LIVING UNDER THE RULE OF THE GROWTH MACHINE: HOW THE *GROWTH ETHIC* STRUCTURES CONSENT TO THE FOSSIL FUEL INDUSTRY IN SOUTHWESTERN PENNSYLVANIA

Helene J. Langlamet

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Supervisor of Dissertation

Michael X. Delli Carpini, PhD

Oscar H. Gandy Emeritus Professor of Communication & Democracy

Graduate Group Chairperson

John J. Jemmott III, PhD

Associate Dean of Graduate Studies

Dissertation Committee

Yphtach Lelkes, PhD, Associate Professor of Communication

Julia Ticona, PhD, Associate Professor of Communication

Guobin Yang, PhD, Grace Lee Boggs Professor of Communication and Sociology

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To Marilyn, Hailey and Elizabeth.

ACKNOWLEDGMENT

I will admit there were a few times throughout my program where I wondered whether I would ever reach the end of this journey. As the people who helped drag me across the finish line can attest to, my time at Annenberg was punctured by multiple family and personal crises, turbocharged right at the end by a few consequential relationship missteps that I am still trying to repair as I wrap up my last few requirements. The Annenberg PhD can be a difficult, grueling process at times, so it is saying a lot that, more often than not, the strain and demands of the program were the least of my worries.

I would not be here without the unwavering support of everyone at this program, beginning with Joanne Murray, Annenberg's patron saint, but also the whole rest of the supporting staff, who together rendered the business of being a student from tedious and impersonal to simple and nurturing. As someone who feels quite incapable of bringing love to the job of filing someone else's paperwork, I am in awe of what you do and thank you from the bottom of my heart for all that you do and keep doing.

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the world to recognizing with humility all the mountains I had yet to climb. I also want to thank Kathleen Hall Jamieson for opening my eyes to a whole new way of thinking about Communication through her course on Rhetoric and Daniel Gillion for helping me belatedly acquire the theoretical framework I needed to making sense of the racial dynamics in southwestern Pennsylvania – which, while it does not feature in the narrative I chose to highlight, nonetheless still profoundly shapes my understanding of my field site. Finally, I want to express my profound gratitude to UC Berkeley Professor Daniel Aldana Cohen, for creating the most amazing perpetually work-in-progress syllabus I have ever laid eyes on. His environmental sociology course provided me with the framework I was missing to boldly bring the environmental crisis we are all living through into the realm of social scientific theory-building. This dissertation in the form it is in now would not have been possible without him.

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Early in 2019, my life was temporarily thrown off its tracks by a home break-in and assault. I know without a shadow of a doubt I wouldn't be writing these words today if it weren't

for the exceptional accommodations and concessions from everyone at Annenberg and the broader university. I want to specifically call out Joanne for allowing to keep my full-time student status while only enrolled in two courses, our former Dean and now Provost John Jackson for setting aside $5000 to help me move, and Kathleen Hall Jamieson for giving me the necessary accommodations to allow me to succeed in her course. I wanted to also thank all my friends who helped me through this rough spot, including Katherine Rapin, Rui Pei, Prateekshit (Kanu) Pandey, and Lauren Bridges. I wouldn't be here today without your help, through that crisis and others.

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more I am surely forgetting. If you are forgotten here, it doesn't mean you are not loved, and it doesn't really mean you are forgotten. Consider yourselves thanked.

Finally, I want to thank my late grandmother, Marilyn T. Zivian, for living through fifteen years with metastatic bone cancer with admirable grace and poise, so she could be the role model and the cheerleader I needed to pull through the last eight years. And I want to thank my Hailey and Elizabeth, to whom all my hard work will be dedicated from now on until I depart this world. Thank you for providing me with the impetus to become the person you need me to be – because it turns out that is also the person I need myself to be. This book is for you, and for the better world we owe ourselves to build for the next generation.

ABSTRACT

LIVING UNDER THE RULE OF THE GROWTH MACHINE: HOW THE *GROWTH ETHIC* STRUCTURES CONSENT TO THE FOSSIL FUEL INDUSTRY IN SOUTHWESTERN PENNSYLVANIA

Helene J. Langlamet

Michael X. Delli Carpini

Extractive industries like fracking or coal mining wreak havoc on the environment and on the health of neighboring communities, yet research into local attitudes toward these industries is far from finding the consistent opposition to their activities that their extreme destructiveness seems to warrant and suggests that support for them may even increase with geographic proximity. This study inquires into the ideological priors of so-called fenceline communities in southwestern Pennsylvania that may be handing the local coal and natural gas industries their "social license to operate." Methods include in-depth interviews with residents, supplemented with interviews with staff members at local grassroots environmental groups, participant observation of the local fossil fuel permitting process, and an analysis of relevant government documents. I find that by far the most coherent and prevalent ideological narrative that residents draw on to make sense of the local fossil fuel industry presence is one that is key to justifying capitalist land development more broadly that I will be calling the *growth ethic*, which at its core rests on the belief that economic growth is the only legitimate benchmark for determining the value of land use. This

dissertation's central claim is that local buy-in to the *growth ethic* contributes to undermine the ability of fenceline communities to resist the local fossil fuel industry by making it more difficult to frame its activities as illegitimate.

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PREFACE

In a better world, 2023 would long be remembered as an aberration for its scorching heat: NASA reports it has been the hottest summer on record and it may be on track to become the hottest year ever. But experts are predicting these records may be broken as early as next year.[1] The extreme heat is partly due to El Niño, part of a climate pattern oscillation associated with warmer weather.[2] But it is also a stark reminder of the immediate and longer-term effect of climate change.

According to author Nathaniel Rich, scientific consensus on the issue of climate change has existed since the late 1970s.[3] Since then, this consensus has only grown stronger. There is also strong consensus among climate scientists that the primary culprit for climate change is the fossil fuel industry.[4] Not to mention that warming is far from the only problem the industry causes: There are also the oil spills, the health effects from car emissions, the growing problem of plastics pollution. And I have learned through my own research about the devastating consequences that living next to a gas well, a pipeline, or a coal ash deposit can entail.

If the fossil fuel industry is so toxic to our society, why have we not dismantled it yet? The answers are all around us. Fossil fuels are deeply enmeshed in the modern world. They are fundamentally intertwined with the development of our institutions, from capitalism to modern democracies.[5] They are in the cars we drive, the clothes we wear, the technology we rely on. Their use and extraction are driven by the jobs we work so we can get the wages we depend on. Fossil fuel interests permeate our state, financial, and media systems. Because of this, the task of

dismantling the fossil fuel industry is probably one of the most difficult facing our society today. It is this problem that motivates my research.

Because this problem is so broad and so complex, I have felt some trepidation at the thought of justifying my research in this way. Claims-making in academia traditionally proceeds by identifying a gap and arguing how one's research corrects it. Of course, no single research project can pretend to even scratch the surface of this problem and many worthy studies have already attempted to in some way, so I have asked myself whether it might not be better to open my introduction to my research with a slightly narrower frame. Upon reflection, I have decided that I could not do that without misstating my motivations, and that it would be better to begin with a broad frame and then considerably narrow my lens to my current research project.

There is also the fact that, while scientifically there can be no doubt on the issue of anthropogenic climate change, many of the people I spoke to for my research still expressed strong skepticism at the idea. I have asked myself quite frequently about the ethical implications of conducting research motivated by a premise that my participants do not acknowledge. I have come down repeatedly on the side that, while I could not prevent it if some of the people I spoke to and who had trusted me with their thoughts and insights felt a sense of betrayal at my using their words to advance a cause that they did not believe in, I could proceed in good conscience as long as I was scrupulous about protecting their personal interests. That is what I have done to the best of my ability, and I have also allowed their viewpoints and motivations to complicate my own. My motivations at the conclusion of this project have grown much more nuanced than they were at the beginning. I have developed a newfound concern for the wellbeing and the dignity of fenceline communities affected by fossil fuel land developments, and this concern aligns closely

with the knowledge and the stories that the people I met during my fieldwork in southwestern Pennsylvania shared with me. Because I am grateful for their trust, it seems to me that the most honest way to announce my difference of opinion is clearly and at the beginning.

But to get back to an explanation of my research: There is clearly a myriad of possible entry points into the subject of the fossil fuel industry's endurance in modern society, many of which have already been taken. Nathaniel Rich, for example, offers an eye-opening history of how the world almost signed a binding treaty to curb greenhouse gases, but failed to after U.S. leadership floundered under the influence of a few ideologues in the first Bush administration.[6] Oreskes and Conway pick up where he left off and explain how, in response to the growing environmental movement, the fossil fuel industry created a climate change denial playbook modeled on the Big Tobacco playbook to cast doubt on climate science.[7] Robert Brulle follows the moneyed interests that fund this playbook.[8] And journalists like Bethany McLean and Jeff Goodell document the roles played by Wall Street investors and land speculation in the rise of the American fracking industry.[9]

Being a Communication scholar, I naturally have an affinity for stories and the way they shape the world we live in. The particular story I am interested in is one I will call the *growth ethic.* It draws on a theoretical framework developed by Logan and Molotch to make sense of the social conflicts driving land development in American cities.[10] At its core, the *growth ethic* is the belief that economic growth is the only legitimate benchmark for determining the value of land use. Originally, the authors posited the existence of a *growth ethic* narrative (what they call the doctrine of "value-free development") in order to explain how local rentiers made capitalistic

land development palatable to residents. As I will argue, the *growth ethic* is part of an overarching narrative justifying capitalist growth.

The particular context I chose to study the influence of the *growth ethic* is southwestern Pennsylvania, the corner of the state closest to West Virginia and part of the larger region known as Appalachia. As I will argue, southwestern Pennsylvania is a modern sacrifice zone. In the late 19th and early 20th century, its main energy exports were timber and then coal, and in the early 21st century, it became one of the centers of the recent natural gas boom in the United States. Studying the *growth ethic* narrative in a sacrifice zone makes sense, because it is there that this narrative does the heaviest lifting in order to allow the extractive economy to function. Furthermore, the communities I study are predominantly white and rural – and located in a swing state, which is the reason I originally selected them – meaning they have more political clout than most environmental justice communities, which tend to consist disproportionately of poor and minority populations. Thus, it would be reasonable to expect the local coal and natural gas industries to be more dependent on favorable local attitudes than in most places.

