energy, the economy, the environment, and national security."[136] Efforts to govern a highly integrated energy regime from a variety of cabinet departments, administrative agencies at the Federal and state level, private sector boardrooms, and union offices had, in the minds of Americans whom Carter invited to Camp David, substituted management for politics, malaise for freedom.[137]

Economic growth, and the general rise in living standards which had accompanied it had over the course of the twentieth century come to form a key component of the American psyche, and it had been recently rattled not only by the earlier years of the energy crisis but also by the crisis of international influence that had clouded the nation since the height of the Vietnam conflict.[138] The specter of "limits" not only suggested limited energy resources, but also appeared to many to portend "limits to the American system to respond to new and complex situations, and most distressingly even limits to the imagination of the human race and its willingness to rescue itself from immediate peril."[139] The language which Carter used to describe malaise— "growing doubt," "loss of unity," "erosion,"—all which threatened to "destroy the social and political fabric

[135] Jimmy Carter, "Energy and National Goals," July 15, 1979. *APP*.
[136] Remarks of Michael S. Koleda, Executive Director of the President's Commission on Coal, at the Fourth Annual Governor's Conference on the Environment. Owensboro, Kentucky, September 20, 1979. UMWPO Box 208, Folder 25.
[137] Based off remarks quoted by Carter in his "Energy and National Goals" speech, July 15, 1979. *APP*.
[138] Zaretsky, *No Direction Home*, 78-84.
[139] O'Toole, *Energy and Social Change*, xi.

of America," might as well have been synonyms for the social entropy that the anthropologist Richard Newbold Adams had described only four years before.[140] "How will the American society respond to this revolution of declining expectations?" Schlesinger wondered: "I do not know."[141]

"The Grim Visage of Death in Whose Shadow We Stand"

The nation's unionized coal miners, ever dwindling in number with the expansion of the largely non-union Western surface mines, adjusted to the new world of lowered expectations by largely retreating from two decades of efforts to intervene in various ways in national energy policy across fuels. Where the cheapness of miners' lives had provoked rebellion just a decade before, Reagan's effort in the first months of his administration to slash the budget of the Federal black lung compensation program by more than $2 billion over five years was met much more quietly. The largest action that took place was a two-day strike that fell within the terms of the standing contract. While substantial dissent remained in the UMW, the organizational basis and political will to mobilize evaporated in the face of the rapidly consolidating power of the firms and the westward shift in coal production. The budget Reagan proposed threatened to essentially halt the program through under-funding to eliminate what Reagan called an "automatic pension"—because of the "presumption of disability" in all miners who had logged 15 or more years underground—but opposition failed to gain traction like the black lung movement that had halted production in the West Virginia coalfields in 1969.[142] The flourishing of democracy—not only in the democratized structures of the UMW, but in the political aspirations and organizing efforts of coal miners—which had opened a brief window that allowed miners to challenge basic assumptions about coalfield power amid a changing energy regime, had been closed once more by the insistence

[140] Adams, *Energy and Structure.*
[141] James Schlesinger, "Energy Risks and Energy Futures," *Wall Street Journal*, August 23, 1979. *PQHN.*
[142] Ben A. Franklin, "Miners to Protest Plan on Black Lung," *New York Times*, February 28, 1981. *PQHN.*

of operators, union leadership, and the government on labor stability. To invoke coal was not only to call forth the materiality of the fuel, but the relationships used to produce it. After a period of contingency, they had once more solidified. In this way, the diminishing of labor expectations appears to have profoundly limited the possibilities for energy politics that emerged not from technical expertise but instead one that allowed for "productive tension" that would allow a broader range of energy politics to be explored.[143] Instead, UMW President Sam Church wrote to his members that "COAL IS THE ONLY SOLUTION" to the nation's energy problems.[144]

However, under Church's leadership, the UMW made one major last effort to leverage coal against the atom as the second anniversary of the near-meltdown at Three Mile Island approached in the spring of 1981. With the national bituminous agreement expiring the day before the anniversary, the UMW once again saw a chance to use the atom as leverage, this time by using a deepening anti-nuclear sentiment to shore up support for the miners' contract battle after the "battle line" strike of 1977-78 had essentially ended in a draw.[145] Under the auspices of the Labor Committee for Safe Energy and Full Employment—a coalition of 57 unions that had begun discussing the development of "an independent energy policy for the labor movement"[146]—the UMW sponsored a major rally to coincide with the second anniversary of the accident in order "to dramatize the concerns of working people about the continued use of nuclear power,"[147] and listed five major demands:

- No more Three Mile Islands! Keep Unit 1 Closed!
- No dumping of Radioactive Water into the Susquehanna River.
- Support the United Mine Workers of America in their effort to gain a decent contract.

[143] Moss discusses the idea of productive tension as fundamental to the vitality of the US political system. David Moss, *Democracy: A Case Study* (Cambridge, MA: Belknap, 2017).
[144] Sam Church, Jr. to all local unions, February 24, 1981. LCSEFE Records, Box 1, Folder 1.
[145] For assessments of the UMW contracts between 1945 and 1981, see Navarro, "Union Bargaining Power in the Coal Industry, 1945-1981." Navarro uses two key metrics to assess contract outcomes: changes in total compensation packages and rule changes. In 1978, miners achieved substantial (37 percent) increases in compensation, but their weakened negotiating position was evidenced by "a number of very unfavorable rule changes" (224).
[146] Paul LeBlanc to members of Pittsburgh chapter of Mobilization for Survival, January 5, 1981. LCSEFE Records, Box 1, Folder 3.
[147] Pennsylvania COMPAC Newsletter, February 1981. LCSEFE Records, Box 1, Folder 1.

- Jobs for all: a shorter work week and a massive public works program.
- Guaranteed alternative jobs for nuclear workers at union rates.[148]

A host of unions signed on to the event, who representing more than six million workers, declared themselves the "safe energy wing" of the American labor movement.[149] Church encouraged rank-and-filers of the UMW to attend because the event would provide "a national audience to which we can show that miners are ready to provide a safe and alternative energy source—coal."[150] This suggestion that coal miners were ready to fulfill a role as productive energy citizens—to "show our organization acting in a constructive manner toward an objective that benefits everybody"[151]—was undermined when the UMW bargaining team failed to reach an agreement with the BCOA. Despite claims by both Church and the operators that they would settle a contract without a strike for the first time in fifteen years, miners walked off the job the day before the rally.[152]

Although the rally had been organized specifically to increase the miners' leverage in the case of a strike, the timing also drew the UMW's attention away from rally mobilization. According to *New York Times* reporter Ben Franklin, who had dedicated years to covering the coalfields and was highly sympathetic to the miners' cause, the majority of the rally mobilization came not from the miners but instead from the civil rights, women's, and environmentalist groups that had mobilized to support the rally, as well as from organizing public employee unions across

[148] March announcement, March 1981. Labor Committee for Safe Energy and Full Employment Records [hereafter LCSEFE Records], Box 1, Folder 4.
[149] Ben A. Franklin, "Labor Rift Accompanies Three Mile Island Protest," *New York Times,* March 29, 1981. *PQHN.* It is not clear how many of the original 57 signatories to the Labor Committee for Safe Energy and Full Employment actually endorsed the march, or if additional unions signed on, or if this number included those public sector employees who were in the process of unionizing at the time of the march. The unions listed as attending the march and sending speakers included: the United Autoworkers, the American Federation of State, County, and Municipal Employees, the International Association of Machinists and Aerospace Workers, the International Longshoremen, the National Education Association, the United Steel Workers, and the United Food and Commercial Workers.
[150] Sam Church, Jr. to all local unions, February 24, 1981. LCSEFE Records, Box 1, Folder 1.
[151] Pennsylvania COMPAC Newsletter, February 1981. LCSEFE Records, Box 1, Folder 1.
[152] This walkout was inevitable once an agreement had not been reached by mid-March, since the UMW constitution contained a "no contract-no work" clause and democratic ratification was a time-consuming process lasting at least ten days. Ben A. Franklin, "Dig They Must, Agree UMW and Big Coal," *New York Times*, March 8, 1981, *PQHN*. Also see further corroboration in Navarro, "Union Bargaining Power in the Coal Industry, 1945-1981." For a copy of the constitution that the miners operated under in early 1981, see *Proceedings* (1979).

the east coast. Church, who was intended to be one of the key speakers, was forced to send William Esselstyn, his secretary-treasurer, in his stead.[153] While some diversion of attention to the new strike was likely inevitable, it also signaled where the union found its true strength and allies: not on the national stage of energy politics, but in their communities, which were increasingly under threat from deindustrialization, western drift in coal production, and the opening of greater numbers of non-union mines. This move back to a highly regional vision of coal politics ultimately would retrench the divisions between the eastern and western coalfields, limiting their ability to exercise power collectively.

The rally still appeared to herald, yet again, that a remarkable era of coalfield politics had come to an end, not only because of the decreased presence of the miners at a rally they had helped organize, but because it signaled the UMW was willing to sublimate a decade's worth of hard-won safety and environmental protections to solve the energy crisis. Church, in his appeal to miners to attend the rally, insisted that coal was "safer and cleaner" than nuclear power.[154] The Pennsylvania branch of the Coal Miners Political Action Committee, COMPAC, argued that "electricity generated by coal is cheaper and far less hazardous to the general public than nuclear power."[155] Esselstyn, the UMW secretary-treasurer, echoed the political ethos of Tony Boyle when he suggested that the more than 100,000 coal miners who had been killed on the job in the twentieth century were "nothing compared to the hundreds of thousands who would be affected by one nuclear meltdown." The steam stack, rather than mine face, had come to embody "the grim visage of death in whose shadow we stand."[156] Safety concerns, not unlike during Boyle's anti-nuclear crusade, focused not on occupational health and safety for the miners who were being called on to

[153] Ben A. Franklin, "Labor Rift Accompanies Three Mile Island Protest," *New York Times,* March 29, 1981. *PQHN.*
[154] Sam Church, Jr. to all local unions, February 24, 1981. LCSEFE Records, Box 1, Folder 1.
[155] Pennsylvania COMPAC Newsletter, February 1981. LCSEFE Records, Box 1, Folder 1.
[156] Quoted in Ben A. Franklin, "Labor Rift Accompanies Three Mile Island Protest," *New York Times,* March 29, 1981. *PQHN.*

replace nuclear energy, but instead on radioactive waste, cancer and birth defects caused by radiation exposure, the potentially catastrophic impact of a future meltdown. Church also raised concern about the patterns of ownership in the nuclear power industry. Ignoring the heavy role of the state in atomic development which had resulted in an uneasy mix of public and private investment in the industry,[157] he pointed out that "ownership of the nuclear industry is primarily in the hands of ten huge international companies," and that the United States might soon run out of uranium and be held "hostage," OPEC style, by international suppliers. Dangers in production and consumption and highly concentrated ownership, even cancer, however, could have as easily been highlighted about coal.[158]

By declaring coal the "only solution," Church also helped close off debate over how that coal would be produced. After all, he appealed to miners, "your families, the labor movement, our American heritage, and all of humanity itself," was depending on coal and the workers who mined it.[159] Instead of using these claims to demand safer working conditions or less environmentally destructive energy practices as the reformers had just a decade before, the UMW marshalled the danger of the atom in a way that appeared to justify the danger of the mining workplace. With the vision of a better future dimmed, suddenly the UMW leadership's portrayal of competition between coal and the atom seemed a race to the bottom, together careening toward social and ecological ruin. Within a generation, the consolidation of the energy regime, a multifaceted process unfolded amid the biggest energy crisis the country had ever known, had both indelibly linked energy with modern citizenship, even as it shrank the aspirations energy citizens, particularly those heavily involved in energy production, could imagine for themselves, and limited the avenues for

[157] Barry Commoner, *The Poverty of Power,* 77.
[158] For a survey of the known connection between coal and cancer at the time, see Commoner, *The Poverty of Power*, 68-69.
[159] Sam Church, Jr. to all local unions, February 24, 1981. LCSEFE Records, Box 1, Folder 1.

reimagining the energy relationships which harnessed the nation to a limited supply of socially and ecologically disastrous fossil fuels.

Conclusion

"We've Been in Trouble Ever Since"

The great irony of the long energy crisis, a crisis which called into question the idea of endless growth—the basic premise of the high-energy capitalism—is that ultimately it had very little impact on the way Americans use energy. The fuels that produce the nation's energy still derive primarily from a mix of fossil fuels, though the exact composition of that mix has shifted more substantially.[1] Growth is still the model—even in the debating of the Green New Deal.[2] Coal, instead of providing a bridge to an alternative energy future, has instead been weaponized against the two most widely viable alternatives—solar and wind power.

What the energy crisis *did* change, however, was the energy workplace. Within this larger picture of relative continuity, we can also see that the coal mining workplace of today is nearly unrecognizable to the workplaces at the center of this dissertation. The overwhelming majority of coal is surface mined in the American west by non-union coal miners. Of the ten largest coal mines in the United States, only two—numbers eight and nine—lie east of the Mississippi River.[3] Even as the arrival of the Trump administration worked tirelessly to promote coal for energy security from the White House, efforts by the Department of Energy, and the Environmental Protection Agency have mostly failed to reverse the long trends of declining coal production and employment. At most, they have slowed the *rate* of decline as old coal-fired plants retire and are replaced natural gas, and recently, renewables. The rate of unionization in the industry has also sharply declined,

[1] Energy Information Administration, "Primary Energy Overview, 1950-2015," *Annual Energy Review*, Table 1.1.
[2] Louis Hyman, "To Fund the Green New Deal, Understand How the New Deal Actually Worked," *City Lab*, March 6, 2019. https://www.citylab.com/perspective/2019/03/the-new-deal-wasnt-what-you-think/584296/
[3] Energy Information Administration, *Annual Energy Review.* (2017), Chapter 7: Coal.

and in 2015, the last union miners remaining in Eastern Kentucky—the site of the Brookside strike discussed in chapter five—were laid off.[4]

This dissertation however, has shown that the story of coal and coal miners in modern America is hard to explain with numbers, geography, or geology alone. If coal miners have something to tell us about the long energy crisis that powerfully shaped American politics in the crucial decade of the 1970s, it is that to look for the "real" energy crisis—real shortages, real geological scarcity—is to ask the wrong question. Shortages and scarcity look different depending on one's vantage point, and on what is at stake in having "plenty" or in making energy "too cheap to meter."[5] New insight, this research suggests, might come from the *energy relationships* which turn shortages into crises, which craft the social meaning of scarcity, which can cause an energy crisis before the lights ever go out. These energy relationships also help us to explain how the political culture of coal moved beyond the coalfields, and how an industrial sector which operates out of the sight of most Americans came to symbolize both the promises of citizenship and problems of democratic governance. The duality of coal as both promise and problem was only amplified by coal miners efforts to negotiate a changing energy landscape that offered them new moral claims on political power and democratic rights even as their power to enforce them on the job declined. The very electrification of high-energy capitalism that allowed miners to claim new rights with new forms of leverage, to assert a new kind of belonging in postwar American society also encouraged Americans to see them apart—if the coalfields and the nation were mutually dependent, they need not be mutually governed. The ascendance of the market and a globalizing economy entailed new forms of close energy management both from the firms and the state. While

[4] Erica Peterson and Whitney Jones, "Kentucky Doesn't Have Any More Working Union Coal Miners," WFPL Environmental News, February 26, 2015. Accessed online: https://wfpl.org/kentucky-doesnt-have-any-more-working-union-coal-miners/.

[5] Remarks of Lewis Strauss, chairman of the AEC, delivered at the Founders' Day Dinner, National Association of Science Writers, September 16, 1954. US Nuclear Regulatory Commission, Document ML16131, A120. Accessed online.

of a completely different character than the Keynesian vision of the Department of Labor's Atomic Energy Study Group in the 1950s, the basic premise—that energy workplaces could become key sites for negotiating new forms of labor and social governance—was remarkably similar. The political meaning of the energy workplace extends far beyond its physical and social boundaries.

Today, in spite of—even in *defiance* of—the long-term downward trends in coal production, the coal miner as a figure retains power as a political fiction in American life. As recently as 2018, Reuters claimed that Appalachia was "the epicenter of the US coal industry," and that miners are "an influential political constituency."[6] In this fiction, the coal miner is, almost without exception, white, native-born, a man—and a union member. He lives in West Virginia, works in an underground bituminous coal mine—and he voted for Donald Trump. The figure of the miner is different from the actual people who mine coal, a group of people who are more diverse, mostly work in the western surface mines, and have a more complex set of political motivations. But who coal miners *are* seems to matter less than who the nation *imagines* them to be.

Trump, no exception, goes out of his way to extoll the dubious virtues of "clean, beautiful, West Virginia coal." Attacking pipelines, solar panels, and windmills as national security risks, he made the extraordinary claim that "You know what you what you can't hurt? Coal. You can do whatever you want to coal. Very important."[7] Notwithstanding Trump's general disdain for truth and evidence, it suggested that Trump's energy imagination was nothing if not mainstream. His language mirrored, nearly verbatim in some cases, the statements of Jimmy Carter. Moreover, the solid state of coal, its well-documented reserves which by geological happenstance are heavily concentrated in the United States, and its central place in firing the furnace of freedom since the

[6] Timothy Gardner and Valerie Volcovici, "US Miners Union to Endorse Two More Democrats in Coal Country," *Reuters*, March 22, 2018. ProQuest Newsstand.
[7] Donald Trump speaking at a campaign rally, August 21, 2018. Transcribed by CSPAN. Accessed online: https://www.c-span.org/video/?449868-1/president-trump-campaigns-patrick-morrisey-west-virginia.

end of the Civil War have tied coal to the rhetoric of national security—an issue on which there is a great amount of bipartisan consensus. And so the place of coal—and the coal miner—in the American national story, past, present, future, is rarely considered up for debate outside segments of the environmental movement. This has remained largely true even amid the arrival of climate disruption. To question a coal-fired world is to question the United States' place in it. To accept the decline of coal is to accept a changed nation: no longer industrial powerhouse, no longer world hegemon.[8]

Just two years before, in the midst of the 2016 presidential campaign, soon-to-be Democratic nominee Hillary Clinton, paid dearly for challenging the centrality of the coal miner in American politics. Clinton, asked to "[m]ake the case" for her presidency to poor, Appalachian and Southern whites, told a group of townhall attendees in Ohio that as part of a national transition to clean energy, "We're going to put a lot of coal miners and coal companies out of business…And we're going to make it clear that we don't want to forget those people. Those people labored in those mines for generations, losing their health, often losing their lives to turn on our lights." She promised that although the nation needed "to move away from coal," she had no intention of "mov[ing] away from the people who did the best they could to produce the energy that we relied on."[9]

The remark, though poorly phrased, could mostly have been lifted from Arnold Miller's first state of the union address in 1973. But largely stripped from context, it went viral, and Clinton faced quick attack, not just from coal miners, but even from members of her own party and Democratic voters. When West Virginia Democrat Joe Manchin attempted to organize a campaign

[8] On the place of mineral extraction in the making of global American power, see Megan Black, *The Global Interior: Extractive Frontiers and the Making of American Power* (Cambridge, MA: Harvard University Press, 2018).
[9] Transcript, CNN TV One Democratic Presidential Town Hall, March 13, 2016. Accessed online: http://cnnpressroom.blogs.cnn.com/2016/03/13/full-rush-transcript-hillary-clinton-partcnn-tv-one-democratic-presidential-town-hall/.

event for her in Logan—a place where Democrats enjoyed substantial support, Manchin was told that Clinton was "simply not welcome in our town."[10] She then lost every single county in the West Virginia primary to her primary challenger Bernie Sanders—despite the fact that she had won the state in a landslide when she ran for the Democratic nomination in 2008 against Barack Obama.[11] Later, Clinton would claim that of all the mistakes she made in her campaign, this comment was "the one I regret the most."[12] But even if that comment cost her every vote from the state's 11,561 working miners, she would still have lost the primary by more than double that number of votes. In the general election, she failed to win a single major coal producing state with the exception of Illinois, where the powerful support of the Chicago metropolitan area allowed her to capture the state despite losing by large margins in 90 of the state's 102 counties.[13]

If the actual votes of coal miners weren't enough to swing the election, the specter of the coal miner certainly helped clinch Trump's victory in the electoral college. Commentators like Fred Hewett suggested that this powered derived from the fact that "the miner epitomizes the populist notion of the tough-hardworking guy," and that coal in the conservative mythos represented "an essential good that symbolizes American natural bounty and the virtue of hard work."[14] However, while the coal miner certainly symbolizes all these things, this narrative can't explain why coal miners have remained at the center of American politics even as their relative importance to the energy regime and the broader economy has declined. Why have they not been

[10] Statement of Logan city officials to Sen. Joe Manchin, email reprinted in "Logan Officials Message to Clinton Campaign," April 30, 2016. Accessed online: https://www.wvnstv.com/archives/logan-officials-message-to-clinton-campaign/864699037.
[11] West Virginia Secretary of State, Statewide Primary Results, May 10, 2016. Accessed online: https://apps.sos.wv.gov/elections/results/results.aspx?year=2016&eid=22&county=Statewide.
[12] Hillary Clinton, *What Happened* (New York: Simon and Schuster, 2017), 263.
[13] Major coal producing here designated as those states producing more than twenty million short tons of coal each year. In 2016 this list included Illinois, Indiana, Montana, North Dakota, Pennsylvania, Texas, West Virginia, and Wyoming. Energy Information Administration, *Annual Coal Report*, November 2017.
[14] Fred Hewett, "Coal Mining is a Dying Industry. So Why Does It Play an Outsized Role in our Energy Policy?" WBUR Commentary, August 22, 2018. Transcript accessed online: http://www.wbur.org/cognoscenti/2018/08/22/trump-epa-coal-pollution-fred-hewett.

replaced, for example, by modern oil rig workers, or those who work in the natural gas fields? These jobs are also highly masculinized, also highly dangerous, and stand at the center of the US energy industry today.

But while it would be easy to focus on the way that the political image of the miner has been marshalled to stall action on climate change or to amplify white nationalist discourse in recent years, it is only half the story. It fits into the story about Appalachia that we know—a place that changes come to rather than as a place from which change comes, a national tragedy, or a national embarrassment, a place only thought about when it becomes a "problem."[15] Like the imagined miner, imagined Appalachia is also a fiction. Appalachia occupies what appears to be an outsized place in the American political imagination, allowing 50,000 coal miners to stand in for a much larger—and much more diverse—working class. What explains the seeming unending importance of these 50,000 votes, particularly when this political pandering does not translate into policy well poised to improve miners' lives? The importance of the coal miner as a political figure can seem nearly unrivaled in American politics, particularly of the center and right which dominate the American political mainstream.

But on the left, even crucial works like Elizabeth Catte's *What You Are Getting Wrong about Appalachia* and the field of Appalachian studies have focused primarily on understanding Appalachia on its own terms, often leaving unchallenged that as a region it exists on the periphery of the American experience, even if it is sometimes a radical periphery.[16] Precisely *because* of this view of Appalachia, however, we have found it difficult to explain key recent events that put West Virginia at the center of national politics. The recent Red State Rebellion of underpaid and

[15] See, for example, J.D. Vance, *Hillbilly Elegy: A Memoir of a Family and Culture in Crisis* (New York: Harper and Row, 2014). Vance's work appears to many as the modern version of Harry M. Caudill's *Night Comes to the Cumberlands: A Biography of a Depressed Area* (New York: Atlantic Monthly Press, 1963).
[16] Elizabeth Catte, *What You Are Getting Wrong about Appalachia* (Cleveland: Belt Press, 2018). Also see the 2019 issue of *Boston Review* that Catte edited, which focused on the rural experience of radical politics as forgotten, but still apart, from the US mainstream.

undervalued teachers—most of them women—captured the political dreams of many, and it emerged from West Virginia, where teachers have led wildcat strikes, defying threats and injunctions—and winning concessions. Many of the teachers cited the experience of growing up in coal mining families, and key strike leaders came from heart of coal country—including Mingo County, where the battle of Blair Mountain took place. But as much as political commentators tried to draw the connection between the teachers and Blair Mountain, the teachers march on the capital looked much more like the 1969 black lung strike, a strike in living memory for most of the teachers and their parents.[17]

The 2016 presidential election indicates the continued power of the coal miner in American politics *even as* most experts have accepted that a recovery for coal is unlikely. But an addendum is required: in the shadow of this political myth, real workers continue to die. The costs of coal are still being incurred. Just as in the early days of the safety crisis that followed the mechanization of coal mining, black lung has resurged across Appalachia, and the disease appears to be progressing faster than ever before. Stage III black lung, which used to take thirty years underground to acquire, is being seen in young miners with less than ten years on the job. This time, many of those workers do not belong to a union, and coal, for all its prominence on the national political stage, seems an anachronism to most Americans. History, according to one black lung clinician, is "going in the wrong direction."[18]

This dissertation suggests that the persistent political power of the coal miner and coalfield politics in American politics is not only an American myth, but the legacy of a historical transformation that allowed the nation's coal miners to make a new series of political, moral, and energetic claims upon the nation that defined the energy relationships structuring modern

[17] Benjamin Wallace-Wells, "The New Old Politics of the West Virginia Teachers' Strike," *The New Yorker*, March 2, 2018.
[18] Andrea Germanos, "'History Going the Wrong Direction' as Worst Form of Black Lung Disease Rises Again," *Common Dreams*, May 23, 2018.

American life. High-energy capitalism in the United States not only resulted in a national "debt" to the environment for the energy stolen from its crust, but produced disparities—environmental, political, economic, moral, social—that miners forced into the sphere of public debate throughout the energy crisis of the long 1970s. These disparities, and their attendant tensions, were never resolved. The coal miner, as a political figure increasingly distanced from the real workers he is meant to represent, mediates moral disquiet about the costs of high-energy capitalism powered by fossil fuels. This fictive miner lingers in public debate almost like a ghost, unwilling to find closure or be at peace, filled with meaning by those who marshal him.[19]

This modern energy unease is more recent than we usually imagine. And the meaning of democratic citizenship in a high-energy society sits at the heart of contemporary debates over just transition. Until we fully consider the energy workplace as a site of contemporary national importance, today's problems of energy democracy in a decarbonizing world will never be fully resolved.

[19] This conclusion expands on Brent Walter Cline's finding that ghost stories pervade Appalachian forms of storytelling as a way to mediate life between environmental degradation and economic development. Cline's narrative, however, is necessarily regionalized because the narratives are used internally, rather than as part of national political discourse. Cline, "Buried Ghosts, Buried Treasure: Coal Mines and the Ghosts of Appalachia," *South Carolina Review* 47, no. 2 (2015), 46-47. For a contemporary regionalized ethnography of the disparities between Appalachian citizenship and economic development in the context of mountaintop removal extraction methods, see Rebecca Scott, *Removing Mountains: Extracting Nature and Identity in the Appalachian Coalfields* (St. Paul: University of Minnesota Press, 2010).

Bibliography

Archives

Archives of Appalachia
Eastern Tennessee State University (Johnson City, Tennessee)

- Richard Cartwright Papers
- Coal Employment Project Records
- Kipp Dawson Papers
- Jeanne M. Rasmussen Papers

Baker Library Special Collections
Harvard University

- International Directory of Company Histories

Eberly Family Special Collections
Pennsylvania State University (State College, Pennsylvania)

- Jerry DeMuth Collection of United Mine Workers and Strip Mining
- United Mine Workers, Audio-Visual Collection
- United Mine Workers, Journal Office Records
- United Mine Workers, Legislative Department and COMPAC Records
- United Mine Workers, Photographic, Graphic, and Artifacts Collection
- United Mine Workers, President's Office Correspondence
- United Mine Workers, President's Office Records
- United Mine Workers, Research Department Records
- United Mine Workers, Safety Division Records
- United Steel Workers, District 50 Records

Louie B. Nunn Center for Oral History
University of Kentucky (Lexington, Kentucky)

- Appalachia: Brookside Mine Strike
- Women and Collective Protest

Walter P. Reuther Library of Labor and Urban Affairs
Wayne State University (Detroit, Michigan)

- John P. Herling Papers
- Labor Committee for Safe Energy and Full Employment Records
- Miners for Democracy Records
- Archie Robinson Papers

Hearings

"Labor Policy in Atomic Plants." Hearings before the Joint Committee on Atomic Energy, 80th Congress, 2nd Session, March 9, 1948.

Subcommittee on Labor. "Investigation of the Hyden, Kentucky, coal mine disaster of December 30, 1970." 92nd Congress, 1st Session, July 1971.