There are many potential entry points to study the influence of the *growth ethic* in southwestern Pennsylvania. Early ideas for this project included plans to directly study the rhetoric of the local fossil fuel industry and industry advocacy groups like the Marcellus Shale Coalition, as well as the counternarratives crafted by local environmental groups. These ended up being shelved as the influence of the *growth ethic* on the perceptions and behaviors of fenceline community members began to occupy a larger and larger place in my research.[11] This study inquires into the ideological priors of fenceline communities in southwestern Pennsylvania that may be handing the local coal and natural gas industries their "social license to operate."

The core of the data I used to make inferences about local buy-in to the *growth ethic* and how it meshed with the fossil fuel industry's goal of maintaining a "good business climate" came from my interviews with fenceline residents, who were selected to represent a broad range of experiences, involvement with, and knowledge about the industries they lived close to. In all, I conducted sixteen interviews with eighteen residents, thirteen of which made it into the final dissertation. Two were never used due to my respondents' concerns with pending litigation and the third was lost because of a corrupted audio recording (see the last section of Chapter 1 and Appendices A and B for more details about my interview methods and analysis).

The insights from the interviews are fleshed out with a variety of supplementary methods, including in-depth interviews with staff members at local grassroots environmental groups, a discourse analysis of relevant government and industry documents, and some participant observation of grassroots environmental organizations and the local fossil fuel permitting process (this last piece of my research had to be significantly scaled down from my original intention due to the pandemic, but for a short description of how I conducted my fieldwork, see Appendix C). Taken together, these methods provide additional context for the health and environmental impact of fracking and coal mining in the region. They also shed some important light on the social and institutional matrix many fenceline community residents find themselves having to navigate and the ways the discourses they draw on are institutionalized by the government agencies and corporations enabling the buildout of fracking infrastructure in southwestern Pennsylvania.

The influences that led me to this topic are too many to count, but the earliest worth mentioning is probably a course on the Anthropology of nuclear power plants that I took as an

extension student at Berkeley taught by Laura Nader, Ralph Nader's sister. Like her brother (whose third-party candidacy my young inner Democrat still resents), I found her to be rather opinionated and irritating, and much more interested in peddling her own opinion than in teaching her students to think for themselves. But I do credit her for introducing me to the idea that energy policy and the environment could and should fall under the purview of social science. And I do also owe her a nod for her seminal essay on studying up, which I had been introduced to not long prior and still significantly informs the way I think about social science research.[12]

After being admitted to Annenberg in Philadelphia, I took a meandering path through my PhD program until Donald Trump's 2016 election, beginning with an interest in social networks and then switching to democratic deliberation, before deciding after Trump became president that studying the finer points of democratic theory didn't respond sufficiently to the urgency of the moment. A look at the changes in Pennsylvania's electoral map from 2012 to 2016 taught me that the counties that swung the most toward the Republican party happened to also be the ones that had historically had a strong coal industry presence (and, I would later learn, where the fracking industry had recently taken off in Pennsylvania). There were two hot spots: One in the Northeast and one in the Southwest. I ended up choosing the area in the Southwest, even though its impact on the 2016 election was probably smaller, because I had initially been interested in studying the rhetoric of grassroots environmental groups, and they appeared to have a much stronger presence there.

Initially, my research was motivated by the ostensible success of Donald Trump's "Bring Back Coal" energy platform, so the first question I was interested in answering was why people living in extractive zones would choose to support extractive industries. This question was

eventually complicated by my experience interviewing what I call “resisters”: People whose lives had been adversely affected by the fossil fuel industry and who had chosen in some form or another to resist the fossil fuel developments in their backyards. By the very nature of their (extremely courageous and socially fraught) stance, one would hardly expect them to be blind supporters of the coal and natural gas industries – and indeed this was what I found. And yet I also found that even these individuals endorsed beliefs and behaviors that, extrapolated to the region as a whole, would make collective resistance to the industry extremely difficult. Over time, this led me to arrive at a more subtle understanding of my research question, one not so much focused on individual belief systems as on ideology and on its power to shape our view of reality and by extension, reality itself.

A few additional influences are worth mentioning here, beginning with the explosion, just one day after beginning my preliminary fieldwork, of the old PES refinery in Philadelphia. It would be misleading to say that it dawned on me as I watched over the shoulder of a Center for Coalfield Justice staff member in Washington, PA as the fires raged and plumes of smoke billowed a mere three miles from my old home that I might have more in common with the people I was intending to study than I had initially assumed. But the event did become a frequent touchstone for me as I increasingly moved away from theories grounded in regional particularities or the area’s conservatism to make sense of my findings. Finally, I owe an outsized debt of gratitude to Daniel Aldana Cohen’s Environmental Sociology class for providing me with pertinent theoretical frameworks from outside the scope of Appalachian studies or Environmental Communication. It is through his course that I became acquainted with Logan and Molotch’s book *Urban Fortunes,* from which the central framework for this study is

drawn. As I have mentioned, Logan and Molotch's theory was developed to make sense of land development in American cities, so at first blush, its application in this context may seem far-fetched. But for a variety of reasons (which I will develop in Chapter 1) I argue that it can serve as an insightful organizing principle for understanding the case I explore, helping me make sense of my findings in a way that is not tied exclusively to the region or to conservatism as a system of thought.

This dissertation is broken down into four chapters. Chapter 1 provides an introduction into the substantive and theoretical background for my research. It begins with a brief overview of the region's extractive history and the way it ties into a global history of capitalist expansion before turning to a discussion of the region's most recent extractive industry: unconventional oil and gas development (UOGD), otherwise known as fracking. The chapter ends with a description of my theoretical and methodological framework. Chapter 2 zeroes in on the struggle of the "resisters" I spoke to with the fossil fuel developments in their backyards. The chapter sets their narratives against the backdrop of the permitting process, the process used by state and federal environmental agencies to determine whether to grant permits to companies to develop land for fossil fuel extraction. It makes the case that in the performance of these functions, these agencies essentially serve to legitimate the distribution of land to the fossil fuel industry. Chapter 3 reports my findings on the influence of the *growth ethic* on fenceline communities in southwestern Pennsylvania based on my interviews with residents. Chapter 4 describes some of the counternarratives I discovered in participants' statements and provides a glimpse into potential reasons why these fail to cohere into an organized challenge of the coal and natural gas industries' land use. Finally, in my conclusion, I touch on the nature and shortcomings of climate

change coverage in the United States before discussing what could potentially be done to increase support for an energy transition in southwestern Pennsylvania.

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[1] NASA, "NASA Announces Summer 2023 Hottest on Record," Press release, September 14, 2023, https://www.nasa.gov/news-release/nasa-announces-summer-2023-hottest-on-record/; Michael Sainato, Oliver Milman, and Nina Lakhani, "Has the US Learned to Cope with the Extreme Heat? Next Summer Could Be Even Hotter," *The Guardian,* September 4, 2023, https://www.theguardian.com/us-news/2023/sep/04/us-climate-crisis-heat-temperature-heatwave#:~:text=Although%20there%20is%20about%20a,to%20the%20World%20Meteorological%20Organization

[2] Bill McGuire, "El Niño is Coming – and the World Isn't Prepared," *Wired,* December 24, 2022, https://www.wired.com/story/climate-environment-hurricane/; World Meteorological Organization, "Global Temperatures Set to Reach New Records in Next Five Years," Press release number 17052023, May 17, 2023, https://public.wmo.int/en/media/press-release/global-temperatures-set-reach-new-records-next-five-years

[3] Nathaniel Rich, *Losing Earth: A Recent History* (New York: MCD/Farrar, Straus and Giroux, 2019).

[4] IPCC, "Summary for Policymakers," in *Climate Change 2023: Synthesis Report,* ed. Core Writing Team, Hoesung Lee, and Jose Romero (IPCC, Geneva, Switzerland), 1-34.

[5] Mitchell, Timothy, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013).

[6] Rich, *Losing Earth.*

[7] Naomi Oreskes and Erik M. Conway. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth from Tobacco Smoke to Global Warming (*Bloomsbury Publishing USA, 2011).

[8] Robert J Brulle. "Institutionalizing delay: foundation funding and the creation of US climate change counter-movement organizations." *Climatic change* 122 (2014): 681-694.

[9] Bethany McLean. *Saudi America: The Truth about Fracking and How It's Changing the World* (New York: Columbia Global Reports, 2018).; Jeff Goodell. "The Big Fracking Bubble: The Scam Behind Aubrey McClendon's Gas Boom." *Rolling Stone,* March 1, 2012, 15.

[10] John R. Logan and Harvey Molotch. *Urban fortunes: The political economy of place, with a new preface.* (University of California Press, 2007).

[11] Other reasons the final research project ended up adopting a more modest form include excessive optimism at the outset of the project, the difficulties of conducting fieldwork during the pandemic, and the occurrence of a few major life events (including the birth of my twins!). I hope to be able to return to the other questions that motivated this study through either formal or informal inquiry once this research is concluded.

[12] Nader, Laura, "Up the Anthropologist: Perspectives Gained from Studying Up," 1972. This essay's central claim is that anthropologists have historically studied disadvantaged groups, because their vulnerability makes them more convenient research subjects, and that this leads to the discipline reinscribing existing inequalities and leaving the cultures of the powerful in society unexamined.

CHAPTER 1: BACKGROUND AND THEORY

Southwestern Pennsylvania consists of the part of the Appalachian Plateau passing through the State of Pennsylvania that nestles in the arms of West Virginia to the south and west and that makes up the southern backcountry of Pittsburgh. For the purposes of this study, I have focused primarily on the counties of Washington, Greene, Fayette, and Westmoreland. One of the region's (by some accounts perhaps dubious) distinctions is that it occupies a central place in the history of the coal industry in Pennsylvania and in the recent fracking boom.