US Congress, Senate. "Health and Safety in Coal Mines." Hearings before the Subcommittee on Labor of the Committee on Labor and Public Welfare. 91st Congress, 2d. session, August 6, 1970.

West Virginia Department of Mines. *Official Hearing: Coal Mine Explosion, Consol No. 9 Mine, November 20, 1968*. West Virginia Department of Mines, AR-1810. Accessed online: http://www.wvculture.org/history/disasters/farmington01.html.

Conference Proceedings

A Forum Report: Atomic Energy—the New Industrial Frontier. New York: Atomic Industrial Forum, 1955.

President's Commission on Coal. *Proceedings of First Public Hearing, Charleston, West Virginia*. Washington, DC: US Government Printing Office, 1978.

———. *Labor-Management Seminar I: Collective Bargaining in the Coal Industry*. Washington, DC: N.p., March 21, 1979.

———. *Special Public Hearings: Lessening Oil Dependency through Greater Coal Use.* Washington, DC: The Commission, 1979.

Proceedings of the Forty-Fourth Consecutive Constitutional Convention of the United Mine Workers of America. Washington, DC: United Mine Workers of America, 1964.

Proceedings of the Forty-Fifth Consecutive Constitutional Convention of the United Mine Workers of America. Washington, DC: United Mine Workers of America, 1968.

Proceedings of the Forty-Sixth Consecutive Constitutional Convention of the United Mine Workers of America. Washington, DC: United Mine Workers of America, 1973.

Proceedings of the Forty-Seventh Consecutive Constitutional Convention of the United Mine Workers of America. Washington, DC: United Mine Workers of America, 1979.

Online Databases

American Presidency Project, University of California, Santa Barbara
HeinOnline Law Journal Library
ProQuest Historical Newspapers

ProQuest Congressional

Periodicals

The Atlantic
Beckley Post-Herald (West Virginia)
Atlanta Daily World
Bluefield Daily Telegraph (West Virginia)
Charleston Daily Mail (West Virginia)
Chicago Tribune
Coal
Coal Industry News
Coal Patrol
Editorial Research Reports
Human Events
The Humble Way (Humble Oil Company, New Jersey)
Independent (Ashland, West Virginia)
LIFE
Miner's Voice
Mountain Eagle (Whitesburg, Kentucky)
National Petroleum News
New Republic
New York Times
Newsweek
Pittsburgh Post-Gazette
Pittsburgh Press
Richmond Register (Kentucky)
Sierra
Time
Uniontown. Standard (Pennsylvania)
United Mine Workers Journal
Washington Post
Welch Daily News (West. Virginia)
West Virginian Times (Fairmont, West Virginia)

Published Primary Sources

Appalachian Land Ownership Task Force. *Who Owns Appalachia? Landownership and Its Impact*. Lexington: University Press of Kentucky, 1983.

Appalachian Regional Commission. *Land Ownership Patterns and their Impacts on Appalachian Communities*. Boone, NC: Center for Appalachian Studies, 1981.

Ausenbaugh, James D. *At Sixth and Broadway: Tales from the Glory Days of a Great Newspaper*. Scottsville, KY: Mews Publishing Company, 1998.

Bernstein, Irving, Harold L. Enarson, and R.W. Fleming, *Emergency Disputes and National Policy*. New York: Harper, 1955.

Bureau of Economics, Federal Trade Commission. "Structure of the Petroleum Industry and its Relation to Oil Shale and Other Energy Sources," *Economic Papers, 1966-69*. Washington, DC: Government Print Office, 1970.

Bureau of Mines, *Minerals Yearbook, 1969*. Washington, DC: US Government Printing Office, 1971.

Carson, Rachel. *Silent Spring*. New York: Houghton Mifflin, 2002.

Caudill, Henry. *Night Comes to the Cumberlands: A Biography of a Depressed Area*. Ashland, KY: Jesse Stuart Foundation, 2001.

———. *My Land Is Dying*. New York: E.P. Dutton and Co., 1971.

Charles River Associates, "The Economic Impact of Public Policy on the Appalachian Coal Industry and the Regional Economy," vol. 1-3. Cambridge, MA: N.p., 1973.

Committee on Government Operations. "The Environmental Decade: Action Proposals for the 1970s." Washington, DC: US Government Printing Office, 1970.

Commoner, Barry. *The Politics of Energy*. New York: Alfred A. Knopf, 1979.

———. *The Poverty of Power: Energy and the Economic Crisis*. New York: Bantam, 1976.

Conot, Robert E. *Rivers of Blood, Years of Darkness*. New York: Bantam, 1967.

Cox, Edward, Robert C. Fellmeth, and John E. Schultz. *Nader's Raiders Report on the Federal Trade Commission.* New York: Grove Press, 1969.

Energy Policy Project of the Ford Foundation. *A Time to Choose: America's Energy Future*. Cambridge, MA: Ballinger, 1974.

Esposito, John C. and Larry J. Silverman. *Vanishing Air: The Ralph Nader Study Group Report on Air Pollution*. New York: Grossman, 1970.

Federal Power Commission. *National Power Survey: Guidelines for the Growth of the Electric Power Industry*, Part I. Washington, DC: US Government Printing Office, 1964.

———. *The 1970 National Power Survey*. Part I. Washington, DC: US Government Printing Office, 1971.

Fellmeth, Robert C. *The Interstate Commerce Omission: The Public Interest and the ICC*. New York: Grossman, 1970.

General Accounting Office. *US Coal Development—Promises, Uncertainties: Report to the Congress*. Washington, DC: US General Accounting Office, 1977.

Guillerman, Michael. *Face Boss: The Memoir of a Western Kentucky Coal Miner*. Knoxville: University of Tennessee Press, 2009.

Hechler, Ken. *The Fight for Coal Mine Health and Safety: A Documented History*. Charleston, WV: Pictorial Histories Publishing Company, 2011.

Hutton, Robert, dir. *The Slime People*. N.p.: Rhino Theatrical, 2001.

Kapp, K. William. *The Social Costs of Private Enterprise*. New York: Schocken Books, 1971.

Kopple, Barbara. *Harlan County, USA.* New York: Criterion, 2006.

Kramer, Victor H. "Commentary: Economic Concentration and the Antitrust Laws," *Washington University Law Review*. 1975 (1975): 165.

Landsberg, Hans H. and Sam H. Schurr, *Energy in the United States: Sources, Uses, and Policy Issues*. New York: Random House, 1967.

Lilienthal, David E. *Change, Hope, and the Bomb*. Princeton, NJ: Princeton University Press, 1963.

Luce, Henry R. "The American Century." *Life Magazine*, February 17, 1941.

Mancke, Richard B. *The Failure of US Energy Policy*. New York: Columbia University Press, 1974.

Mine Safety and Health Administration. "Coal Fatalities, 1900-2017." https://arlweb.msha.gov/stats/coalstats.asp.

Momboisse, Raymond M. *Industrial Security for Strikes, Riots, and Disasters*. Springfield, IL: Charles C. Thomas, 1968.

———. "Riot Prevention and Survival," *Chicago Kent-Law Review* 45 no. 2 (October 1968), 143-156.

Nader, Ralph. *The Ralph Nader Reader*. New York: Seven Stories Press, 2000.

———. *Unsafe at Any Speed: The Designed-In Dangers of the American Automobile*. New York: Knightsbridge, 1991.

Nader, Ralph and John Abbotts. *The Menace of Atomic Energy*. New York: Norton, 1977.

Phelan, James and Robert C. Pozen. *The Company State: Ralph Nader's Study Group Report on DuPont in Delaware.* New York: Grossman, 1973.

Potter, David M. *People of Plenty: Economic Abundance and the American Character.* Chicago: University of Chicago Press, 1958.

President's Commission on Three Mile Island. *The Need for Change: The Legacy of TMI*. Washington, DC: N.p., 1979.

Resources for the Future, Sam H. Schurr, and Bruce Carlton Netschert. *Energy in the American Economy, 1850-1975; an Economic Study of Its History and Prospects*. Baltimore: Johns Hopkins Press, 1960.

Rogovin, Stern, and Huge. *Three Mile Island: A Report to the Commissioners and to the Public.* Washington, DC: Nuclear Regulatory Commission, 1980.

Rosenbaum, Walter A. *Coal and Crisis: The Political Dilemmas of Energy Management*. New York: Praeger, 1978.

Sekeley, Steve and Freddy Francis, dirs. *The Day of the Triffids*. Los Angeles: Allied Artists, 2003.

Straus, Donald B. "The Development of a Policy for Industrial Peace in Atomic Energy." N.p.: Lanning Pamphlets, no. 71 (July 1950).

Strauss, Lewis L. "Remarks at the Founder's Day Dinner of the National Association of Science Writers," September 16, 1954. Nuclear Regulatory Commission, Document ML1613. https://www.nrc.gov/docs/ML1613/ML16131A120.pdf

Titler, George. *Hell in Harlan*. Beckley, WV: BJW Printers, 1972.

Turner, Donald. "The Scope of Antitrust and Other Economic Regulatory Policies." *Harvard Law Review* 82 (1969): 1207-31.

US Department of Labor, Atomic Energy Study Group. *Report on Labor Implications of Atomic Energy*. Washington, DC: US Government Printing Office, 1956.

Weller, Jack. *Yesterday's People: Life in Contemporary Appalachia*. Lexington: University of Kentucky Press, 1965.

Whale, James, dir. *Frankenstein*. Universal City, CA: Universal Pictures, 1957.

Zwick, David, Mary Benstock, and Ralph Nader. *Water Wasteland.* New York: Bantam, 1972.

Secondary Literature

Aaronson, Susan Ariel. *Trade and the American Dream: A Social History of Post-World War II Trade Policy*. Lexington: University Press of Kentucky, 1996.

Abrams, Nathan and Julie Hughes, eds. *Containing America: Cultural Production and Consumption in 50s America*. New York: Continuum Books, 2005.

Abramsky, Kolya. *Sparking a Worldwide Energy Revolution: Social Struggles in the Transition to a Post-petrol World*. Oakland, CA: AK Press, 2010.

Abdullah, Ibrahim. "Rethinking the Freetown Crowd: The Moral Economy of the 1919 Strikes and Riot in Sierra Leone." *Canadian Journal of African Studies / Revue Canadienne Des Études Africaines* 28, no. 2 (1994): 197-218.

Abu-Lughod, Janet L. *Race, Space, and Riots in Chicago, New York, and Los Angeles*. New York: Oxford Univeristy Press, 2012.

Ackermann, John A. "The Impact of the Coal Strike of 1977-1978." *Industrial and Labor Relations Review* 32 no. 2 (January 1979): 175-188

Adams, Richard Newbold. *Energy and Structure: A Theory of Social Power*. Austin: University of Texas Press, 1975.

Ahmed, S. Basheer. *Nuclear Fuel and Energy Policy*. Toronto: Lexington Books, 1979.

Aitken, Thomas, Jr. *A Foreign Policy for American Business*. New York: Harper and Brothers, 1962.

Allardice, Corbin, and Edward R. Trapnell. *The Atomic Energy Commission*. Vol. no. 42. Praeger Library of U.S. Government Departments and Agencies ; New York: Praeger, 1974.

Allen, Robert C. "Backward into the Future: The Shift to Coal and Implications for the Next Energy Transition." *Energy Policy* 50 (2012) 17-23.

Anderson, Elizabeth. *Private Government: How Employers Rule Our Lives and Why We Don't Talk about It*. Princeton, NJ: Princeton University Press, 2017.

Andrews, Thomas G. *Killing for Coal: America's Deadliest Labor War*. Cambridge, MA: Harvard University Press, 2008.

Anglin, Mary. "Toward a New Politics of Outrage and Transformation: Placing Appalachia within the Global Political Economy." *Journal of Appalachian Studies* 22 no. 1 (Spring 2016): 51-56.

Arnold, Andrew B. *Fueling the Gilded Age: Railroads, Miners, and Disorder in Pennsylvania Coal Country*. New York: New York University Press, 2014.

Atkinson, Rowland. "The Ecology of Sound: The Sonic Order of Urban Space." *Urban Studies* 44 no. 10 (September 2007): 1905-1917.

Aviel, S. David. *The Politics of Nuclear Energy*. Washington, DC: University Press of America, 1982.

Avila, Eric. *The Folklore of the Freeway: Race and Revolt in the Modernist City*. Minneapolis: University of Minnesota Press, 2014.

Auzannueau, Matthieu. *Oil, Power, and War: A Dark History*. Hartford, VT: Chelsea Green Publishing, 2018.

Bagchi, Amiya Kumar. *Perilous Passage: Mankind and the Global Ascendance of Capital*. Lanham, MD: Rowan and Littlefield, 2005.

Bahr, Hans-Dieter. "The Class Structure of Machinery: Notes on the Value Form," in *Outlines of a Critique of Technology* (Slater, ed.). London: Ink Links, 1980.

Bailey, Rebecca J. *Matewan Before the Massacre: Politics, Coal, and the Roots of Conflict in a West Virginia Mining Community.* Morgantown: West Virginia University Press, 2008.

Bakke, Gretchen. *The Grid: The Fraying Wires between Americans and Our Energy Future*. New York: Bloomsbury, 2016.

Baker, Kevin T. "World Processors: Computer Modeling, Global Environmentalism, and the Birth of Sustainable Development." Ph.D. dissertation, Northwestern University, 2019.

Balderston, Theo. "The Economics of Abundance: Coal and Cotton in Lancashire and the World." *Economic History Review* 63 no. 3 (2010): 569-90.

Baldwin, Robert E. *The Political Economy of Postwar US Trade Policy*. New York: New York University Bulletin, 1976.

Balogh, Brian. *The Associational State: American Governance in the Twentieth Century*. Philadelphia: University of Pennsylvania Press, 2015.

———. *Chain Reaction: Expert Debate and Public Participation in American Commerical Nuclear Power, 1945-1975*. New York: Cambridge University Press, 1991.

Brian Balogh, ed. *Integrating the Sixties: The Origins, Structures, and Legitimacy of Public Policy in a Turbulent Decade.* Philadelphia: University of Pennsylvania Press, 1996.

Barca, Stefania. "Energy, Property, and the Industrial Revolution Narrative." *Ecological Economics* 70 no. 7 (2011): 1309-15.

———. "On Working-Class Environmentalism: A Historical and Transnational Overview." *Interface* 4 no. 2 (2012): 61-80.

———. "Laboring the Earth: Transnational Reflections on the Environmental History of Work." *Environmental History* 19 no. 1 (2013): 3-27.