Pennsylvania is the only state in the country with two different kinds of coal reserves: the anthracite coal beds in the Northeast and the bituminous coal beds in the Southwest. Bituminous coal is also what is being mined in West Virginia and in the rest of the United States, but Kenneth Warren argues that the coal seam that runs under southwestern Pennsylvania possesses a unique quality that has influenced the history of its extraction: In the early 20th century, it was known for producing high-quality metallurgical coke with only rudimentary technology and very low overhead costs. Warren defines coke as the "residue produced when great heat is applied to coal kept out of direct contact with air." Metallurgical coke is made from coal that produces a "sweet spot" of volatiles when burned, producing a residue that is hard and porous and is "admirably suited for use as a fuel in furnaces" (p.1). Its most important use is the smelting of iron to produce steel. At its apex, the Connellsville coal seam powered much of the steel industry in the Pittsburgh area.[1]

Southwestern Pennsylvania (and in particular Washington and Greene Counties) is also one of two regions in the State where most of the production of natural gas during the 2010s fracking boom was concentrated. The shale mineral deposit (or "play," as industry parlance

refers to it) from which the vast majority of the gas fueling the boom was extracted is the Marcellus formation. In 2011, a commission assembled by former Republican governor of Pennsylvania Tom Corbett to assess the economic viability of the Marcellus shale as a mineral resource, described its geology thusly: “The Marcellus formation is a Devonian black shale deposited in an area covering much of Pennsylvania and West Virginia and portions of New York, Ohio, Virginia, and Maryland during approximately 1.5 million years (My) starting at 389.3 Ma (million years ago)”. A few markers in the geologic history of the deposit that the commission flagged were the deposition of shale containing unusually large volumes of organic matter in the Appalachian Basin during the Devonian Period over 300 million years ago, and then the formation of the Appalachian Mountain range (and the folding and faulting of the Marcellus beneath) it during the collision of the ancient continents that formed the supercontinent Pangea.

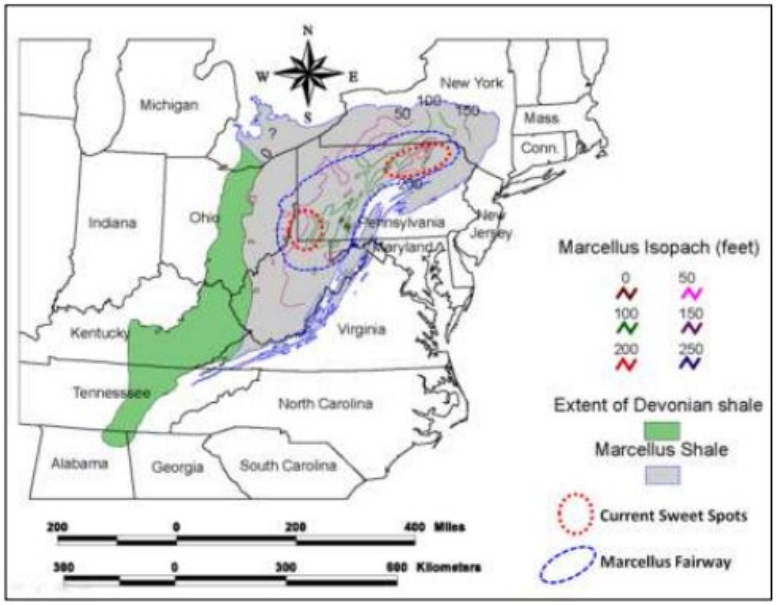

Figure 1. The Marcellus Shale Play and Fairway. Source: Governor’s Marcellus Shale Advisory Commission Report, p.19

The commission identified the area of economic gas production (referred to as the "Marcellus fairway") as the area of the Marcellus formation running "under the Appalachian Plateau from the Binghamton area of New York through the Plateau region north of State College, Pennsylvania and on to the northwestern corner of West Virginia. (…) Current sweet spots of greatest drilling activity include an area of dry gas production in the northeastern tier counties of Pennsylvania (i.e., Susquehanna, Bradford, and Tioga) and an area of wet gas[2] production in the southwestern portion of Pennsylvania (Greene, Washington, and Butler)" (see Figure 1).[3] Before the development of its fossil fuel reserves started leaving a mark on the State, however, was another, perhaps even more influential industry that in many ways paved the way for coal and gas: logging.

Before clearcutting began, much of Appalachia was covered with old growth forest that "presented settlers with their first great physical barrier to western migration"[4] and on which the European settlers who had made the mountains their home depended.[5] This primeval forest presented early European settlers with a rich ecosystem from which to draw their ecological base (the natural ecosystem that provided the foundation for their social life): The Blue Ridge Mountains, which are east of the Appalachian Plateau that southwestern Pennsylvania is a part of are the temperate region on Earth with the most diversity of species, according to one historian.[6] The agrarian economy that emerged from the Appalachian Forest depended primarily on hunting, according to historian Steven Stoll, but was supplemented with a flexible subsistence strategy of herding, farming through swidden agriculture (slash and burn), wood pasture (grazing animals in the forest), and gathering. A market economy did exist in Appalachia, but smallholders did not need it for survival, but instead participated in it to buy "things that made life better, like dishes, dresses, candy, guns, toys, and tools."[7]

According to renowned historian of Appalachia Ronald L. Lewis, who wrote the authoritative account of how logging shaped the natural and social landscape of Appalachia, the modern logging industry first developed in Maine and New York before reaching Pennsylvania and then migrating south to more remote regions. The industry "emerged as Big Business during the years after the Civil War" and "reached its peak in the first decade of the twentieth century."[8] "Deforestation followed a common pattern throughout the Appalachian region," writes Lewis. "First, pioneer efforts to open the forests made only slight inroads; then a few early lumber companies entered the business, often using the log drive or rafting method to transport timber to a few small mills; then the railroads penetrated the region, introducing steam power and greatly expanding production. Since the capital required for this next level of steam-powered transportation and milling was scarce in the sparsely populated mountains, external capital investment was required, which meant absentee ownership."[9] "By World War I nearly four thousand miles of track conveyed the heavy equipment necessary to cut and haul the big virgin timber away and connected even the deepest recesses of the mountains to national markets."[10]

Lewis provides a compelling account of how the infusion of massive capital into the logging industry resulted in an ecologically unsustainable, wasteful, and peripatetic lumber industry: "Big business required major capital investment, however, and the heavy debt burden demanded maximum and constant production if lumber companies were to remain solvent. The result was the rapid skinning of American timberland. The normal lifetime of a sawmill was twenty years, and then the company moved on (…) often it was cheaper for big mills to continue to cut even at a loss than to stop production during market downturns."[11]

Stoll, echoing many of Lewis' claims about the foundational role of the logging industry for Appalachia, argues that "mining was not the only or even the primary form of extraction.

Felling the forest affected a much larger area. A great many counties had no coal. All of them had trees." According to the author, the logging and coal industries "functioned simultaneously, often undertaken by the same companies, dependent on the same railroad infrastructure, and employing the same workers."[12] Clearcutting the woods is what turned the European settlers of Appalachia into coal miners, by robbing them of their ecological base right as a rising population was already challenging their traditional mode of production and drawing them into the wage labor market.[13] The coal industry then provided the finishing blow, according to Stoll, through such practices as the creation of land leases that separated mineral rights from surface rights, thereby allowing mining companies to consolidate large tracts of land under farmers' feet and then going about exploiting the coal in a way that made the land unusable for any other purpose.

Life and work in the coal mines in southwestern Pennsylvania was precarious and bleak, particularly at the inception of the region's coking industry. The industry fostered an overdependence on a male breadwinner, and in a line of work where injuries were frequent (and they were especially frequent in the United States), this often spelled out financial ruin for the whole family. As is also described in accounts of coal mining life in West Virginia, many coal companies only paid miners in scrip, which they could only spend at the company store, at which they were charged artificially high prices that kept them in debt. Company stores also provided a means for coal companies to keep tabs on their workers' spending habits, which at the time constituted an unusual level of invasion of privacy.[14]

It would seem a challenging feat to maintain a good business climate as an industry with such a consistent track record of abuse, yet it is one that has been successfully repeated in the vast majority of what Raj Patel and Jason Moore would term "frontier economies" – the natural and social zones of interface from which the capitalist system draws the resources essential to its

functioning.[15] One potential explanation for this paradox is furnished by political sociologist John Gaventa in his book *Power and Powerlessness*, who argues that it is precisely the intense coercion created by the coal industry that fostered conditions propitious to ideological control – a kind of Stockholm syndrome borne from chronic subjugation.[16] Later in this chapter, I push back against some elements of this explanation, by arguing that the local fossil fuel industry's social license to operate in southwestern Pennsylvania rests more on our general reliance on global ideological narratives that evolved to justify capitalist exploitation than on the ideological domination of one marginalized group by a single economic and political elite.

In the rest of this chapter, I begin with a brief account of southwestern Pennsylvania's supporting role in the global history of capitalist expansion and in fostering the global capitalist narratives justifying this domination. I then move to giving a more in-depth overview of the latest installment in the region's extractive history – Pennsylvania's recent fracking boom – before closing with a theoretical discussion of the possible roots of fenceline communities' ostensible "consent" to industry domination and a brief description of the methodological approach used in this study to support my inquiry into this question.

How the region's extractive history inserts itself into a global history of capitalist expansion

Observers of Appalachia, such as Henry Caudill, who wrote *Night Comes to the Cumberlands,* who have sought to make sense of the region's struggles, have tended to come up with accounts of the region that foregrounded regional differences, such as the Appalachians'

great spatial and social isolation. At their best, these accounts drew attention to a region consumed and then abandoned by the logging and the coal industries. At their worst, they made mountaineers responsible for the social ills plaguing them.[17] But the story of the development of the logging and coal industries in southwestern Pennsylvania is really a global one.

It is a global one because the wider world was implicated in the local development of the logging and coal industries: The outputs from both industries went to feed the creation of what political theorist Timothy Mitchell, in his book about the social forms arising from the large-scale exploitation of fossil fuels, argues was a "global new energy system" forged through the "mutually reinforcing interactions between coal, steam technology, and iron and steel" - and wood, he might have added. "The introduction of iron rails, produced in blast furnaces fired by coal using steam-driven bellows, and of iron bridges, allowed the rapid development of railway lines"[18] and these railway lines in turn allowed for the rapid dismantling and hauling away of the virgin forest to national markets. The capital that financed the local logging and coal industries was also national.[19] And, at its apex, the coking industry in southwestern Pennsylvania powered almost half of the country's steel industry and accounted for about 18 percent of the global output of metallurgical coke.[20]

The story of resource extraction in southwestern Pennsylvania is also a global one because it has counterparts at many different times and in many different parts of the world that follow largely the same beats and are beholden to the same logic. To begin with, there is the waste. We have already covered how the massive infusion of national capital turned logging into a migratory industry that left behind untold environmental destruction. "In this business environment, Lewis writes, lumbermen came to think of logging as 'timber mining' whereby timber was cut and the land sold or abandoned."[21] Warren finds the same kind of mentality

applied to the region's mineral resources: "Waste was a prime characteristic of the coke industry, much of it on an appallingly large scale. There was first the loss of coal as a result of inefficiency in mining, a feature characteristic of an age that judged success by short-term balance sheets rather than by taking into account long-term costs of destruction of irreplaceable fossil fuels. [A contemporary observer estimated that] from 30 to 40 percent of coal was left behind as pillars in the workings."[22]

Wastefulness was also a constitutive part of the manufacture of coke in the region: As was already mentioned in the discussion of southwestern Pennsylvania's mineral resources, the coal in the local Connellsville seam was of extremely high quality: the coal that could be extracted from the seam in Fayette and Westmoreland counties was "outstanding coking coal (…) usually almost free from slate and sulfur,"[23] meaning coke could be manufactured from the local coal with only rudimentary beehive ovens, which were essentially large kilns. These were the ovens that the local industry made use of even as more advanced oven technology started to be developed that would have captured some of the noxious by-products of coke, resulting in tremendous environmental destruction: "Gas and "noxious fumes" were unavoidable constituents of the great clouds of pollutants that poured from the ovens and rolled uncheckable over the Coke Region. The problem was made worse by the tremendous concentration of capacity in a relatively small area—by the 1890s the Mt. Pleasant Branch of the Baltimore and Ohio Railroad passed an almost continuous row of ovens, 'one block beginning where the last ends.'"[24] In addition, extreme competition drove coke manufacturers to draw the coke faster, resulting in more volatiles being left in the coke when it was drawn, which produced a thick black smoke.

After the waste, the industry moves on: After years of unnecessary waste and environmental destruction, and as warnings started multiplying that the Connellsville coal seam

would soon be depleted, it was not a concern for the viability of the local industry or the preservation of the local landscape that made coal operators embrace a cleaner technology, but the advent of World War I. This is when the by-product oven (so-called because it was designed to recover by-products such as gas, tar, and other furnace fuels downstream of the oven chamber), a technology which had existed for decades before its widespread adoption in the United States, started gaining ascendancy, not to reduce waste but because the increased demand for steel called for more efficient methods of producing coke and because some by-products of the coking process, such as benzol and toluol, used in the production of explosives, became much more valuable as a result of the war effort.

The by-product oven made it possible to extract coke from lower quality coal, making the region that used to be so crucial to the global steel industry essentially expendable. As a result, southwestern Pennsylvania, after having been made extraordinarily dependent on the coal industry as a result of the destruction of its natural resources, was summarily abandoned as the industry moved elsewhere. Locally, it effectively went into stagnation after the war and recovered only in brief spurts when the coal industry needed to resort to its defunct beehive ovens to quickly expand its capacity, such as during WWII or during the Korean War.

In the preface to his book on the coal industry in southwestern Pennsylvania, Warren argues that the local industry distinguishes itself by how short the window was between when the region became recognized as an important industrial center and when it began to decline – barely fifty years. But in a way, this also makes it emblematic of the way that capitalism as a system consumes places before spitting them out and moving to cheaper, greener pastures. Raj Patel and Jason W. Moore, in their elaboration and vulgarization of Wallerstein's world-systems theory, provide a strikingly similar account of the instance of environmental waste, degradation and then

disposal that they argue provided the blueprint for the logic for later examples of capitalist expansion: The clear-cutting of the small African island of Madeira for sugar production in the early 16th century.

As with all early prototypes of our capitalist mode of production, the sugar industry in Madeira used slaves as a source of cheap labor. The trees were originally cut down to be used as lumber for shipbuilding and construction. The denuded forest then eventually made way for sugarcane plantations. Financed by Flemish and Italian capitalists, the sugar industry in Madeira consumed enormous amounts of fuel in the form of wood from the island in order to satisfy the European market for sugar: The authors estimate that at least fifty pounds of wood was needed to boil and distill enough sugarcane juice to return a single pound of sugar. Natural resources were not the only thing wasted in the clearcutting of Madeira. Lives were wasted as well: Many slaves and laborers died in rockslides and dam breaches while carving canals to irrigate the cane fields. And like the coking industry in southwestern Pennsylvania, the sugar industry in Madeira was only active for a short window of time: Output peaked in the first decade of the sixteenth century, and by the 1530s the island had been completely clearcut and the industry had moved on.[25]

Warren provides a concise account of the logic governing this pattern of waste followed by migration in his discussion of what constitutes a mineral resource, though he couches it in the language of economics: “A mineral resource exists when a portion of the earth’s surface is found rich enough in a concentration of a particular desired material to justify application of the other factors of production to its exploitation. Without these favorable conditions a mineral deposit is not a mineral resource.” What justifies the “application of other factors of production” are things like the demand for the deposit and the changes in overhead costs for its extraction: “If working

becomes more difficult, perhaps due to increasing depths of operation or greater amounts of waste, costs will rise. This may price the product out of the market, encouraging the opening of new areas or the introduction of an alternative technology."[26]

Patel and Moore (2017) echo this argument in their own discussion of the ways that nature has a tendency to become "expensive" through exploitation: "Workers demand dignity, and their labor becomes expensive. Production processes burn through an island, and energy is no longer cheap. The climate changes, and crops can no longer grow as abundantly as they once did." They argue that capitalism as a system inherently has a drive for cheapness, which explains its peripatetic nature. Essentially, capitalism solves its problem of waste and resource depletion by shifting to new "frontiers" - zones of interface between capital and nature (the latter of which includes the humans pulled into this exploitative dynamic) that allow what they call the "capitalist ecology" to continually pull resources from its periphery to its core. In Wallerstein's original framework, frontiers would correspond most closely to zones of "unequal exchange" - zones where resources get extracted by a politically weaker "periphery" to benefit a politically stronger core. "Frontiers are so important in these processes because they offer places where the new cheap things can be seized - and the cheap work of humans and other natures can be coerced."[27] In other words, capitalism requires this short life span of a frontier and the migratory pattern of resource extraction. They are a feature and not a bug.

Another pattern intrinsic to capitalism that played out in southwestern Pennsylvania is the one identified by Stoll: By the time resources get metabolized into the *world-system* through a frontier and a new frontier gets identified for exploitation, the populations caught in this mechanism have lost their ecological base and been absorbed into the wage labor market, leading to precarity and coercion (see also Patel and Moore). Capitalism consumes not just natural

resources, but also people and ways of life. Stoll makes the case that in fact, there is a fundamental conflict between capitalism as an ideology and the agrarian way of life that was dominant before capitalism took hold: "[I]f the perpetuation of capital is the same thing as progress, where does that leave the smallholders all over the world, up to their shins in muck day in and day out? Though they buy and sell into the global economy (…), they have a different sense of progress. They thus appear to exist in some other universe, outside the dominant way of seeing and being."[28]

Finally, there is another, perhaps even more fundamental way the southwestern Pennsylvania case is part of a global history of capitalism, and this has to do with the nature of the resource now being exploited at this frontier: fossil fuels. Fossil fuels inject into modern capitalism essentially the obverse dynamic that the sugar industry inflicted on the timber of Madeira. They are, as Mitchell points out, essentially very concentrated forests (combined with other sources of organic matter): "[F]ossil fuels are forms of energy in which great quantities of space and time, as it were, have been compressed into a concentrated form. One way of envisioning this compression is to consider that a single litre of petrol used today needed about twenty-five metric tons of ancient marine life as precursor material, or that organic matter equivalent to all of the plant and animal life produced over the entire earth for four hundred years was required to produce the fossil fuels we burn today in a single year." Our new ability "to access and rapidly deplete the world's stores of fossil fuel" is what allowed the exponential growth that has sustained capitalism as a social system for over 200 years and into the twenty-first century.[29]

Fossil fuels are also what gave us the modern language we use to talk about the economic system we now exist in. As Mitchell (2011) compellingly argues, the "economy" as we

understand it today could emerge as an object of knowledge in the 1930s only because the exponential nature of fossil fuel energy could allow for the existence of a construct in the collective imaginary that "could grow without any problem of physical or territorial limits."[30] It is this logic of limitlessness expansion that fracking entrepreneurs and the federal and Pennsylvania State governments tapped into when they once more planted their flag on the tired shores of southwestern Pennsylvania at the turn of the last decade.

The fracking boom in southwestern Pennsylvania

Natural gas extraction is not new to the State of Pennsylvania: Pools producing natural gas were known in four Pennsylvania counties as early as 1861, only two years after the first North American oil well was drilled.[31] Before the fracking boom, natural gas was extracted using what are now called "conventional" wells, which burrowed vertically into the rock until it reached pockets of natural gas, which would then bubble up the shaft. According to a staff member from a local environmental group whom I spoke with, residents in the area were very familiar with this kind of gas extraction, so this taught them to be initially trusting of the new technology when it came to town. Conventional natural gas technology is indeed ubiquitous in Pennsylvania: According to statistics compiled by the DEP, as late as 2021 there were still almost four times as many conventional gas wells as unconventional wells (over 38,000).[32] Conventional gas wells are so ubiquitous in the state that in 2014 the FracTracker alliance estimated that 1.2 million people, or just short of one in ten people in the State, lived next to a natural gas well.[33] However, until a little over ten years ago, Pennsylvania did not produce

enough natural gas to meet the demand of its own population. This is because, until the advent of fracking, extracting gas from the Marcellus was prohibitively expensive.

Fracking, as it is commonly known, is actually the combination of two different technologies: hydraulic fracturing – the practice of cracking open the shale layer using explosives and then water mixed with chemicals and 'proppant' (sand) - and horizontal drilling, the angling of well shafts by 90 degrees as they reach the shale layer with the help of remote-controlled drill bits, allowing well operators to tap the shale vein over a distance of several miles instead of simply at the spot where the well reaches the shale layer. Only by combining these two technologies were the vast amounts of natural gas available in the Marcellus shale play finally unlocked and Pennsylvania catapulted to the status of number two producer of natural gas in the country, second only to Texas.[34]

The process of fracking occurs in several stages: First, the gas well needs to be drilled. The drilling occurs one section at a time. The Office of Attorney General of Pennsylvania's 2020 Grand Jury Investigation into the fracking industry in Pennsylvania offers a clear and detailed description of this process, large parts of which I have decided to just reproduce here:

"As each section is drilled, a metal pipe called a 'casing' is inserted into the ground to stabilize the hole. Cement is then pumped under pressure inside the casing and when it reaches the bottom of the drilled hole, is pushed up the outside of the casing to fill the area between the casing and surrounding rock and soil. Once the cement hardens, the intended result is a metal casing surrounded by cement that has completely filled and sealed any space between the well and its surroundings. The process is repeated with progressively narrower casings as the well is drilled."