Barry, Joyce M. *Standing Our Ground: Women, Environmental Justice, and the Fight to End Mountaintop Removal*. Athens, Ohio: Ohio University Press, 2012.

Baumann, Fred E., ed. *Democratic Capitalism? Essays in Search of a Concept*. Charlottesville: University of Virginia Press, 1986.

Beasley, Betsy. "White-Collar Wildcatters and Wildcat Strikes: Oil Experts, Global Contracts, and the Transformation of Labor in Postwar Houston," in *Working for Oil: Comparative Social Histories of Labor in the Global Oil Industry*. Touraj Atabaki, Elisabetta Bini, and Kaveh Ehsani, eds. New York: Springer International Publishing, 2018: 257-284.

Beckert, Sven. *Empire of Cotton: A Global History*. New York: Alfred A. Knopf, 2014.

Beckwith, Karen. "Gender, Class, and the Structure of Intersectionality: Working-Class Women and the Pittston Coal Strike. *Politics, Groups, and Identities* 2 no. 1 (2014): 17-34.

———. "Collective Identities of Class and Gender: Working-Class Women in the Pittston Coal Strike." *Political Psychology* 19 no. 1 (1998): 147-167.

Belew, Kathleen. *Bring the War Home: The White Power Movement and Paramilitary America*. Cambridge, MA: Harvard University Press, 2018.

Bell, Shannon E. *Our Roots Run Deep as Ironweed: Appalachian Women and the Fight for Environmental Justice*. Urbana: University of Illinois Press, 2013.

Bell, Shannon E. and Y.A. Braun. "Coal, Identity, and the Gendering of Environmental Justice Activism in Appalachia." *Gender and Society* 24 no. 6 (2010): 794-813.

Bellamy, Brent Ryan and Jeff Diamanti. *Materialism and the Critique of Energy*. Chicago: M-C-M', 2018.

Benson, Herman. "Strengthening Democracy in Unions." *WorkingUSA* 5 no. 4 (Spring 2002): 71-83.

Berman, Marshall. *All That Is Solid Melts into Air: The Experience of Modernity*. New York: Penguin, 1988.

Best, Bill. *Saving Seeds, Preserving Taste: Heirloom Seed Savers in Appalachia*. Athens: Ohio University Press, 2013.

Betz, Michael R. "Coal mining, economic development, and the natural resources curse." *Energy Economics* 50.0 (2015): 105-116.

Billings, Dwight B. "Rethinking Class Beyond Colonialism." *Journal of Appalachian Studies* 22 no. 1 (Spring 2016): 57-64.

Billings, Dwight B. and Kathleen M. Blee. *The Road to Poverty: The Making of Wealth and Hardship in Appalachia*. New York: Cambridge University Press, 2000.

Biondi, Martha. *The Black Revolution on Campus*. Berkeley: University of California Press, 2014.

Black, Brian C. "Oil for Living: Petroleum and American Conspicuous Consumption." *Journal of American History* 99 no. 1 (June 2012): 40-50.

Black, Megan. *The Global Interior: Mineral Frontiers and American Power*. Cambridge, MA: Harvard University Press, 2018.

Blackie, Daniel and David M. Turner. *Disability in the Industrial Revolution: Physical Impairment in British Coal Mining, 1780-1880*. Manchester, UK: Manchester University Press, 2018.

Block, Fred. *Revising State Theory: Essays in Politics and Postindustrialism*. Philadelphia: Temple University Press, 1987.

Bohi, Douglas R. and Milton Russell. *Limiting Oil Imports: An Economic History and Analysis*. Baltimore: Johns Hopkins University Press.

Bonacich, Edna and Jake B. Wilson. *Getting the Goods: Ports, Labor, and the Logistics Revolution*. Ithaca, NY: Cornell University Press, 2008.

Borman, Kathryn M. and Phillip J. Obermiller. *From Mountain to Metropolis: Appalachian Migrants in American Cities*. Westport, CT: Bergin and Garvey, 1994.

Borstelmann, Thomas. *The 1970s: A New Global History from Civil Rights to Economic Inequality*. Princeton, NJ: Princeton University Press, 2013.

Botsch, Robert E. *Organizing the Breathless: Cotton Dust, Southern Politics, and the Brown Lung Association*. Lexington: University Press of Kentucky, 1993.

Bourke, Joanna. *Fear: A Cultural History*. London: Virago, 2005.

Bowman, John R. *Capitalist Collective Action: Competition, Cooperation, and Conflict in the Coal Industry*. New York: Cambridge University Press, 1989.

Boyer, Paul. *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*. New York: Pantheon Books, 1985.

Bratsis, Peter. *Everyday Life and the State*. Boulder, CO: Paradigm Publishers, 2006.

Brenner, Aaron, Robert Brenner, and Cal Winslow. *Rebel Rank and File: Labor Militancy and Revolt from Below during the Long 1970s*. New York: Verso, 2010.

Brenner, Robert. *The Economics of Global Turbulence: The Advanced Capitalist Economies from Long Boom to Long Downturn*. New York: Verso, 2006.

Briecree, Adrienne M. "The Importance and Implications of Women's Participation in the 1989-90 Pittston Coal Strike." *Journal of Economic Issues* 30 no. 1 (1996): 187-210.

Brinkley, Alan. *The End of Reform: New Deal Liberalism in Recession and War*. New York: Vintage, 1995.

Brooks, Karl Boyd. *Before Earth Day: The Origin of American Environmental Law, 1945-1970*. Lawrence: University Press of Kansas, 2009.

Brown, Kate. *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*. New York: Oxford University Press, 2013.

Brown, Michael K. "Bargaining for Social Rights: Unions and the Reemergence of Welfare Capitalism, 1945-1952." *Political Science Quarterly* 112 no. 4 (1997): 645-674.

Brugge, Doug, Timothy Benally, and Esther Yazzie-Lewis, eds. *The Navajo People and Uranium Mining*. Albuquerque: University of New Mexico Press, 2006.

Burnell, Peter, ed. *Democratization through the Looking Glass*. New York: Palgrave, 2002.

Burns, Shirley Stewart. *Bringing Down the Mountains: The Impact of Mountaintop Removal Surface Coal Mining on Southern West Virginia Communities, 1970-2004.* Morgantown: West Virginia University Press, 2007.

Burns, Shirley Steward, Mari-Lynn Evans, and Silas House. *Coal Country: Rising Up against Mountaintop Removal Mining*. San Francisco: Sierra Club Books, 2009.

Butler, Tom and Doug Tompkins. *Plundering Appalachia: The Tragedy of Mountaintop Removal Mining*. San Rafael, CA: Earth Aware Editions, 2009.

Camilleri, Joseph A. *The State and Nuclear Power: Conflict and Control in the Western World*. Seattle: University of Washington Press, 1984.

Canaday, Margot. *The Straight State: Sexuality and Citizenship in Twentieth Century America.* Princeton, NJ: Princeton University Press, 2009.

Carawan, Guy and Candie Carawan, eds. *Voices from the Mountains: The People of Appalachia, Their Words, Their Faces, Their Songs*. Athens: University of Georgia Press, 1996.

Carrier, James G. "Moral Economy: What's in a Name?" *Anthropological Theory* 18 no. 1 (2018):18-35.

Cater, Casey. *Regenerating Dixie: Electric Energy and the Modern South*. Pittsburgh, PA: University of Pittsburgh Press, 2019.

———. "Regenerating Dixie: Electric Energy and the Making of the Modern South." Ph.D. diss. Georgia State University, 2016.

Catte, Elizabeth. *What You Are Getting Wrong about Appalachia*. Cleveland: Belt Press, 2018.

Caute, David. *The Great Fear: Anticommunist Purges under Truman and Eisenhower*. New York: Simon and Schuster, 1978.

Chakrabarty, Dipesh. “The Climate of History: Four Theses.” *Critical Inquiry* 35, no. 2 (2009): 197-222.

Chernus, Ira. *Atoms for Peace*. College Station: Texas A&M University Press, 2002.

Chorev, Nitsan. *Remaking US Trade Policy: From Protectionism to Globalization*. Ithaca, NY: Cornell University Press, 2007.

Clark, Paul F. *The Miners’ Fight for Democracy: Arnold Miller and the Transformation of the United Mine Workers*. Ithaca: Cornell University Press, 1981.

Clayton, Blake C. *Market Madness: A Century of Oil Panics, Crises, and Crashes*. New York: Oxford University Press, 2015.

Cleaver, William. “Wildcats in the Appalachian Coalfields,” in *Midnight Oil: Work, Energy, War, 1973-1992*. Jamaica Plain, MA: Autonomedia, 1992.

Cline, Brent Walter. “Buried Bodies, Buried Treasure: Coal Mines and the Ghosts of Appalachia,” *South Carolina Review* 47 no. 2 (2015): 37-48.

Clinton, Hillary. *What Happened*. New York: Simon and Schuster, 2017.

Cohen, Carl. *Democracy*. Athens: University of Georgia Press, 1971.

Cohen, Lizabeth. *A Consumer’s Republic: The Politics of Mass Consumption in Postwar America*. New York: Vintage Books, 2003.

———. *Making a New Deal: Industrial Workers in Chicago, 1919-1939*. New York: Cambridge University Press, 2008.

Cohn, Julie A. *The Grid: Biography of an American Technology*. Cambridge, MA: MIT Press, 2017.

Coll, Steven. *Private Empire: ExxonMobil and American Power*. New York: Penguin, 2012.

Collins, Robert M. *More: The Politics of Growth in Postwar America*. New York: Oxford University Press, 2000.

Conway, Ed. *The Summit—Bretton Woods, 1944: J.M. Keynes and the Reshaping of the Global Economy*. New York: Pegasus Books, 2014.

Cook, Fred J. “The Warfare State.” *The Annals of the American Academy of Political and Social Science* 351 (January 1964): 102-109.

Cooper, Frederick. *Colonialism in Question: Theory, Knowledge, History*. Berkeley: University of California Press, 2005.

———. *Africa since 1940: The. Past of the Present*. New York: Cambridge University Press, 2002.

Cooper, Frederick and Ann Laura Stoler. *Tensions of Empire: Colonial Cultures in a Bourgeois World*. Berkeley: University of California Press, 1997.

Cooper, Melinda. *Family Values: Between Neoliberalism and the New Conservatism*. Cambridge, MA: MIT Press, 2017.

Corbin, David. *Life, Work, and Rebellion in the Coalfields: The West Virginia Miners, 1880-1922*. 2nd ed. Morgantown: West Virginia University Press, 2015.

Cott, Nancy F. *Public Vows: A History of Marriage and the Nation*. Cambridge, MA: Harvard University Press, 2000.

Cowan, Ruth Schwartz. *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*. New York: Basic Books, 1985.

Cowen, Deborah. *The Deadly Life of Logistics: Mapping Violence in the Global Trade*. Minneapolis: University of Minnesota Press, 2014.

Cowie, Jefferson. *The Great Exception: The New Deal and the Limits of American Politics*. Princeton, NJ: Princeton University Press, 2016.

———. *Stayin' Alive: The 1970s and the Last Days of the Working Class*. New York: The New Press, 2012.

———. "Portrait of the Working Class in a Convex Mirror: Toward a History of the 1970s." *Labor: Studies in Working-Class History of the Americas* 2, no. 3 (2005): 93-102.

———. "Nixon's Class Struggle: Romancing the New Right Worker, 1969-1973. *Labor History* 43, no. 3 (2002): 257-283.

———. *Capital Moves: RCA's Seventy-Year Quest for Cheap Labor*. New York: The New Press, 2001.

Cowie, Jefferson, Joseph Heathcott, and Barry Bluestone, eds. *Beyond the Ruin: The Meanings of Industrialization*. Ithaca, NY: Cornell University Press, 2003.

Cronon, William, ed. *Uncommon Ground: Rethinking the Human Place in Nature*. New York: W.W. Norton & Co., 1996.

Cummings, Katina. "Decentralized Bargaining in the Coal Industry? Emerging Shifts in Power Relations." M.A. Thesis, Massachusetts Institute of Technology, 1980.

Dauvergne, Peter. *The Shadows of Consumption: Consequences for the Global Environment*. Cambridge, MA: MIT Press, 2008.

Davis, Charles, ed. *Western Public Lands and Environmental Politics*. Boulder, CO: Westview Press, 2001.

Dayton, Tim. *Muriel Rukeyser's The Book of the Dead*. Columbia: University of Missouri Press, 2003.

de la Peña, Carolyn Thomas. *The Body Electric: How Strange Machines Built the Modern America*. New York: New York University Press, 2003.

de Sousa Santos, Boanventura, ed. *Democratizing Democracy: Beyond the Liberal Canon*. New York: Verso, 2005.

Decker, Jefferson. *The Other Rights Revolution: Conservative Lawyers and the Remaking of American Government*. New York: Oxford Univeristy Press, 2014.

Deffeyes, Kenneth S. *Hubbert's Peak: The Impending World Oil Shortage.* 1st ed. Princeton, NJ: Princeton University Press, 2001.

Delanty, Gerard and Aurea Mota. "Governing the Anthropocene: Agency, Governance, and Knowledge." *European Journal of Social Theory* 20, no. 1 (2017): 9-38.

Derickson, Alan. "Inventing the Right to Know: Herbert Abrams's Efforts to Democratize Access to Workplace Health Hazard Information in the 1950s," *American Journal of Public Health* 106: 2 (February 2016): 237-45.

———. "Surviving a 'Carcinogen Rich Environment': Steelworkers' Democratic Intrusion into the Regulation of Coke-Oven Emissions," *Journal of Policy History* 27: 4 (October 2015): 561-91.

———. "'Nuisance Dust': Unprotective Limits for Exposure to Coal Mine Dust in the United States, 1934-1969," *American Journal of Public Health* 103: 2 (February 2013): 238-49.

———. *Black Lung: Anatomy of a Public Health Disaster*. Ithaca: Cornell University Press, 1998.

———. "Participative Regulation of Hazardous Working Conditions: Safety Committees of the United Mine Workers of America, 1941-1969," *Labor Studies Journal* 18: 2 (Summer 1993): 25-38.

———. "Occupational Disease and Career Trajectory in Hard Coal, 1870-1930," *Industrial Relations* 32: 1 (Winter 1993): 94-110.

———. "The United Mine Workers of America and the Recognition of Occupational Respiratory Diseases, 1902-1968," *American Journal of Public Health* 81: 6 (June 1991): 782-90.