"The Marcellus formation lies from 7,000 to 9,000 feet underground and is around 100 to 350 feet thick. At around 1,000 feet of the targeted shale deposit, drilling goes from vertical to horizontal at a slight curve. Once lateral, the well is drilled out through the shale rock for upwards of 25,000 feet, or approximately five miles."

The second stage consists of detonating explosives in the horizontal segment of the well: "Once an unconventional well is drilled and casings are in place, 'perforating guns' are lowered into the horizontal extension of the well. Perforating guns allow explosives to be placed and detonated in order to puncture hundreds of dime-size holes through the production casing and cement and out into the rock formation."

This is then followed by the hydraulic fracturing stage, which gives the process its name: The shale is fractured and production is stimulated through the "high-pressure injection of fluid (generally water), "proppant" (sand or silica), and chemicals (…). A portion of the fluid used in the fracking process returns to the surface as "flowback." (…) Once the flowback has exited, natural gas begins flowing upward and out of the well. At this point, the well is in production."[35]

Once the Marcellus shale play was opened for production, Pennsylvania experienced a huge and unprecedented spike in natural gas production that turned it from being an energy importer (a fact that had been true for over a hundred years, according to the Marcellus Shale Commission) to an energy exporter. Marcellus shale well permits issued by the Pennsylvania Department of Environmental Protection increased almost fifty-fold between 2007 (the year the natural gas company Range Resources did its first test of the modern hydraulic fracturing process on the Renz well in Washington County) and 2010 – from seventy-one permits in 2007 to 3,314 in 2010 – and there is good reason to believe the number of permits issued for the year of 2011 was even higher. The number of wells drilled in the State increased until 2011 and then began

tapering off, though overall productivity in the natural gas sector was still increasing in 2019.[36] Washington and Greene County concentrated most of this increase in production southwestern Pennsylvania in 2016.[37]

Many energy analysts have called the fracking boom in the United States an "energy revolution" that has dethroned "King Coal," according to Jerolmack. This "sudden glut in US natural-gas reserves available for export" is also seen as having accomplished some desirable foreign policy goals, such as "loosening Vladimir Putin's political stranglehold over his neighbors" by decreasing the reliance of European countries on the state-owned Russian natural gas company Gazprom.[38] But the increase in production has also forced prices down, causing an industry slowdown.[39] As a result, many landowners who leased to American gas companies and expected a windfall have failed to cash in. In Lycoming County, part of the northeastern region of Pennsylvania that experienced the highest increase in production, "[w]hite gas trucks have disappeared from the Holiday Inn parking lot; a Texas barbeque restaurant popular with gas workers closed; the local Halliburton facility went from six hundred to forty employees."[40]

In spite of the slowdown, oil and gas companies are still planning a massive buildout of the fracking industry in Pennsylvania: Their response to the slowdown has consisted of expanding its infrastructure to export the gas out of state and of branching out into the petrochemical industry, for example through the construction of an ethane cracker plant in Beaver County (just north of Washington County) for the manufacture of single-use plastics.[41] In 2016, industry analysts projected that 47,600 new unconventional wells may be drilled in Pennsylvania by 2045, greatly expanding on the 7,482 already drilled in 2014.[42]

Spinning the fracking boom

"Governor Tom Corbett has called the Marcellus Shale natural gas play an 'economic cornerstone' of the Commonwealth's recovery from the recession, which has impacted the nation over the past four years." This is how the first sentence of the Governor's Marcellus Shale Commission's executive summary reads. It's striking to find such a sanguine assessment of the economic benefits of fracking from a commission supposedly tasked with weighing the potential harms and benefits of the industry to the state. It frames economic growth as the highest good that the Commission could pursue and treats the idea that fracking is in pursuance of this goal as a given, an axiom not open to inquiry.

This is an interesting stance to take when in fact, fracking's economic record has actually been far from clear: Journalists who have attempted to piece together the origin story of the American fracking boom argue it might never have happened at all if it weren't for the historically low interest rates following the 2008 financial crisis or the massive amounts of Wall Street investment money keeping the industry afloat, or without the outsize role of part-hype man, part-conman founder of Chesapeake Energy Aubrey McClendon in selling the industry to investors.[43] According to David Wallace-Wells, fracking failed to turn a profit until after Russia's 2022 invasion of Ukraine. Even with the industry now turning a profit, a 2023 analysis by independent investment bank Lazard Ltd finds that unsubsidized costs of renewables are actually smaller than those of natural gas in almost all cases (the one exception being rooftop residential use of solar energy).[44] And that is without taking into account the costs generated by the industry through environmental degradation, road damage from fracking trucks, and loss of income from other industries like agriculture or tourism.

Former Pennsylvania Governor Tom Corbett is a Republican, which would not come as a surprise for most people, as this kind of bullish support for fracking has come to be identified with the Republican platform. Consider, for example, the contrast between former President Trump – who pulled out of the Paris Climate Accord, appointed a fossil fuel exec and a coal lobbyist to head his agencies, and unreservedly threw his weight behind all things fossil fuel – and Warren's and Sanders' call for a federal ban on fracking during their 2020 democratic primary campaigns. But, at least in Pennsylvania, politicians' collusion with the industry has been bipartisan: Between 2008 and 2010, former Democratic Pennsylvania Governor Ed Rendell leased 102,679 acres of public land to the fracking industry, then turned around and penned an op-ed in the New York Daily News urging then-Governor Cuomo to support the industry.[45] And Tom Wolf, who was governor of Pennsylvania between 2015 and 2023, signed a bill into law that would give the petrochemical industry $670 million in tax credits over 26 years to turn natural gas into fertilizer and industrial chemicals.[46]

Political support for fracking at the inception of the industry was also more bipartisan and vocal at the national level than we often think. Indeed, the political figure who did the most to position fracking as centrist and commonsense approach to energy policy is arguably President Obama. Obama has given numerous high-profile statements in favor of hydraulic fracturing (including his 2012 State of the Union address), but the one I will highlight here is his 2014 State of the Union address. In it, he frames his support for fracking as being part of an "all of the above" energy strategy that could bring the United States closer to energy independence and calls it a "bridge fuel [between fossil fuels and renewable energy] that can power our economy with less of the carbon pollution that causes climate change.

This portrayal of natural gas as a "bridge fuel" carries the implication that it is a net positive for the environment, which plays down the environmental destruction inherent in fracking and conceals that the natural gas industry in the United States is actually a potent greenhouse gas emitter. A study published in 2013 by PNAS estimates that national emissions of methane from natural gas production in 2012 amounted to roughly 2.3 million metric tons and the Environmental Defense Fund, which commissioned the study, puts that number close to 13 million metric tons when accounting for the other parts of the natural gas industry lifecycle, or above five percent of the National Oceanic and Atmospheric Administration's estimate of total emissions from the global fossil fuel industry in 2021.[47] While greenhouse gas emissions from burning natural gas are still far lower than those from burning coal, the fracking industry buildout is still incompatible with the goal of keeping climate change warming to a minimum: According to a 2020 study published by Nature, sixty per cent of oil and fossil methane gas, and 90 per cent of coal must remain unextracted to allow for a fifty per cent probability of limiting warming to 1.5 °C, the IPCC's current cutoff for disastrous warming.[48] This reality is at odds with the industry's deployment of cutting-edge technology and massive infrastructure for the extraction of fossil fuel reserves that would otherwise remain inaccessible.

Natural gas as a bridge fuel that could reduce global greenhouse gas emissions is not the only thing embedded in this sentence, however. It also frames the goals of economic growth through hydraulic fracturing and environmental protection as compatible. A few sentences later, Obama further underscores this point:

> Meanwhile, my administration will keep working with the industry to sustain production and jobs growth while strengthening protection of our air, our water, our communities. And while we're at it, I'll use my authority to protect more of our pristine federal lands for future generations.

The rhetoric is actually eerily similar to the first page of the Governor's Marcellus Shale Commission's executive summary that I opened this section with. In the first sentence of the second paragraph, the Commission writes:

> Along with the economic and energy independence and security potential of the Marcellus Shale natural gas reserve comes a heightened awareness of and concern for Pennsylvania's environment and the activity's impact on other natural resources and local communities within the shale development regions.

The concern for the environment is highlighted, but also subordinated to the overriding goals of economic growth and "national security" through fracking, and all three goals are portrayed as compatible. In Obama's State of the Union, renewable energy is subordinated to natural gas development: The development of solar energy is touched on almost in the same breath, but only after speaking about natural gas.

He also leans heavily on rhetoric linking economic growth to job creation and echoes the conservative talking point of government getting out of the way of business:

> Businesses plan to invest almost a hundred billion dollars in new factories that use natural gas. I'll cut red tape to help states get those factories built and put folks to work, and this Congress can help by putting people to work building fueling stations that shift more cars and trucks from foreign oil to American natural gas.

Democratic enthusiasm for hydraulic fracturing has tempered a lot since Obama's time. There is Sanders' and Warren's call for a federal ban on fracking during the 2020 presidential primaries that I already highlighted. But even Biden was distinctly more tepid than his democratic predecessor on this issue, calling in his campaign for a ban on fracking on public lands. In fact, the rhetoric on fracking in general has tempered, perhaps driven in part by a popular dislike of the industry.[49] For example, in the wake of the Russian invasion of Ukraine, most media stories I found when searching for stories about the role of fracking in the conflict

tended to cast doubt on the idea that the industry was key to energy independence or to securing a victory over Russia. The voices making that case tended to be confined to the oil and gas industry and the Republican establishment or to conservative or business-oriented outlets like Bloomberg.[50] Biden, when announcing his decision to ban Russian oil and natural gas, did gesture to the importance of achieving "energy independence." But nowhere in his 2022 State of the Union address, which mentions Ukraine nine times, does he mention natural gas or fracking as part of a strategy to defeat Russia or achieve energy independence.

In summary, mainstream rhetoric seems to have turned against fracking, but not before strong enthusiasm for the industry in the financial sector and across the political spectrum allowed it to develop a strong foothold in American life. In the meantime, natural gas is still being white-washed and green-washed in everyday settings. Think of the ubiquity of natural gas stoves in most American kitchens, even though the evidence that these have harmful health effects is accumulating.[51] And most of us at one point has seen one of these municipal garbage trucks that "run on clean-burning natural gas" (see Figure 2).