———. *Workers' Health, Workers' Democracy: The Western Miners' Struggle, 1891-1925*. Ithaca: Cornell University Press, 1988.

———. “Down Solid: The Origins and Development of the Black Lung Insurgency,” *Journal of Public Health Policy* 4: 1 (March 1983): 25-44.

Dewey, John. *The Public and Its Problems*. New York: Henry Holt, 1927.

———. *Freedom and Culture*. New York: Capricorn Books, 1963.

Dewey, Scott Hamilton. *Don’t Breathe the Air: Air Pollution and US Environmental Politics*. College Station: Texas A&M University press, 2000.

DiMento, Joseph, Cliff Ellis, and Robert Gottlieb. *Changing Lanes: Visions and Histories of Urban Freeways*. Cambridge, MA: MIT Press, 2014.

Dix, Keith. *What’s a Coal Miner to Do? The Mechanization of Coal Mining*. Pittsburgh, PA: Pittsburgh University Press, 1988.

Dochuk, Darren. *From Bible Belt to Sun Belt: Plain Folk Religion, Grassroots Politics, and the Rise of Evangelical Conservatism.* New York: W.W. Norton, 2012.

Douglas, Mary and Aaron Wildavsky. *Risk and Culture: An Essay on the Selection of Technological and Environmental Danger*. Berkeley: University of California Press, 1983.

Dubofksy, Melvyn. *The State and Labor in Modern America*. Chapel Hill: University of North Carolina Press, 1994.

———. *John L. Lewis: A Biography*. Urbana: University of Illinois Press, 1986.

———. “The Origins of Western Working-Class Radicalism, 1890-1905.” *Labor History* 7 no. 2 (1966): 131-154.

Duffy, Robert J. *Nuclear Politics in America: A History and Theory of Government Regulation*. Lawrence: University Press of Kansas, 1997.

Dunaway, Wilma. *The First American Frontier: Transition to Capitalism in Southern Appalachia, 1700-1860.* Chapel Hill: University of North Carolina Press, 1996.

Dunning, Thad. *Crude Democracy: Natural Resource Wealth and Political Regimes*. New York: Cambridge University Press, 2008.

Dyke, Richard Wayne. *Mr. Atomic Energy: Congressman Chet Holifield and Atomic Energy Affairs, 1945-1974.* New York: Greenwood Press, 1989.

Eichstaedt, Peter H. *If You Poison Us: Uranium and Native Americans*. Santa Fe: Red Crane Books, 1994.

Ekbladh, David. *The Great American Mission: Modernization and the Construction of an American World Order*. Princeton, NJ: Princeton University Press, 2011.

———. “Meeting the Challenge from Totalitarianism: The Tennessee Valley Authority as a Global Model for Liberal Development, 1933-1945,” *International History Review* 32 no. 1 (March 2010): 47-67.

Eller, Ronald. *Miners, Millhands, and Mountaineers: Industrialization of the Appalachian South, 1880-1930*. Knoxville: University of Tennessee Press, 1979.

Elm, Mostafa. *Oil, Power, and Principle: Iran’s Oil Nationalization and Its Aftermath*. Syracuse, NY: Syracuse University Press, 1992.

Emmons, David M. *The Butte Irish: Class and Ethnicity in an American Mining Town, 1875-1925.* Urbana: University of Illinois Press, 1989.

Enloe, Cynthia. *Maneuvers: The International Politics of Militarizing Women’s Lives*. Berkeley: University of California Press, 2000.

Erikson, Kai T. *Everything in Its Path: Destruction of Community in the Buffalo Creek Flood*. New York: Simon and Schuster, 1976.

Erlich, Paul R. *The End of Affluence: A Blueprint for Your Future*. Cambridge, MA: Ballinger, 1980.

Eskridge, William N. “Relationship between Rights and Obligations of Citizens.” *Fordham Law Review* 69 no. 5 (2001): 1721-1751.

Estlund, Cynthia L. “The Ossification of American Labor Law.” *Columbia Law Review* 102 (2002): 1527.

Evans, Mary-Lynn, and Jordan Freeman. *Blood on the Mountain*. New York: Virgil Films, 2016.

Farmer, Ashley D. *Remaking Black Power: How Black Women Transformed an Era*. Chapel Hill: University of North Carolina Press, 2017.

Feather, Carl E. *Mountain People in a Flat Land: A Popular History of Appalachian Migration to Northeast Ohio, 1940-1965*. Athens: Ohio University Press, 1998.

Feldman, James W. *Nuclear Reactions: Documenting American Encounters with Nuclear Energy*. Seattle: University of Washington Press, 2017.

Fenichell, Stephen. *Plastic: The Making of the Synthetic Century*. New York: Harper Business, 1996.

Fenrich, Lane. “Mass Death in Miniature: How Americans Became Victims of the Bomb.” In *Living with the Bomb: American and Japanese Cultural Conflicts in the Nuclear Age*, Laura Hein and Mark Selden, eds., 122-133. Armonk, NY: M.E. Sharpe, 1997.

Ferguson, James. *Global Shadows: Africa in the Neoliberal World Order*. Durham, NC: Duke University Press, 2006.

Findlay, John M. and Bruce William Hevly. *Atomic Frontier Days: Hanford and the American West*. Seattle: University of Washington Press, 2011.

Fischer, Claude S. *Made in America: A Social History of American Culture and Character*. Chicago: University of Chicago Press, 2010.

Fishback, Price Van Meter. *Soft Coal, Hard Choices: The Economic Welfare of Bituminous Coal Miners, 1890-1930*. New York: Oxford University Press, 1992.

Fisher, Steve and Barbara Ellen Smith. "Internal Colony—Are You Sure? Defining, Theorizing, and Organizing Appalachia." *Journal of Appalachian Studies* 22 no. 1 (Spring 2016): 45-50.

Fligstein, Neil. *The Transformation of Corporate Control*. Cambridge, MA: Harvard University Press, 1990.

Fones-Wolf, Elizabeth A. *Selling Free Enterprise: The Business Assault on Labor and Liberalism, 1945-1960*. Urbana: University of Illinois Press, 1995.

Ford, Henry. *My Life and Work*. Garden City, NY: Doubleday, 1922.

Fox, Sarah Alisabeth. *Downwind: A People's History of the Nuclear West*. Lincoln: University of Nebraska Press, 2014.

Franta, Benjamin. "Global Warming's Paper Trail." *Project Syndicate*, September 12, 2018.

Fraser, Steve and Gary Gerstle. *The Rise and Fall of the New Deal Order, 1930-1980*. Princeton, NJ: Princeton University Press, 1990.

Frederickson, Mary E. *Looking South: Race, Gender, and the Transformation of Labor*. Gainesville: University Press of Florida, 2011.

Freeman, Lindsey A. *Longing for the Bomb: Oak Ridge and Atomic Nostalgia*. Chapel Hill: University of North Carolina Press, 2015.

Freinkel, Susan. *Plastic: A Toxic Love Story*. New York: Harcourt, 2010.

French, Daniel. *When They Hid the Fire: A History of Electricity and Invisible Energy in America*. Pittsburg, PA: University of Pittsburgh Press, 2017.

Galbraith, James. *The End of Normal: The Great Crisis and the Future of Growth*. New York: Simon & Schuster, 2015.

Gasiorowski, Mark J. *US Foreign Policy and the Shah: Building a Client State in Iran*. Ithaca, NY: Cornell University Press, 1992.

Gavin, Francis J. *Nuclear Statecraft: History and Strategy in America's Atomic Age*. Ithaca, NY: Cornell University Press, 2012.

Genovese, Elizabeth Fox. "The Many Faces of Moral Economy: A Contribution to a Debate." *Past & Present*, no. 58 (1973): 161-68.

Gephart, R.E. *Hanford: A Conversation about Nuclear Waste and Cleanup*. Columbus, OH: Battelle Press, 2003.

Gerber, Michele Stenehjem. *On the Home Front: The Cold War Legacy of the Hanford Nuclear Site*. Lincoln: University of Nebraska Press, 1992.

Germanos, Andrea. "'History Going the Wrong Direction' as Worst Form of Black Lung Disease Rises Again." *Common Dreams*, May 23, 2018.

Ghosh, Arabinda. *OPEC, the Petroleum Industry, and United States Energy Policy*. Westport, CT: Quorum Books, 1983.

Gibbs, Ewan. "The Moral Economy of the Scottish Coalfields: Managing Deindustrialization under Nationalization, c. 1947-1983." *Enterprise and Society* 19 no. 1 (March 2018): 124-152.

Gill, Rebecca and Daryl Leeworthy. "Moral Minefields: Save the Children Fund and the Moral Economies of Nursery Schooling in the South Wales Coalfield in the 1930s." *Journal of Global Ethics* 11 no. 2 (2015): 218-232.

Golubuff, Risa. *The Lost Promise of Civil Rights*. Cambridge: Harvard University Press, 2007.

Goodrich, Carter. *The Miner's Freedom: A Study of Working Life in a Changing Industry*. Boston: Marshall Jones, 1925.

Gordon, Jane Anna and Lewis R. *Of Divine Warning: Reading Disaster in the Modern Age*. Boulder, CO: Paradigm Publishers, 2009.

Gordon, Robert J. *The Rise and Fall of American Growth: The US Standard of Living since the Civil War*. Princeton, NJ: Princeton University Press, 2016.

Gottlieb, Robert. *Forcing the Spring: The Transformation of American Environmentalism*. Washington, DC: Island Press, 1993.

Götz, Norbert. "Moral Economy: Its Conceptual History and Analytical Prospects." *Journal of Global Ethics* 11 no. 2 (2015): 163-175.

Gramsci, Antonio. "Americanism and Fordism," in *The Prison Notebooks, Volume II*. Joseph A. Buttigieg, trans. New York: Columbia University Press, 2011.

Grandin, Greg. *Fordlandia: The Rise and the Fall of Henry Ford's Forgotten Jungle City*. New York: Picador, 2010.

Green, James. *The Devil Is Here in These Hills: West Virginia's Coal Miners and Their Battle for Freedom*. New York: Grove Press, 2016.

Gregg, Sarah M. *Managing the Mountains: Land Use Planning, the New Deal, and the Creation of a Federal Landscape in Appalachia*. New Haven: Yale University Press, 2010.

Guy, Roger. *From Diversity to Unity: Southern Appalachian Migrants in Uptown Chicago, 1950-1970*. Lanham, MD: Lexington Books, 2007.

Haggard, Stephan and Robert R. Kaufman. *Dictators and Democrats: Masses, Elites, and Regime Change*. Princeton, NJ: Princeton University Press, 2016.

Hakes, Jay. "Introduction: A Decidedly Dangerous and Deadly Fuel." *Journal of American History* 99 no. 1 (June 2012): 19-23.

Haila, Yrjö and Chuck Dyke, eds. *How Nature Speaks: The Dynamics of the Human Ecological Condition*. Durham, NC: Duke University Press, 2006.

Håkansson, N. Thomas and Mats Widgren, eds. *Landesque Capital: The Historical Ecology of Enduring Landscape Modifications.* Walnut Creek, CA: Left Coast Press, 2014.

Hales, Peter. *Atomic Spaces: Living on the Manhattan Project*. Urbana: University of Illinois Press, 1997.

Hall, Burton H. *Autocracy and Insurgency in Organized Labor*. New Brunswick, NJ: Transaction Books, 1972.

Hall, Randal L., *Mountains on the Market: Industry, the Environment, and the South*. Lexington: University Press of Kentucky, 2012.

Hamilton, Shane. *Trucking Country: The Road to America's Walmart Economy*. Princeton, NJ: Princeton University Press, 2008.

Harris, Howell John. *The Right to Manage: Industrial Relations Policies of American Business in the 1940s*. Madison: University of Wisconsin Press, 1982.

Harris, Richard A. "The Political Development of the Regulatory State," in *The Oxford Handbook of American Political Development*. Richard Vallely, et al., eds. New York: Oxford University Press, 2016.

Harris, Richard A. and Sidney M. Milkis. *The Politics of Regulatory Change: A Tale of Two Agencies*. New York: Oxford University Press, 1996.

Harrison, Robert Pogue. *The Dominion of the Dead*. Chicago: University of Chicago Press, 2005.

Hartman, Andrew. *A War for the Soul of America: A History of the Culture Wars*. Chicago: University of Chicago Press, 2016.

Hartz, Louis. *The Liberal Tradition in America: An Interpretation of American Political Thought since the Revolution*. New York: Harcourt Brace & Company, 1955.

Harvey, David. *A Brief History of Neoliberalism*. New York: Oxford University Press, 2010.

Hauser, Jason. "'Scarce Fit for Anything but Slaves and Brutes': Climate in the Old Southwest, 1798-1855," *Alabama Review* 70 no. 2 (2017): 112-125.

Hays, Samuel P. *Explorations in American Environmental History*. Pittsburgh: University of Pittsburgh Press, 1998.

———. *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985*. New York: Cambridge University Press, 1989.

———. *American Political History as Social Analysis*. Knoxville: University of Tennessee Press, 1980.

Hecht, Gabrielle. *Being Nuclear: Africans and the Global Uranium Trade*. Cambridge, MA: MIT Press, 2014.

———. *The Radiance of France: Nuclear Power and National Identity after World War II*. Cambridge, MA: MIT Press, 1998.

Hecht, Gabrielle, ed. *Entangled Geographies: Empire and Technopolitics in the Global Cold War*. Cambridge, MA: MIT Press, 2011.

Henriksen, Margot A. *Dr. Strangelove's America: Society and Culture in the Atomic Age*. Berkeley: University of California Press, 1997.

Hinton, Elizabeth. *From the War on Poverty to the War on Crime: The Making of Mass Incarceration in America*. Cambridge, MA: Harvard University Press, 2017.

Hirsh, Richard F. *Power Loss: The Origins of Deregulation and Restructuring in the American Utility System*. Cambridge, MA: MIT Press, 1999.

———. *Technology and Transformation in the American Utility Industry*. New York: Cambridge University Press, 1989.

Hoerr, John P. *And the Wolf Finally Came: The Decline of the American Steel Industry*. Pittsburgh, PA: University of Pittsburgh Press, 1988.

Hopkins, George W. "Union Reform and Labor Law: Miners for Democracy and the Use of the Landrum-Griffin Act." *Journal of Labor Research* 31 (2010): 348-364.

Hornborg, Alf. *The Power of the Machine: Global Inequalities of Economy, Technology, and Environment*. Lanham, MD: AltaMira Press, 2001.

Horne, Gerald R. *Fire This Time: The Watts Uprising and the 1960s*. Boston: De Capo Press, 1997.

Horowitz, Roger, ed. *Boys and Their Toys? Masculinity, Technology, and Class in America*. New York: Routledge, 2001.

House, Silas. "The Road Back: Appalachia as an Internal Colony." *Journal of Appalachian Studies* 22 no. 1 (Spring 2016): 65-68.

Hughes, Agatha C. and Thomas P. Hughes. *Systems, Experts, and Computers: The Systems Approach in Management and Engineering, World War II and After.* Cambridge, MA: MIT Press, 2000.

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

Hume, Brit. *Death and the Mines: Rebellion and Murder in the UMW*. New York: Grossman, 1971.

Huntington, Samuel P. *American Politics: The Promise of Disharmony*. Cambridge, MA: Belknap, 1981.

Hyman, Louis. "To Fund the Green New Deal, Understand How the New Deal Actually Worked." *City Lab*, March 6, 2019. https://www.citylab.com/perspective/2019/03/the-new-deal-wasnt-what-you-think/584296/

Inman, Mason. *The Oracle of Oil: A Maverick Geologist's Quest for a Sustainable Future*. New York: W.W. Norton and Company, 2016.

Irwin, Douglas A. *Clashing over Commerce: A History of Trade Politics in America*. Chicago: University of Chicago Press, 2017.

Jackson, Kenneth T. *Crabgrass Frontier: The Suburbanization of the United States*. New York: Oxford University Press, 1987.

Jacobs, Meg. *Panic at the Pump: The Energy Crisis and the Transformation of American Politics in the 1970s*. New York: Hill and Wang, 2016.

———. *Pocketbook Politics: Economic Citizenship in Twentieth Century America*. Princeton, NJ: Princeton University Press, 2007.

Jacobson, David. *Place and Belonging in America*. Baltimore: Johns Hopkins University Press, 2002.

Jasper, James M. *Nuclear Politics: Energy and the State in the United States, Sweden, and France*. Princeton, New Jersey: Princeton University Press, 2014.

Jefferson, Thomas. *Notes on the State of Virginia*. New York: Norton, 1982.

John, Richard R. and Kim Phillips-Fein, eds. *Capital Gains: Business and Politics in Twentieth-Century America*. Philadelphia: University of Pennsylvania Press, 2016.

Johnson, Bob. *Carbon Nation: Fossil Fuels in the Making of American Culture*. Lawrence: University Press of Kansas, 2014.

Johnson, C. Donald. *The Wealth of a Nation: A History of Trade Politics in America*. New York: Oxford University Press, 2018.

Jones, Christopher F. *Routes of Power: Energy and Modern America.* Cambridge, MA: Harvard University Press, 2014.

Jones, Toby C. *Running Dry: Essays on Energy, Water, and Environmental Crisis*. New Brunswick, NJ: Rutgers University Press, 2015.

———. *Desert Kingdom: How Oil and Water Forged Modern Saudi Arabia.* Cambridge, MA: Harvard University Press, 2010.

Jonsson, Fredrik Albritton. "The Origins of Cornucopianism: A Preliminary Genealogy." *Criticial Historical Studies* 1 no. 1 (Spring 2014): 151-168.

Joppke, Christian. *Mobilizing against Nuclear Energy: A Comparison of Germany and the United States*. Berkeley: University of California Press, 1993.

Joseph, Peniel E. *Waiting 'Til the Midnight Hour: A Narrative History of Black Power in America*. New York: Holt, 2007.

Josephson, Paul R. *Motorized Obsessions: Life, Liberty, and the Small-Bore Engines*. Baltimore, MD: Johns Hopkins University Press, 2007.

Judkins, Bennett M. *We Offer Ourselves as Evidence: Toward Workers' Control of Occupational Health*. New York: Praeger, 1986.

Jungk, Robert. *The Nuclear State*. Eric Mosbacher, trans. London: John Calder, 1979.

Kahle, Trish. "A Woman's Place is in the UMWA: Women Miners and the Struggle for a Democratic Union in Western Pennsylvania, 1973-1979." *Labor: Studies in Working-Class History of the Americas* 13 no. 1 (March 2016), 41-63.

Kanarek, Harold. "Disaster for Hard Coal: The Anthracite Strike of 1925-26." *Labor History* 15, no. 1 (January 1974): 44-62.

Kander, Astrid, Paolo Malanima, and Paul Warde. *Power to the People: Energy in Europe over the Last Five Centuries*. Princeton, NJ: Princeton University Press, 2014.

Katsiaficas, George. *The Global Imagination of 1968: Revolution and Counterrevolution*. New York: PM Press, 2018.

Kaufman, Bruce. "The Theoretical Foundation of Industrial Relations and Its Implications." *Industrial and Labor Relations Review* 64 no. 1 (2010): 74-108.

Kaufman, Burton I. *Trade and Aid: Eisenhower's Foreign Economic Policy, 1953-1961*. Baltimore: Johns Hopkins University Press, 1982.

Keene, Sara. "Up in Smoke? The Making and Unmaking of a Rural Moral Economy." *Focaal* 73 (Winter 2015): 12-27.

Kerber, Linda. *No Constitutional Right to Be Ladies: Women and the Obligations of Citizenship*. New York: Hill and Wang, 1998.

Kiffmeyer, Thomas. *Reformers to Radicals: The Appalachian Volunteers and the War on Poverty*. Lexington: University Press of Kentucky, 2008.

Kinzer, Stephen. *All the Shah's Men: An American Coup and the Roots of Middle Eastern Terror*. Hoboken, NJ: J. Wiley & Sons, 2003.

Klein, Jennifer. *For All These Rights: Business, Labor, and the Shaping of America's Public-Private Welfare State*. Princeton, NJ: Princeton University Press, 2003.

Klein, Naomi. *This Changes Everything: Capitalism Versus the Climate*. New York: Simon & Schuster, 2014.

Kline, Benjamin. *First Along the River: A Brief History of the US Environmental Movement.* Lanham, MD: Rowman and Littlefield, 2011.

Klyza, Chris McGrory. *Who Controls Public Lands? Mining, Forestry, and Grazing Policies, 1870-1990.* Chapel Hill: University of North Carolina Press, 1996.

Kohler-Hausmann, Julilly. *Getting Tough: Welfare and Imprisonment in 1970s America*. Princeton, NJ: Princeton University Press, 2017.

Knight, Louise W. *Citizen: Jane Addams and the Struggle for Democracy*. Chicago: University of Chicago Press, 2005.

Krajcinovic, Ivana. *From Company Doctors to Managed Care: The United Mine Workers' Noble Experiment*. Ithaca, NY: ILR Press, 1997.

Krieger, Elena M., Joan A. Casey, and Seth B.C. Shonkoff, "A Framework for Siting and Dispatch of Emerging Energy Resources to Realize Environmental and Health Benefits: Case Study on Peaker Power Plant Displacement." *Energy Policy* 96 (2016): 302-313.

Kruse, Kevin and Thomas Sugrue, eds. *The New Suburban History*. Chicago: University of Chicago Press, 2006.

Kruse, Kevin and Julian Zelizer. *Fault Lines: A History of the United States since 1974*. New York: W.W. Norton & Co., 2009.

Kurki, Milja. "Democracy and Conceptual Contestability: Reconsidering Conceptions of Democracy in Democracy Promotion." *International Studies Review* 12 (2010): 362-386.

Laqueur, Thomas W. *The Work of the Dead: A Cultural History of Mortal Remains*. Princeton, NJ: Princeton University Press, 2015.

Larkin, Amy. *Environmental Debt: The Hidden Costs of a Changing Global Economy*. New York: Palgrave Macmillan, 2013.

Laslett, John H. M., ed. *The United Mine Workers of America: A Model of Industrial Solidarity?* University Park: Pennsylvania State University Press, 1996.

Lassiter, Matthew D. *The Silent Majority: Suburban Politics in the Sunbelt South*. Princeton, NJ: Princeton University Press, 2007.

Layzer, Judith A. *Open for Business: Conservative Opposition to Environmental Regulation*. Cambridge, MA: MIT Press, 2014.

Leach, William R. *Land of Desire: Merchants, Power, and the Rise of a New American Culture*. New York: Vintage, 1993.

LeMenager, Stephanie. *Living Oil: Petroleum Culture in the American Century*. New York: Oxford University Press, 2016.

Lerner, Steve. *Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States.* Cambridge, MA: MIT Press, 2012.

Letwin, Daniel. *The Challenge of Interracial Unionism: Alabama Coal Miners, 1878-1921.* Chapel Hill: University of North Carolina Press, 1998.

Levenstein, Charles and John Wooding. *Work, Health, and Environment: Old Problems, New Solutions*. New York: Guilford Press, 1997.

Levinson, Marc. *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*. Princeton, NJ: Princeton University Press, 2004.

Levy, Jonathon. *Freaks of Fortune: The Emerging World of Capitalism and Risk in America*. Cambridge, MA: Harvard University Press, 2012.

Lewis, Arthur H. *Murder by Contract: The People versus "Tough Tony" Boyle*. New York: Macmillan, 1975.

Lewis, Helen M., Linda Johnson, and Donald Askins. *Colonialism in Modern America: The Appalachian Case*. Boone, NC: Appalachian Consortium Press, 1978.

Lichtenstein, Nelson. *State of the Union: A Century of American Labor*. Princeton, NJ: Princeton University Press, 2002.

———. *The Most Dangerous Man in Detroit: Walter Reuther and the Fate of American Labor*. New York: Basic Books, 1995.

———. *Labor's War at Home: The CIO in World War II*. Philadelphia: Temple University Press, 2008.

Lichtenstein, Nelson, ed. *American Capitalism: Social Thought and Political Economy in the Twentieth Century*. Philadelphia: University of Pennsylvania Press, 2006.

Lichtenstein, Nelson, and Elizabeth Tandy Shermer, eds. *The Right and Labor in America: Politics, Ideology, and Imagination*. Philadelphia: University of Pennsylvania Press, 2016.

Lichtenstein, Nelson, and Howell John Harris, *Industrial Democracy in America: The Ambiguous Promise*. New York: Cambridge University Press, 2006.

Lifset, Robert D. "A New Interpretation of the Energy Crisis of the 1970s." *Historical Social Research* 39, no. 4 (2014): 22-42.

———. *Power on the Hudson: Storm King Mountain and the Emergence of Modern American Environmentalism*. Pittsburgh, PA: University of Pittsburgh Press, 2014.

Lifset, Robert D., ed. *American Energy Policy in the 1970s*. Norman: University of Oklahoma Press, 2014.

Limerick, Patricia Nelson. "The Significance of Hanford in American History," in *Terra Pacifica: People and Place in the Northwest States and Western Canada*. Paul W. Hirt, ed. Pullman: Washington State University Press, 1998. 53-70.

Lockard, Duane. *Coal: A Memoir and Critique*. Charlottesville: University of Virginia Press, 1998.

Lofaso, Anne Marie. "What We Owe Our Coal Miners." *Harvard Law & Policy Review* 5 no. 1 (January 2011): 88-113.

Loomis, Erik. *Out of Sight: The Long and Disturbing Story of Corporations Outsourcing Catastrophe*. New York: The New Press, 2015.

Lowitt, Richard. *Fred Harris: His Journey from Liberalism to Populism*. Lanham, Maryland: Rowan and Littlefield, 2002.

Lucks, Daniel S. *Selma to Saigon: The Civil Rights Movement and the Vietnam War*. Lexington: University Press of Kentucky, 2016.

Lynd, Staughton. *The Fight Against Shutdowns: Youngstown's Steel Mill Closings*. San Pedro, CA: Singlejack Books, 1982.

———. "Government without Rights: The Labor Law Vision of Archibald Cox." *Industrial Relations Law Journal* 4 (1981): 483-495.

MacLean, Nancy. *Democracy in Chains: The Deep History of the Radical Right's Stealth Plan for America*. New York: Viking, 2017.

———. *Freedom Is Not Enough: The Opening of the American Workplace*. Cambridge, MA: Harvard University Press, 2008.

Maggard, Sally Ward. "Gender Contested: Women's Participation in the Brookside Coal Strike," in *Women and Social Protest*. Guida West and Rhoda Blumberg, eds. New York: Oxford University Press, 1990.

Maier, Charles S. "The Politics of Productivity: Foundations of American International Economic Policy after World War II." *International Organization* 31 no. 4 (1977): 607-633."

Malin, Stephanie A. *The Price of Nuclear Power: Uranium Communities and Environmental Justice*. New Brunswick, NJ: Rutgers University Press, 2015.

Malm, Andreas. *The Progress of This Storm: Nature and Society in a Warming World*. New York: Verso, 2017.

———. "Who Lit This Fire? Approaching the History of the Fossil Economy," *Critical Historical Studies* 3 no. 2 (Fall 2016), 215-248.

———. *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. New York: Verso, 2016.

———. "Fleeing the Flowing Commons: Robert Thom, Water Reservoir Schemes and the Shift to Steam Power in Early Nineteenth-Century Britain." *Environmental History* 19 no. 1 (January 2014), 55-77.

———. "The Origins of Fossil Capital: From Water to Steam in the British Cotton Industry." *Historical Materialism* 21 no. 1 (January 2013): 15–68.

Mann, Geoff and Joel Wainwright. *Climate Leviathan: A Political Theory of Our Planetary Future*. New York: Verso, 2018.

Martinez-Alier, Joan. *Ecological Economics: Energy, Environment, and Society*. Oxford: Blackwell, 1987.

Marx, Karl. *Capital, Volume I*. New York: Penguin, 1992.

McAteer, Davitt. *Monongah: The Tragic Story of the 1907 Monongah Mine Disaster, the Worst Industrial Accident in US History*. Morgantown: West Virginia University Press, 2007

McCaffrey, David P. *The Politics of Nuclear Power: A History of the Shoreham Nuclear Power Plant.* Boston: Kluwer Academic Publishers, 1991.

McCartin, Joseph A. *Collision Course: Ronald Reagan, the Air Traffic Controllers, and the Strike that Changed America*. New York: Oxford University Press, 2011.

McFarland, Andrew S. *Cooperative Pluralism: The National Coal Policy Experiment*. Lawrence: University of Kansas Press, 1993.