For people living next to fracking sacrifice zones, the rhetoric is even more insidious: Josh Shapiro's Grand Jury Investigation notes that trucks hauling waste from fracking are marked as hauling "residual waste," no matter how toxic it actually is. No matter where I turned when I was conducting fieldwork in southwestern Pennsylvania, I found examples of language couching the industry's activity in euphemisms and concealing the damage that it actually does: The flowback and produced water from hydraulic fracturing were labeled "brine," by a fossil fuel worker I spoke to and on tanks randomly parked in fields or meadows across the landscape. The slickwater used for fracking "contains an additive similar to common dish soap," according to the Marcellus Shale Commission,[52] even though in actuality, it contains at least 28 chemicals

regulated under the Safe Drinking Water Act and for which the fracking industry has received a special exemption and many more which the industry is not required to disclose.[53] A toxic landfill next to which one of my participants lived, where hazardous substances, including waste products from fracking and coal mining, were dumped, often illegally, was called a "waste management facility." Two other people I interviewed described how a representative from Range Resources (the natural gas company that broke into the fracking industry in Pennsylvania, according to the Marcellus Shale Commission), would throw barbeques in the area and distribute flyers to people with pictures of lush green meadows depicting areas that purportedly had been "reclaimed" by the industry after having been fracked.

None of this language or these images correspond to the actual lived experience of my participants living close to fossil fuel developments. But I will go into this further in the next chapter. In the next section, I will discuss the impact of fracking on the environment in general and its effects on Pennsylvania residents living in proximity to fracking activity in particular. There is one document in particular that I draw on heavily in these descriptions that I would like to highlight here: The Office of Attorney General's 2020 *Report 1 of the Forty-Third Statewide Investigating Grand Jury.* Moving forward, I will refer to it as the Grand Jury Investigation for short. See Appendix D for more information on the process I used for selecting and analyzing this and other primary sources.

Figure 2. Municipal garbage truck. Credit: Dorsey Photography.

The Grand Jury Investigation was headed by then-AG Josh Shapiro (now Pennsylvania's governor) and produced a series of regulatory recommendations for the fracking industry, including expanding the setback requirements for unconventional gas wells from 500 to 2,500 feet from a residential area, requiring now "proprietary" chemicals in slickwater to be disclosed, and ending the revolving door between the Pennsylvania Department of Environmental Protection and the fossil fuel industry. The report came up spontaneously in three separate interviews I conducted, one with two liberal respondents and the other two with conservative respondents. All four people spoke highly both of the Attorney General and of the regulatory interventions his office proposed.

For the purposes of the next section, this document is of particular interest because it synthesizes the accounts of over seventy households living next to unconventional shale gas development in Pennsylvania. This represents a much more extensive and thorough investigation

into the lived experiences of people affected by fracking than I would be able to produce (and has the added advantage that, since it is a government document, it probably represents a more conservative account of the harms associated with living next to an unconventional oil and gas development than a document produced by an activist organization would). It is also largely consistent with the reports I collected from people living close to natural gas and also coal developments. I will be leaning heavily on these descriptions to paint a picture of the effect of fracking on the environment and what it's like to live next to a shale gas development in Pennsylvania.[54]

The environmental toll of the industry

Fracking is costly for the environment simply by virtue of the sheer amount of water that it uses. The industry itself calls the process a "massive slickwater frac."[55] According to Shapiro's Grand Jury Investigation, "[a]n unconventional well can produce from half a million to over three and a half million gallons of flowback and produced water over the first five to ten years of production."[56] And these numbers are only increasing as the wells getting drilled become deeper.[57] But of course, the problem is not only with the volume of water getting used, but with the chemicals it gets mixed with to lubricate the drill (to make the water "slick"), the additional chemicals it picks up from being flushed deep underground, and the way it gets "treated" or disposed of after use.

Underhill et al. conducted a review of the chemicals disclosed on the fracking disclosure database FracFocus and found for instance that the industry had used 250 million lbs and 7.5

million lbs of ethylene glycol and benzene respectively across the whole of the United States between the years of 2014 and 2020.[58] Ethylene glycol is a clear liquid used in antifreeze that when absorbed in large amounts can damage the kidneys, nervous system, lungs, and heart, according to the CDC.[59] Benzene, for its part, "is a known carcinogen with an MCL [maximum contaminant level] of 0.001 mg/L, equivalent to half a teaspoon of liquid in an Olympic-size swimming pool (Agency for Toxic Substances and Disease Registry, 2007). Short and medium-term exposure can lead to dizziness, nausea, convulsions, confusion, unconsciousness, and even death at high levels; benzene also interrupts the function of red blood cells (Centers for Disease Control and Prevention, 2019)."[60]

The problem does not stop with these chemicals: Approximately 1600 different chemicals have been detected in fracking wastewater, according to Shapiro's Grand Jury Investigation, only 10% of which we have high quality toxicity data on (meaning that the health effects of the other 90% are unclear). Flagged as being of most concern by the Grand Jury Investigation are the so-called "BTEX" chemicals: Benzene, toluene, ethylbenzene, and xylene, which form "the particularly hazardous core of diesel fuels" and are all exempted from regulation under the Safe Drinking Water Act when used for fracking.[61] Also of concern are hazardous substances naturally occurring in the rock formations that the fracking process flushes up to the surface, including sodium chloride (salt), bromide, lithium, boron, iron, manganese, arsenic, and radioactive radium. Then, there are those chemicals used in the hydraulic fracturing process that the industry is exempted from reporting, under the guise that they constitute "trade secrets." And in Pennsylvania, unconventional oil and gas companies are exempted from disclosing the chemicals used in the drilling process at all, even though those can come into direct contact with the water table.

According to the Grand Jury Investigation, the fracking industry in Pennsylvania has yet to come up with a safe way to dispose of its frack fluids after they have become too contaminated for use. Initially, they were sent to wastewater treatment facilities, which were not equipped to handle them and released them back into Pennsylvania's waterways still contaminated until the practice was banned. Another solution the industry experimented with was the repurposing of the "brine" for other industrial uses, such as applying it to roadways as a method of dust suppression.[62] The "solution" the industry alighted on was to haul the frack fluids to deep injection wells out of state (at the time of the Attorney General's Investigation, 90% to 95% of Pennsylvania's fracking wastewater was hauled to deep injection wells in Ohio). The Investigation identifies several problems associated with hauling, including its cost and logistical burden, and the fact that "[d]ue to exemptions under federal law, trucks carrying fracking wastewater in Pennsylvania are not placarded as hauling hazardous waste (…). Rather, they display signage indicating they are carrying "residual waste," with the consequence that in the event of a spill, the public and first responders at the scene will not have the information they need to respond appropriately to the risks posed by the spill."[63]

Living next to an unconventional oil and gas development is associated with a plethora of environmental, health, and social harms. The primary one highlighted by the Grand Jury Investigation report was water contamination and loss. As the report makes clear and as I also found during my fieldwork, "[i]n many areas where unconventional oil and gas activity is common, there is no public water line. People rely entirely on water wells drilled on their own property. When the oil and gas operators spilled products used to fracture a well, or the storage facilities that held the wastewater leaked, the chemicals made their way into the aquifers that fed those water wells."[64]

> Descriptions of the effects of fracking on peoples' well water were remarkably similar across the Commonwealth. Many described a "black film" or "black sheen" appearing in their water, particularly when it would sit idly in their toilets. Some would have "cloudy" water. "Black sludge" or "black slime" would clog and damage the pumps and filters used to treat their well water. They would find sandy, particulate matter in their water and filters. They described a "sulfur" or "rotten eggs" smell. Homeowners detailed a variety of chemical smells, as "sweet," "like a chemical lab," "plastic," or "like formaldehyde." Those who ventured to taste their water often described it as "foul" and "metallic." None of these conditions occurred prior to fracking operations near their homes (30).

The water after it was contaminated by the neighboring fracking operation was described as leaving "red, itchy, burning rashes."[65] "Many of those living in close proximity to a well pad began to become chronically, and inexplicably, sick. Pets died; farm animals that lived outside started miscarrying or giving birth to deformed offspring."[66] Some homeowners experienced a complete loss of their water supply. In these cases, they resorted to using large water tanks called "water buffalos." These would sometimes be supplied by the companies alleged to have contaminated a family's well, but often homeowners "are left to cover the cost of an alternative water source themselves. One homeowner testified that paying for an alternative water supply cost her family $650 per week, which can easily exceed a family's monthly mortgage payment."[67]

It was not just exposure to the contaminated water that produced adverse health effects:

> Families came to realize that wastewater impoundments not only contaminated their water, but the air they breathed. As enormous open toxic pits, some of which were acres in size, impoundments would release harmful chemicals into the air. The smell of sulfur and intense chemicals smells would inundate nearby homes. Property owners would sense a metallic taste in their mouths. Contamination in the air would overwhelm homeowners with nausea, dizziness, and a feeling that they would pass out. They would vomit. Their eyes, nose, skin, and throat would burn.
> These were not fleeting episodes. The air in their homes would cause persistent sores, nosebleeds, mouth ulcers, unexplained bruises, and extreme fatigue. Visitors would grow ill (32-33).

Children were especially susceptible to these effects. Homeowners stopped allowing their children to play outside for fear of exposure. One parent interviewed during the investigation reports learning that her own son "would hide the fact that he was feeling the effects of airborne

contamination just so he could play outside."[68] But the insides of their homes also did not offer any true escape: "We learned that air quality testing inside residences confirmed the presence of dangerous chemicals that would not normally be in people's homes, like benzene, toluene, methylbenzene, chlorobenzene, xylenes, acrylonitrile, cyclohexane, and three different types of trimethylbenzene."[69]

There were noticeable changes to the natural environment: "We heard about fish kills, ponds turning black, natural gas bubbling around the surface of the water, and plants and animals living around ponds dying off. Trees and massive patches of grass would die on people's land."[70] And concerns about chemicals from fracking entering the food chain:

> We heard from a homeowner whose property was surrounded by multiple well pads who grew tomatoes, grapes, and apples. The owner watered the produce with potentially contaminated water and sold it to a local grocery chain. We heard from another farmer with a well pad on their property who raised and bred livestock that drank from suspected contaminated water. When the livestock failed to breed as anticipated, possibly because of the tainted water they were exposed to, the farmer sold them at auction to be butchered and sold to the public (42).