———. "Interest Groups and Theories of Power in America." *British Journal of Political Science* 17 no. 2 (1987): 129-147.

McFarlane, Wallace Scot. "Oil on the Farm: The East Texas Oil Boom and the Origins of an Energy Economy." *Journal of Southern History* 83 no. 4 (November 2017): 853-888.

McGirr, Lisa. *Suburban Warriors: The Origins of the New American Right*. NJ: Princeton University Press, 2015.

McGuire, Danielle L. *At the Dark End of the Street: Black Women, Rape, and Resistance—a New History of the Civil Rights Movement from Rosa Parks and the Rise of Black Power*. New York: Vintage, 2011.

McIvor, Arthur and Ronald Johnson. *Miner's Lung: A History of Dust Disease in British Coal Mining*. Burlington, VT: Ashgate, 2007.

McLaughlin, Doris and Anita Schoomaker. *The Landrum-Griffin Act and Union Democracy*. Ann Arbor: University of Michigan Press, 1979.

McNally, David. *Monsters of the Market: Zombies, Vampires, and Global Capitalism*. Chicago: Haymarket Books, 2011.

McNeill, J.R. *Something New Under the Sun: An Environmental History of the Twentieth-Century World*. New York: W.W. Norton & Co., 2001.

McNeill, J.R. and Peter Engelke. *The Great Acceleration: An Environmental History of the Anthropocene since 1945*. Cambridge, MA: Harvard University Press, 2014.

Meadows, Donella H., Jorgen Randers, Dennis L. Meadows, and William W. Behrens. *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. Milford, CT: Universe Books, 1974.

Meikle, Jeffrey L. *American Plastic: A Cultural History*. New Brunswick, NJ: Rutgers University Press, 1997.

Melosi, Martin V. *Atomic Age America*. New York: Routledge, 2012.

Merklein, Helmut A. and W. Carey Hardy. *Energy Economics*. Houston: Gulf Publishing Company, 1977.

Merrill, Karen R. "The Risks of Dead Reckoning: A Post-script on Oil, Climate Change, and Political Time." *Journal of American History* 99 no. 1 (June 2012): 252-255.

Merten, Don Edward. *Up Here and Down Home: Appalachian Migrants in Northtown*. Chicago: N.p., 1974.

Milloy, Jeremy. *Blood, Sweat, and Fear: Violence at Work in the North American Auto Industry, 1960-1980.* Urbana: University of Illinois Press, 2017.

Mitchell, Timothy. *Carbon Democracy: Political Power in the Age of Oil*. New York: Verso, 2013.

Mitnick, Barry M. *The Political Economy of Regulation: Creating, Designing, and Removing Regulatory Forms*. New York: Columbia University Press, 1980.

Montgomery, David. *Workers' Control in America*. New York: Cambridge University Press, 1980.

Montrie, Chad. *The Myth of Silent Spring: Rethinking the Origins of American Environmentalism*. Berkeley: University of California Press, 2018.

———. *To Save the Land and People: A History of Opposition to Surface Mining in Appalachia*. Chapel Hill: University of North Carolina Press, 2003.

———. "Expedient Environmentalism: Opposition to Coal Surface Mining in Appalachia and the United Mine Workers of America, 1945-1975." *Environmental History* 5 no. 1 (January 2000): 75-98.

Moodie, T. Dunbar. "The Moral Economy of the Black Miners' Strike of 1946." *Journal of Southern African Studies* 13, no. 1 (1986): 1-35.

Moody, Kim. *An Injury to All: The Decline of American Unionism*. New York: Verso, 1988.

———. *Battle Line: The Coal Strike of '78.* N.p.: Sun Press, 1978.

Moore, Jason. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. New York: Verso, 2015.

Moore, Marat. *Women in the Mines: Stories of Life and Work*. Boston: Twayne Publishers, 1996.

Moreton, Bethany. *To Serve God and Walmart: The Making of Christian Free Enterprise*. Cambridge, MA: Harvard University Press, 2009.

Morrone, Michele and Geoffrey L. Buckley. *Mountains of Injustice: Social and Ecological Justice in Appalachia*. Athens: Ohio University Press, 2011.

Moss, David. *Democracy: A Case Study*. Cambridge, MA: Belknap, 2017.

Mulcahy, Richard P. *A Social Contract for the Coalfields: The Rise and Fall of the United Mine Workers of America Welfare and Retirement Fund*. Knoxville: University of Tennessee Press, 2001.

Mumford, Lewis. *Technics and Civilization*. Chicago: University of Chicago Press, 2010.

Muncy, Robyn. "Coal-Fired Reforms: Social Citizenship, Dissident Miners, and the Great Society." *Journal of American History* 96, no. 1 (2009): 72-98.

Munnich, Sascha, "Outside Powers: The Moral Economy of Anti-Financial Movements, 1870-1930," *Historical Social Research* 42 no. 3 (2017): 123-146.

Murdock, Graham. "Media Materialities: For a Moral Economy of Machines," *Journal of Communication* 68 no. 2 (April 2018): 359-368.

Nadel, Alan. *Containment Culture: American Narratives, Postmodernism, and the Atomic Age.* Durham: Duke University Press, 1995.

Navarro, Peter. *The Dimming of America: The Real Costs of Electric Utility Regulatory Failure*. Cambridge, MA: Ballinger Publishing Company, 1985.

———. "Union Bargaining Power in the Coal Industry, 1945-1981." *ILR Review* 36 no. 2 (January 1983): 214-229.

Needham, Andrew. *Power Lines: Phoenix and the Making of the Modern Southwest*. Princeton, NJ: Princeton University Press, 2014.

Nelson, James. *The Mine Workers' District 50*. New York: Exposition Press, 1955.

Nelson, Keith L. "The 'Warfare State': History of a Concept." *Pacific Historical Review* 40 no. 2 (May 1971): 127-143.

Ness, Immanuel and Dario Azzellini, *Ours to Master and to Own: Workers' Control from the Commune to the Present*. Chicago: Haymarket Books, 2011.

Nixon, Rob. *Slow Violence and the Environmentalism of the Poor*. Cambridge, MA: Harvard University Press, 2013.

Nolan, Keith William. *Sappers in the Wire: The Life and Death of Firebase Mary Ann.* College Station: Texas A&M University Press, 1995.

Novak, William J., Stephen W. Sawyer, and James T. Sparrow, "Toward a History of the Democratic State." *Tocqueville Review* 33 no. 2 (2012): 7-18.

Nyden, Paul John. "Miners for Democracy: Struggle in the Coal Fields." Ph.D. diss., Columbia University, 1974.

Nyden, Philip. *Steelworkers Rank and File: The Political Economy of the Union Reform Movement*. New York: Praeger, 1984.

Nye, David. *When the Lights Went Out: A History of Blackouts in America*. Cambridge, MA: MIT Press, 2010.

———. *Consuming Power: A Social History of American Energies*. Cambridge, MA: MIT Press, 1997.

———. *American Technological Sublime*. Cambridge, MA: MIT Press, 1994.

———. *Electrifying America: Social Meanings of a New Technology, 1880-1940*. Cambridge, MA: MIT Press, 1990.

Olwell, Russel B. *At Work in the Atomic City: A Labor and Social History of Oak Ridge, Tennessee*. Knoxville: University of Tennessee Press, 2004.

Painter, David S. "Oil and the American Century." *Journal of American History* 99 no. 1 (June 2012): 24-39.

Panitch, Leo and Sam Gindin. *The Making of Global Capitalism: The Political Economy of American Empire*. New York: Verso, 2013.

Parenti, Christian. *Tropic of Chaos: Climate Change and the New Geography of Violence*. New York: Bold Type Books, 2011.

Pascoe, Peggy. *What Comes Naturally: Miscegenation Law and the Making of Race in America*. New York: Oxford University Press, 2010.

Pasternak, Judy. *Yellow Dirt: A Poisoned Land and the Betrayal of the Navajos*. New York: Free Press, 2011.

Patel, Raj and Jason W. Moore. *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet*. Berkeley: University of California Press, 2017.

Perrow, Charles. *Normal Accidents: Living with High-Risk Technologies*. New York: Basic Books, 1984.

Peterson, Erica and Whitney Jones. "Kentucky Doesn't Have Any More Working Union Coal Miners." *WFPL Environmental News*, February 26, 2015. https://wfpl.org/kentucky-doesnt-have-any-more-working-union-coal-miners/.

Phillips, Sarah T. *This Land, This Nation: Conservation, Rural America, and the New Deal*. New York: Cambridge University Press, 2007.

Phillips-Fein, Kim. *Fear City: New York's Fiscal Crisis and the Rise of Austerity Politics*. New York: Picador, 2018.

———. *Invisible Hands: The Businessman's Crusade against the New Deal*. New York: W.W. Norton & Co., 2009.

Phillips-Fein, Kim and Julian E. Zelizer, eds. *What's Good for Business: Business and American Politics since World War II*. New York: Oxford University Press, 2012.

Pickstone, John V. *Ways of Knowing: A New History of Science, Technology, and Medicine*. Chicago: University of Chicago Press, 2000.

Pierson, Frank C. "The Government of Trade Unions." *Industrial and Labor Relations Review* 1 no. 4 (1948): 593-608.

Pilat, Joseph F. Robert E. Pendley, and Charles K. Ebinger. *Atoms for Peace: An Analysis after Thirty Years*. Boulder, CO: Westview Press, 1985.

Polletta, Francesca. *Freedom is an Endless Meeting: Democracy in American Social Movements*. Chicago: University of Chicago Press, 2002.

Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy.* Princeton, NJ: Princeton University Press, 2001.

Portelli, Alessandro. *They Say in Harlan County: An Oral History*. New York: Oxford University Press, 2010.

Poulsen, Jane D. "The Feeble Strength of One? Interdependence, Strategic Interaction, and the Decentralization of Collective Bargaining." *Sociological Forum* 21 no. 1 (2006): 3-30.

Powell, Dana E. *Landscapes of Power: Politics of Energy in the Navajo Nation*. Durham, NC: Duke University Press, 2018.

Price, Jerome. *The Antinuclear Movement*, rev. Boston: Twayne Publishers, 1990.

Priest, Tyler. "The Dilemmas of Oil Empire." *Journal of American History* 99 no. 1 (June 2012): 236-251.

Rigby, John J. "The Administration of Economic Controls: The Economic Stabilization Act of 1970." *Case Western Law Review* 29 (1979): 458-498.

Ringholz, Raye. *Uranium Frenzy: Saga of the Nuclear West*. Logan: Utah State University Press, 2002.

Robey, Sarah E. "The Atomic American: Citizenship in a Nuclear State, 1945-1963." PhD diss., Temple University, 2017.

Rocks, Lawrence and Richard P. Runyon, *The Energy Crisis.* New York: Crown Publishers, 1972.

Rodgers, Daniel T. *Age of Fracture*. Cambridge, MA: Harvard University Press, 2012.

Rolston, Jessica Smith. *Mining Coal and Undermining Gender: Rhythms of Family and Work in the American West*. New Brunswick, NJ: Rutgers University Press, 2014.

Rome, Adam. “Crude Reality.” *Modern American History* 1 (2018): 77-82.

———. “What Really Matters in History? Environmental Perspectives on Modern America.” *Environmental History* 7 no. 2 (April 2002): 303-318.
———. *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism*. New York: Cambridge University Press, 2001.

Rosenow, Michael K. *Death and Dying in the Working Class, 1865-1920*. Urbana: University of Illinois Press, 2015.

Ross, Kristin. *May ’68 and Its Afterlives*. Chicago: University of Chicago Press, 2004.

Ross, Malcolm. *Machine Age in the Hills*. New York, Macmillan, 1933.

Ross, Michael L. *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*. Princeton, NJ: Princeton University Press, 2013.

Rudolph, Richard and Scott Ridley. *Power Struggle: The Hundred-Year War over Electricity*. New York: Harper and Row, 1986.

Russell, Thaddeus. *Out of the Jungle: Jimmy Hoffa and the Remaking of the American Working Class*. Philadelphia: Temple University Press, 2003.

Sabin, Paul. “Crisis and Continuity in US Oil Politics, 1965-1980.” *Journal of American History* 99 no. 1 (June 2012): 177-186.

Salstrom, Paul. *Appalachia’s Path to Dependency: Rethinking a Region’s Economic History, 1730-1940.* Lexington: University Press of Kentucky, 1994.

Sampson, Anthony. *The Seven Sisters: The Great Oil Companies and the World They Shaped.* New York: Viking, 1975.

Savage, Lon. *Thunder in the Mountains: The West Virginia Mine War of 1920-1921*. Pittsburgh, PA: University of Pittsburgh Press, 1990.

Sayer, Andrew. “Moral Economy as Critique,” *New Political Economy* 12 no. 2 (2007): 261-270.

Scanlan, Stephen J. “’Mined’ for Its Citizens? Poverty, Opportunity Structure, and Appalachian Soldier Deaths in the Iraq War.” *Journal of Appalachian Studies* 20 no. 1 (Spring 2014): 43-67.

Schafer, R. Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester, VT: Destiny Books, 1994.

Scheider, Eric C. *Smack: Heroin and the American City*. Philadelphia: University of Pennsylvania, 2011.

Schulman, Bruce J. and Julian Zelizer. *Rightward Bound: Making American Conservatism in the 1970s*. Cambridge, MA: Harvard University Press, 2008.

Schumacher, E.F. *Small is Beautiful: Economics as if People Mattered*. New York: Harper Perennial, 2010.

Schwarzweller, Harry K. *Mountain Families in Transition: A Case Study of Appalachian Migration*. University Park: Pennsylvania State University Press, 1971.

Scott, Alison M. and Christopher D. Geist. *The Writing on the Cloud: American Culture Confronts the Atomic Bomb*. Lanham, MD: University Press of America, 1997.

Scott, Rebecca. *Removing Mountains: Extracting Nature and Identity in the Appalachian Coalfields*. St. Paul: University of Minnesota Press, 2010.

Scott, Shaunna. "The Appalachian Land Ownership Study Revisited." *Appalachian Journal* 35 no. 3 (Spring 2008): 236-252.

Seaborg, Glenn T. with Benjamin S. Loeb, *The Atomic Energy Commission under Nixon: Adjusting to Troubled Times*. New York: St. Martin's Press, 1993.

Seaton, Carter Taylor. *The Rebel in the Red Jeep: Ken Hechler's Life in West Virginia Politics*. Morgantown: West Virginia University Press, 2017.

Self. Robert O. *All in the Family: The Realignment of American Democracy since the 1960s*. New York: Hill & Wang, 2013.

Sellers, Christopher C. *Crabgrass Crucible: Suburban Nature and the Rise of Environmentalism in Twentieth Century America*. Chapel Hill: University of North Carolina Press, 2012.

———. *Hazards of the Job: From Industrial Disease to Environmental Health Science*. Chapel Hill: University of North Carolina Press, 1997.

Semmerling, Tim Jon. *"Evil" Arabs in American Popular Film: Orientalist Fear*. Austin: University of Texas Press, 2006.

Sennett, Richard. *The Culture of the New Capitalism*. New Haven: Yale University Press, 2006.

Shaheen, Jack G. "Reel Bad Arabs: How Hollywood Vilifies a People." *Annals of the American Academy of Political and Social Science* 588 (2003): 171-193.

Shapiro, Jerome Franklin. *Atomic Bomb Cinema: The Apocalyptic Imagination on Film*. New York: Routledge, 2002.

Shklar, Judith. *American Citizenship: The Quest for Inclusion*. Cambridge, MA: Harvard University Press, 1998.

Shogan, Robert. *The Battle of Blair Mountain: The Story of America's Largest Labor Uprising*. New York: Basic Books, 2006.

Short, John Rennie. *Imagined Country: Society, Culture, and Environment*. New York: Routledge, 1991.

Shulman, Peter A. *Coal and Empire: The Birth of Energy Security in Industrial America*. Baltimore: Johns Hopkins University Press, 2015.

Siméant, Johanna. "Three Bodies of Moral Economy: The Diffusion of a Concept," *Journal of Global Ethics* 11 no. 2 (2015): 163-175.

Singer, Alan J. "'Something of a Man': John L. Lewis, the UMWA, and the CIO, 1919-1943." In *The United Mine Workers of America: A Model of Industrial Solidarity?* University Park: Pennsylvania State University Press, 1996.

Singh, Nikhil Pal. *Race and America's Long War*. Berkeley: University of California Press, 2017.

Smith, Barbara E. "Black Lung: The Social Production of a Disease." *International Journal of Health Services* 11 no. 3 (1981): 343-359.

———. "Digging Our Own Graves: Coal Miners and the Struggle over Black Lung Disease." Ph.D. Diss. Brandeis University, 1981.

Sorensen, John, Jon Soderstrom, Emily Copenhaver, Sam Carnes, and Robert Bolin. *Impacts of Hazardous Technology: The Psycho-Social Effects of Restarting TMI-1.* Albany: State University of New York Press, 1987.

Southworth, Ann. *Lawyers of the Right: Professionalizing the Conservative Coalition*. Chicago: University of Chicago Press, 2008.

Sparrow, James T. "Morgenthau's Dilemma: Rethinking the Democratic Leviathan in the Atomic Age." *Tocqueville Review* 36 no. 1 (2015): 93-133.

———. "Behind the Atomic Curtain: School Desegregation and Territoriality in the Early Cold War." *Tocqueville Review* 2 (2012): 115-139.

———. *Warfare State: World War II Americans and the Age of Big Government*. New York: Oxford University Press, 2011.

Stanton, Shelby L. *The Rise and Fall of an American Army: US Ground Forces in Vietnam, 1965-1973.* Novato, California: Presidio, 1985.

Starr, Chauncey. "Social Benefit Versus Technological Risk: What Is Our Society Willing to Pay for Safety?" *Science* 165 (September 1969): 1232-1238.

Stein, Judith. *Pivotal Decade: How the United States Traded Factories for Finance in the 1970s*. New Haven: Yale University Press, 2011.

———. *Running Steel, Running America: Race, Economic Policy, and the Decline of Liberalism*. Chapel Hill: University of North Carolina Press, 1998.

Steinberg, Ted. *Acts of God: The Unnatural History of Natural Disaster in America*. New York: Oxford University Press, 2006.

Stevenson, John B. and David S. Walls, *Appalachia in the Sixties: Decade of Reawakening*. Lexington: University Press of Kentucky, 1972.

Stewart, Bonnie E. *No. 9: The 1968 Farmington Mine Disaster*. Morgantown: West Virginia University Press, 2012.

Stoler, Ann Laura. "Rethinking Colonial Categories: European Communities and the Boundaries of Rule." *Comparative Studies in Society and History* 31 no. 1 (1989): 134-161.

Susman, Warren J. *Culture as History: The Transformation of American Society in the Twentieth Century*. Washington, DC: Smithsonian Institution Press, 2003.

Sugrue, Thomas J. *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit*. Princeton, NJ: Princeton University Press, 2014.

Suri, Jeremi. *Power and Protest: Global Revolution and the Rise of Détente*. Cambridge, MA: Harvard University Press, 2005.

Sutter, Paul S. *Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement*. Seattle: University of Washington Press, 2005.

Swanson, Drew A. *Beyond the Mountains: Commodifying Appalachian Environments*. Athens: University of Georgia Press, 2018.

Szeman, Imre, Jennifer Wenzel, and Patricia Yaeger, eds. *Fueling Culture: 101 Words for Energy and Environment*. New York: Fordham University Press, 2017.

Tallichet, Suzanne E. *Daughters of the Mountain: Women Coal Miners in Central Appalachia*. State College: Penn State University Press, 2006.

Taylor, Paul F. *Bloody Harlan: The United Mine Workers of America in Harlan County, Kentucky, 1931-1941*. St. Martin, OH: Commonwealth Book Company, 2017.

Thomas, Jerry Bruce. *An Appalachian New Deal: West Virginia in the Great Depression*. Lexington: University of Kentucky Press, 1998.

———. *An Appalachian Reawakening: West Virginia and the Perils of the New Machine Age, 1945-1972.* Morgantown: West Virginia University Press, 2010.

Thompson, E.P. "The Moral Economy of the English Crowd in the Eighteenth Century," *Past and Present* 50 (February 1971): 76-136.

———. “Time, Work-Discipline, and Industrial Capitalism,” *Past and Present* 38 (December 1967): 56-97.

———. *The Making of the English Working Class*. New York: Vintage Books, 1966.

Tismaneanu, Vladimir, ed. *Promises of 1968: Crisis, Illusion, and Utopia*. Budapest: Central European University Press, 2011.

Tobey, Ronald C. *Technology as Freedom: The New Deal and the Electrical Modernization of the American Home*. Berkeley: University of California Press, 1996.

Tocqueville, Alexis de. *Democracy in America*. New York: George Adlard, 1839.

Touché, George E. and George O. Rodgers. “Environmental Equity and Electric Power Generation: Disparate Community Outcomes within Texas?” *Journal of Environmental Planning and Management* 48, no. 6 (2005): 891-915.

Tushnet, Mark. *The Rights Revolution in the Twentieth Century: New Essays in American Constitutional History*. Washington, DC: American Historical Association, 2009.

Van Hoose, Eric. “Native Sun: Lightness and Darkness in Native Son.” *Black Scholar* 41 no. 2 (2011): 46-54.

Vance, J.D. *Hillbilly Elegy: A Memoir of a Family and Culture in Crisis*. New York: Harper and Row, 2014.

Vietor, Richard H.K. *Contrived Competition: Regulation and Deregulation in America*. Cambridge, MA: Belknap Press, 1994.

———. *Energy Policy in America since 1945: A Study of Business-Government Relations*. New York: Cambridge University Press, 1984.

———. *Environmental Politics and the Coal Coalition*. College Station: Texas A&M University Press, 1980.

Villaume, Poul, Rasmus Mariager, and Helle Porsdam, eds., *The ‘Long 1970s’: Human Rights, East-West Détente, and Transnational Relations*. New York: Routledge, 2017.

Voyles, Traci Brynne. *Wastelanding: Legacies of Uranium Mining in Navajo Country*. Minneapolis: University of Minnesota Press, 2015.

Wagner, Thomas E. and E. Bruce Tucker, eds. *Appalachian Odyssey: Historical Perspectives on the Great Migration*. Westport, CT: Praeger, 2000.

Walker, J. Samuel. *Three Mile Island: A Nuclear Crisis in Historical Perspective*. Berkeley: University of California Press, 2004.

Walker, Samuel. *The Rights Revolution: Rights and Community in Modern America*. New York: Oxford University Press, 1998.

Wall, Wendy. *Inventing the American Way: The Politics of Consensus from the New Deal to the Civil Rights Movement*. New York: Oxford University Press, 2008.

Walsh, Edward J. *Democracy in the Shadows: Citizen Mobilization in the Wake of the Accident at Three Mile Island.* New York: Greenwood Press, 1988.

Watt, Robert. "The Moral Economy of Carbon Offsetting: Ethics, Power, and the Search for Legitimacy in a New Market." Ph.D. Diss. University of Manchester, 2017.

Weart, Spencer R. *The Rise of Nuclear Fear*. Cambridge, MA: Harvard University Press, 2012.

———. *Nuclear Fear: A History of Images*. Cambridge, MA: Harvard University Press, 1988.

Wells, Christopher W. *Car Country: An Environmental History*. Seattle: University of Washington Press, 2014.

Westad, Odd Arne. *The Global Cold War: Third World Interventions and the Making of Our Times*. New York: Cambridge University Press, 2007.

Weyant, Thomas. "'Your Years Here Have Been Most Unreal': Political and Social Activism during the Vietnam War Era at Northern Appalachian Universities" Ph.D. diss, University of Akron, 2016.

White, Luise. *Speaking with Vampires: Rumor and History in Colonial Africa*. Berkeley: University of California Press, 2000.

White, Richard. "Are You an Environmentalist or Do You Work for a Living? Work and Nature." In *Uncommon Ground: Rethinking the Human Place in Nature*, edited by William Cronon, 171-185. New York: W.W. Norton & Co., 1996.

White, Richard. *The Organic Machine: The Remaking of the Columbia River*. New York: Hill & Wang, 1995.

Whiteside, James. *Regulating Danger: The Struggle for Mine Safety in the Rocky Mountain Coal Industry*. Lincoln: University of Nebraska Press, 1990.

Wilder, Gary. *Freedom Time: Negritude, Decolonization, and the Future of the World*. Durham, NC: Duke University Press, 2015.

William, John Alexander. "Appalachia as Colony and Periphery: A Review Essay," *Appalachian Journal* 6 no. 2 (1979): 157-161.

Williams, Daniel K. *God's Own Party: The Making of the Christian Right*. New York: Oxford University Press, 2010.

Williams, Rhonda Y. *Concrete Demands: The Search for Black Power in the 20th Century*. New York: Routledge, 2014.

Williss, G Frank. *Do Things Right the First Time—Administrative History: The National Parks Service and the Alaska National Interest Lands Conservation Act of 1980*. Washington, DC: US Department of the Interior, 1985.

Wilson, Sheena, Adam Carlson, and Imre Szeman. *Petrocultures: Oil, Politics, Culture*. Morgantown: West Virginia University Press, 2017.

Windham, Lane. *Knocking on Labor's Door: Union Organizing in the 1970s and the Roots of a New Economic Divide*. Chapel Hill: University of North Carolina Press, 2017.

Wiegratz, Jörg. *Neoliberal Moral Economy: Capitalism, Sociocultural Change, and Fraud in Uganda*. New York: Rowman and Littlefield International, 2016.

Witwer, David. *Shadow of the Racketeer: Scandal in Organized Labor*. Urbana: University of Illinois Press, 2009.

———. *Corruption and Reform in the Teamsters Union*. Urbana: University of Illinois Press, 2008.

———. "The Landrum-Griffin Act: A Case Study in the Possibilities and Problems in Anti-Union Corruption Law." *Criminal Justice Review* 27 (2002): 301-321.

Wood, Gregory. "'The Paralysis of the Labor Movement': Men, Masculinity, and Unions in 1920s Detroit." *Michigan Historical Review* 30, no. 1 (2004): 59-91.

Wright, Rebecca K. "Mass Observation and the Emotional Energy Consumer," *Canadian Journal of History/Annales canadiennes d'histoire* 53 no. 3 (2018): 423-449.

Wrigley, E. A. *The Path to Sustained Growth: England's Transition from an Organic Economy to an Industrial Revolution.* New York: Cambridge University Press, 2016.

———. *Energy and the English Industrial Revolution*. New York: Cambridge University Press, 2010.

———. *Continuity, Chance, and Change: The Character of the Industrial Revolution in England.* New York: Cambridge University Press, 1990.

Yergin, Daniel. *The Quest: Energy, Security, and the Remaking of the Modern World*. New York: Penguin Books, 2012.

———. *The Prize: The Epic Quest for Oil, Money, and Power*. New York: Free Press, 2009.

Zalasiewicz, Jan, Colin N. Waters, Mark Williams, Anthony D. Barnosky, Alejandro Cearreta, Paul Crutzen, Erle Ellis, Michael A. Ellis, Ian J. Fairchild, Jacques Grinevald, Peter K. Haff, Irka Hajdas, Reinhold Leinfelder, John McNeill, Eric O. Odada, Clément Poirier,

Daniel Richter, Will Steffen, Colin Summerhayes, James P.M. Syvitski, Davor Vidas, Michael Wagenreich, Scott L. Wing, Alexander P. Wolfe, Zhisheng An, and Naomi Oreskes. "When Did the Anthropocene Begin? A Mid-Twentieth Century Boundary Level is Stratigraphically Optimal." *Quaternary International* 383 (October 5, 2015): 196-203.

Zallen, Jeremy Benjamin. "American Lucifers: Makers and Masters and the Means of Ligh, 1750-1900." Doctoral dissertation, Harvard University, 2014.

Zaretsky, Natasha. *Radiation Nation: Three Mile Island and the Political Transformation of the 1970s.* New York: Columbia University Press, 2018.

———. *No Direction Home: The American Family and the Fear of National Decline, 1968-1980.* Chapel Hill: University of North Carolina Press, 2007.

Zelizer, Julian. *Arsenal of Democracy: The Politics of National Security—from World War II to the War on Terrorism*. New York: Basic Books, 2009.

Zeman, Scott C. and Michael A. Amundson. *Atomic Culture: How We Learned to Stop Worrying and Love the Bomb*. Boulder: University Press of Colorado, 2004.

Zieger, Robert H. *Republicans and Labor: 1919-1929*. Lexington: University Press of Kentucky, 2014.

———. *The CIO: 1935-1955*. Chapel Hill: University of North Carolina Press, 1997.