Efforts from affected families to seek help generally went nowhere: When they went to their doctors for answers, the doctors didn't know what to do, because the industry's practice of labeling many of the chemicals used for fracking as "proprietary" meant they often simply didn't know what chemicals they were exposed to. Doctors seemed to also fear the repercussions from linking the health problems they were finding to fracking activity: "One family was told that doctors would discuss their hypotheses, but only if the information never left the room."[71]

Some of the institutional reactions they encountered were downright obstructionist: For instance, the report details that the Pennsylvania Department of Health (DOH) "constructed a list of approximately 20 words related to health complaints arising from unconventional drilling

activity. Staff were instructed that if anyone called in, and used one of those words, the staff member should end the call and direct the caller to a central office at headquarters."[72]

The DOH has argued that definitive causation of illness from fracking "has not been proven," but the AG's Grand Jury Investigation found that that was because it had "gone out of its way in the past not to look at connections between fracking and health effects." At the time of the writing of the report, the Department said it was finally embarking on a three-year, three-million-dollar study "to examine possible links between health and unconventional oil and gas activity. (…) But the study is retrospective, meaning it will attempt to gather and analyze already existing data from prior complaints. And because DOH effectively discouraged such complaints in the past, there may be little data to review."[73]

The Pennsylvania Department of Environmental Protection (DEP) is the other agency flagged by the report as acting in concert with the fracking industry (and one that, unlike the DOH, was mentioned very frequently and universally unfavorably by a lot of the people I spoke to in the field). Like the DOH staff, DEP employees often engaged in practices that resulted in residents' complaints not getting resolved: "DEP employees often elected not to inspect reported violations; some employees would just call the well's operator, and rely on his version of events. And even in cases where investigation did show that a violation had occurred, and that ground water had been tainted, DEP employees typically chose not to notify neighboring landowners, who would have had no way to know there was a problem."[74]

At the state level, the report finds that "it took the [DEP] years to promulgate regulations specifically targeting this industry,"[75] during which time the industry was allowed to operate in a regulatory vacuum. It also failed to enforce informal rules to attempt to rein in the industry, even when it could have availed itself of that option. In addition, the DEP failed to enforce the laws

that were already on the books, such as the *zone of presumption* established by the Pennsylvania Oil and Gas Act, which puts the burden on the operator to disprove responsibility for contamination within 2500 feet and 12 months after drilling or alteration. And it used outdated, pre-fracking criteria for the tools that were at their disposal, such as water monitoring, meaning their tests couldn't accurately detect water contamination from unconventional gas drilling activity, and carved out special exemptions for the industry, such as the one exempting the industry from reporting chemicals in their slickwater that were "trade secrets."

Getting at the roots of local consent to the fossil fuel industry

Given how dire the effects of coal mining and natural gas extraction are for those living in proximity of fossil fuel developments, it can seem like a wonder that the industry should be allowed to operate anywhere in the country or in the world. The reasons such a prohibition never occurred in southwestern Pennsylvania are complex and multi-faceted. The preceding overview of the historical and contemporary presence of extractive industries in the region gives us an insight into a few: There is (in no particular order) the collusion of federal and state government, the engine of external capital investment, and the dependence on extractive industries fostered by the ecological devastation that it unleashes. Logging prepared the ground for coal, which prepared the ground for fracking by taking away more sustainable means of subsistence. These and many other factors all contributed to a social landscape friendly to the operations of extractive industries. To give all these adequate treatment falls outside the scope of this dissertation. Instead, my research focuses on an important but understudied and under-theorized

reason that fracking has established such a strong foothold in southwestern Pennsylvania: the role of local buy-in to industry-friendly narratives in fostering consent to the fossil fuel industry presence.

The question of consent to industry exploitation in Appalachia can't really be discussed without reference to the seminal work on the topic: John Gaventa's *Power and Powerlessness*[76] about the social conditions that fostered "quiescence" to the coal industry's domination in spite of its significant abuses. At the time of its publication, Gaventa's work extended the "pluralistic" conception of power in American political science (which is broadly the power to get another to do something that they would not otherwise do) by working in two additional dimensions of power: the power to set the agenda and the power to influence, shape, and determine the wants of a non-elite group.[77] In this conception of power, "quiescence" is basically a form of manufactured consent created through a chronic imbalance in power that enables an elite group to slowly shut a non-elite group out of the decision-making process over time and shape the issues that even reach the agenda until the very desires and perceptions of the non-elite group undergo a transformation to align more closely with those of the elite group.

There are a number of pertinent criticisms that can be made of this framework, foremost of which is that it is reminiscent of Marx's concept of "false consciousness." While Gaventa explicitly distances himself from that term in his introductory chapter and comes up with a number of creative methodological interventions to infer how Central Appalachian mining communities would conceive of their best interest in the absence of the oppressive power structures they were ensnared in, it still remains the case that his book essentially consists of a series of historical case studies, meaning that at the scale at which he is studying the problems he

is trying to understand, he cannot fully get away from making assumptions about what constitutes the "real interests" of the coal mining communities of Central Appalachia.

This becomes even more problematic when the phenomenon we encounter in lieu of opposition to the industry is not "quiescence" but a full-throated support of the fossil fuel industry. Jerolmack and Walker, in their study of public support for fracking in northeastern Pennsylvania, perhaps address this problem best, though their criticism is not leveled at Gaventa, but at the Environmental Justice literature tradition started by Robert Bullard's book *Dumping in Dixie,*[78] which assumes that high-risk industrial development would automatically be "unwanted." According to them, "whether particular environmentally risky land uses are seen as unwanted is a contingent social process. A certain land use may be a LULU to one community and an amenity to another."[79]

I encountered some of the same enthusiasm for the fracking and coal mining industries that Jerolmack and Walker observed in northeastern Pennsylvania among some of the people I interviewed and spoke to in the southwest of the state. What I initially found more confounding, however, were the attitudes of people who were actively engaged in fighting the fossil fuel development in their backyards. These were people engaged in almost quixotic battles against bureaucracies and systems much more powerful and well-resourced than themselves, who had to avail themselves of tremendous courage, persistence, and resourcefulness to score even minor victories against the industry or the agencies allegedly tasked with protecting them, but that too often protected the industry instead. And yet, in my interviews with them, they frequently expressed beliefs that on their face could only serve to strengthen the domination of the fossil fuel industry in the region. There was the well-to-do rural landowner who had spent the last five years fighting an unconventional gas well permit on his property, for example, but still believed

the success of natural gas as a form of energy was determined by "smarter minds than me." Or the Interlock notary and jack-of-all-trades turned industry watchdog who had waged a four-year war against the neighboring waste management facility, but who still laid the blame for the company's misdeeds solely at the feet of the government. And these are just two of the examples I encountered while on the field.

The word "consent" is perhaps not fully appropriate to capture the phenomenon at play here, though its end result may look a lot like the outcome of consent to industry domination. I also don't believe it is quite accurate to think of it the way John Gaventa would, as a case of chronic coercion of a non-elite by an elite masquerading as consent. This has to do with a few weaknesses in Gaventa's theory of power which have become clearer as the intellectual landscape of the social sciences has evolved. The first one is related to Foucault's influence on social scientific understandings of power. Throughout his introduction, Gaventa in 1982 speaks of power as something exclusively exercised "from A to B," or by one group against another, instead of "through" people and institutions, diffused and embodied through our values, knowledge systems, and so-called "regimes of truth."[80]

Another criticism of Gaventa's framework is contained in the turn in Anthropology and related social sciences to "relational" or "multi-sited" ethnographies. Relational ethnographies, according to Matthew Desmond, are a remedy to the flawed perspective that "the world is made up of … a collection of isolated groups and places" instead of "bunches of intertwining connections."[81] Gaventa's account definitely suffers from that shortcoming: While he acknowledges the parallels between the subjugation in early American mining towns and in colonial settings in the global South and the role of capital and an international mining company

in shaping these conditions, in his diagram of his theory of power on page 21 it is very clear that he conceptualizes the power dynamics in Appalachia as a completely closed system.

My own approach is driven in part by Gaventa's concern for the relationship between consent and power, but I adopt a more Foucauldian understanding of power as pervasive flowing through people and institutions, and I do not think of the groups I study as bounded, but as enmeshed in the self-same institutional and ideological matrix as the rest of us are. Following these fundamental modifications to Gaventa's original framework, the "consent" of fenceline communities in southwestern Pennsylvania to the fossil fuel industry's exploitation becomes a case, not of chronic coercion of one group by another masquerading as consent, but of communities impacted by fossil fuel extraction attempting to make sense of that extraction by drawing on global collective narratives that have historically justified capitalist exploitation. It may be more accurate, therefore, to speak of a failure of imagination, and not just one affecting the groups that are the subject of this dissertation, but a global one affecting all of us who find ourselves in one way or another under the influence of capitalism as a social system and a system of thought.

As philosopher Ingerid Straume points out, capitalism as an economic system has proven remarkably resilient despite its numerous negative externalities, which suggests that the explanation for its success may be found not in the economic, but in the *political sphere*, from what she calls the "political imaginary of global capitalism."[82] In the following section, I lay out in broad strokes what this political imaginary entails, before honing in on the specific theoretical frameworks I draw on to make sense of the responses of the fenceline community members I spoke to for this research.

The political imaginary of global capitalism

According to Straume, the political imaginary of global capitalism is tied to distinct "social imaginary significations," a term she borrows from philosopher Cornelius Castoriadis that she defines as "the dimension of instituted meaning that infuses and holds every society together."[83] One of the significations specific to global capitalism is the concept of *rational mastery* or *control via calculation*, which among other things enshrines the study of economics as a precise and neutral science and makes capitalism appear like the only realistic economic system.

Historian Carolyn Merchant, in her seminal ecofeminist work *The Death of Nature,* traces the origins of the idea of *rational mastery* (that she refers to at different times as "rational control," "rational management" or "mechanical philosophy") to the beginning of the Scientific Revolution and the genesis of capitalism as a political and economic system, and draws out the multitude of implications of this new system of knowledge for the way we think and relate to each other today. According to her, our modern assumptions about science and technology can be traced back to Western Society's "transition from the organism to the machine as the dominant metaphor binding together the cosmos, society, and the self into a single cultural reality – a worldview."[84]

This change in controlling metaphor, from "nature-as-organism" to "nature-as-machine," yielded our modern understanding of causation, of a natural world governed by immutable laws of physics and of mathematics as the key to absolute and context-free truth. It is also what enables the dominance of modern economic theory as a precise, scientific discipline governed by mathematical models and a model of human behavior founded on competitive self-interest.[85]

Mitchell's notion of the economy as an object in the collective imaginary that "could grow without any problem of physical or territorial limits," which he attributes to the exponential growth made possible by fossil fuels, must also owe its existence to a system of thought that could conceive of science as context-independent and ahistorical, capable of producing truth without reference to the human institutions that produced it. This same system of thought must also be at the root of the collective belief in the ontological separation of the economic and political sphere that economic historian Immanuel Wallerstein discusses in *Historical Capitalism* and that he argues conceals the violence of "unequal exchange," the process of extraction of resources from a weak "periphery" to benefit a strong "core."

Merchant makes a very similar but more expansive argument about the violence warranted by Western society's transition to the controlling image of "nature-as-machine." "Controlling images, she writes, operate as ethical restraints or as ethical sanctions – as subtle 'oughts' or 'ought-nots.' Thus, as the descriptive metaphors and images of nature change, a behavioral restraint can be changed into a sanction."[86] As the transition from "nature-as-organism" to "nature-as-machine" occurred, the restraint against the capitalist exploitation of nature turned into a sanction. This encompassed activities like mining, plantation farming, but also the subjugation of most groups in society.

In particular, women were demoted in the post-Renaissance world because of their cultural association with nature, and men's with culture. Merchant does a masterful job of showing how intimately connected the ideological work of justifying the manipulation and control of nature and the subjugation of women really was. Perhaps no illustration she gives is more striking than Francis Bacon's (appropriately dubbed the "father of modern science") choice of language for describing this new mode of inquiry. Here, for example, he equates scientific

inquiry to the inquisition of witches (in which he himself participated as King James I's attorney general in 1616):

> [T]he use and practice of such arts [as sorceries, witchcrafts, charms, dreams, divinations, and the like] is to be condemned, yet from the speculation and consideration of them . . . a useful light may be gained, not only for a true judgment of the offenses of persons charged with such practices, *but likewise for the further disclosing of the secrets of nature. Neither ought a man to make scruple of entering and penetrating into these holes and corners, when the inquisition of truth is his whole object – as your Majesty has shown in your own example.*[87] (italics are Merchant's)

Women, of course, were not the only group in society coded as part of nature to justify capitalist exploitation. Patel and Moore describe the use of the "encomienda" ("temporary land grants given by the king to aristocrats so that they might profit from estates previously occupied by Moors") as a "strategy to shift certain humans into the category of Nature so that they might more cheaply work the land. (…) Over time, the encomienda system came to comprise a diversity of labor arrangements, combining legal coercion with wage labor. This meant that the realm of Nature included virtually all peoples of color, most women, and most people with white skin living in semicolonial regions (e.g., Ireland, Poland)."[88]

As Merchant argues throughout her work, the new machine metaphor enabled not just the emergence of a new system of knowledge, but also of a new system of power. In other words, "rational mastery" or "rational control" is not just about knowledge, but about knowledge *and* control, or *control through knowledge*. "Mechanism as a worldview was also a conceptual power structure."[89]

> The removal of animistic, organic assumptions about the cosmos constituted the death of nature – the most far-reaching effect of the Scientific Revolution. Because nature was now viewed as a system of dead, inert particles moved by external, rather than inherent forces, the mechanical framework itself could legitimate the manipulation of nature.[90]

Merchant touches briefly on how the new framework eroded ancient strictures against

mining:

> The ancient Greek philosophers Anaxagoras (500-428 B.C.), Theophrastus (370-278 B.C.), and Dyonisus of Periegetes (fl. A.D. 86-96) believed that metals were plants growing beneath the earth's surface and that veins of gold were like the roots and branches of trees. Metals were believed merely to be a lower form of life than vegetable and animals, reproducing themselves through small metallic seeds.[91]

During the Renaissance, one popular belief held that veins of minerals grew from the earth's center like branches from a golden tree, and that mineral resources would be replenished if they were not exhausted too quickly. The Roman compiler Pliny (A.D. 23-79) speculated that earthquakes were an expression of Mother Earth's indignation at being violated through the mining of her metals and argued that she "had concealed from view that which she did not wish to be disturbed," while the Roman poet Ovid described mining for iron as "[digging] into her vitals."[92]

To sum up, then, our transition to our mechanical mode of knowledge led both to the enshrinement of modern economic theory, an ahistorical, context-independent mode of knowledge governed by mathematical models, as the dominant way of knowing our social world, and to the stripping of Mother Earth of her divine qualities. Both these developments provide strong warrant for the kind of capitalist exploitation of land I have described in this chapter.

In order to more precisely capture the nature of this warrant, I now turn to a framework that was originally developed to make sense of capitalist land development in cities. It does not have anything directly to say about the southwestern Pennsylvanian or the Appalachian context, or even rural America more broadly or extractive industries. Nor is it even directly tied to environmental social science – though it has previously been adapted to explain instances of environmental exploitation.[93] But it still manages, for reasons I will lay out in the next section, to more thoroughly capture the ideological dynamics at play in the process of securing and

exploiting land for fossil fuel developments than any other framework I have come across. Below I provide an overview of this framework, which moving forward I will refer to as the *growth machine* framework.

The growth machine framework

The *growth machine* framework comes from Logan and Molotch's book *Urban Fortunes.* The book significantly expands on and clarifies the framework laid out by Harvey Molotch in his much earlier article "The City as a Growth Machine."[94] The work has been impactful in the field of urban sociology, having been cited nearly 10,000 times according to Google Scholar.[95]The article and book's central intervention was to challenge the approach of the Chicago School of Human Ecology, which explained urban development as a process for maximizing the efficiency of space allocation *for the community as a whole*; what they call "symbiotic competition."[96] Instead, Logan and Molotch (2007) argue, the nature and shape of the modern city is determined by the *conflict* between those people attempting to use the city to live in it and those who attempt to profit from the exchange of land in the city through speculation. The authors refer to this second class of people as the "growth coalition" or "growth activists." The coalition consists of "[t]he people who use their time and money to participate in local affairs. [Major participants are] business people in property investing, development, and real estate financing."[97]

Logan and Molotch (2007) make the case that, in contrast with the human ecology view of "symbiotic competition," there is in fact an inherent conflict between the use and exchange values of land: Fundamentally, places cannot be "lived in" and developed at the same time. This idea is most succinctly illustrated by the policy of rent control and the groups that do and do not

find it in their interest. The authors mention other instances where growth can come at the expense of residents, such as when development projects entail the building of infrastructure "all at once" (so-called "lumpy" costs) using local tax dollars, particularly when the promised development then fails to materialize.[98]

It is in the interest of the growth coalition to disguise this conflict between use and exchange values and cultivate in people attempting to live in the city support for the growth playbook. This is where Logan and Molotch (2007) deploy a concept that provides the backbone for my own theoretical framework: what they call the "ideology of value-free development" or more simply the *growth ethic* (which is the term that I will adopt moving forward), which is the set of articulated beliefs held by regular residents that lead them to be supportive of urban growth. At its core, the *growth ethic* consists of the belief that economic growth (or even the pretext of growth) is the only valid measuring stick by which to determine the value of land use.

Growth activists encourage this belief in two ways: Firstly, through the cultivation of "place patriotism" by "connect[ing] civic pride to the growth goal"[99]:

> Schoolchildren are taught to view local history as a series of breakthroughs in the expansion of the economic base of their city and region, celebrating its numerical leadership in one sort of production or another; more generally, increases in population tend to be equated with local progress. Civic organizations sponsor essay contests on the topic of local greatness. They encourage public celebrations and spectacles in which the locality name can be proudly advanced for the benefit of both locals and outsiders. They subsidize soapbox derbies, parade floats, and beauty contests to "spread around" the locality's name in the media and at distant competitive sites (61).

"The overall ideological thrust is to deemphasize the connection between growth and exchange values and to reinforce the link between growth goals and better lives for the majority," the authors argue.[100] That is not to say that the schemes and manipulations of the growth machine

coalition is the only source of civic pride, only that they are adept at mobilizing pre-existing cultural motivations in order to maximize their rents.

Another way growth activists manufacture consent to the *growth ethic* is through de-emphasizing public land use as a political issue in the public agenda: "Although they may differ on which particular strategy will best succeed, elites use their growth consensus to eliminate any alternative vision of the purpose of local government or the meaning of community. The issues that reach public agendas (and are therefore available for pluralists' investigations) do so precisely because they are matters on which elites have, in effect, agreed to disagree."[101] What remains in the public sphere of democratic politics are the symbolic politics of race, identity, gun rights, and abortion (to name a few), not "the politics that determines who, in material terms, gets what, where, and how."[102]

How is it that a theory stemming from urban sociology and ostensibly designed to explain the nature of land development in the city can be applied to explain local buy-in or at least tolerance of fossil fuel industry activity in southwestern Pennsylvania?

One reason is that there is nothing inherent about their theory that says it can only be applied to cities. Logan and Molotch make that much clear in their discussion of the history of the American city, where they show how "growth entrepreneurs" used political and economic leverage to attract government investment at the American frontier, for instance by influencing where the railroad would pass.[103] And their theory has seen at least one high-profile application in the environmental social sciences: Freudenburg et al.'s book about how the decisions of the "growth elite" in New Orleans prepared the ground for Katrina by attracting investment for a series of disastrous canal projects meant to attract the shipping industry (they failed to ever do

so) that eroded the Bayou and undermined its natural ability to act as a buffer against hurricanes.[104]

If Logan and Molotch's framework can be applied to explain large-scale canal construction projects in Louisiana, it can, I argue, speak to the southwestern Pennsylvania context and the fossil fuel industry. After all, fossil fuel development projects are always fundamentally also land development projects. As we recall from the beginning of this chapter, from their inception, extractive industries have always displaced other land uses: They deprived the early European settlers of the Appalachian Mountains of their ecological base at the turn of the 20th century and are still today displacing other land uses such as agriculture and tourism. Their activities are also governed by very similar politics to the ones described by Logan and Molotch in *Urban Fortunes,* something I will touch on briefly in my second chapter on the struggles of the residents fighting the fossil fuel developments in their backyards.

In addition, while it does not enter explicitly into conversation with the literature I have cited on capitalism as a system of thought, it still articulates itself naturally with it. As I have just defined it, the *growth ethic* is really a very simple idea: That economic growth constitutes the only legitimate benchmark for determining the value of land use. But I would argue that what makes this seemingly very simple idea so powerful is that it inserts itself into a set of articulated beliefs (in other words, an ideology) that, taken together, provide a potent justification for the broader capitalist project.

This study

This study examines the influence of the *growth ethic* and other narratives justifying capitalist extraction on fenceline community member views of the local fossil fuel industry in southwestern Pennsylvania. The primary source of data that this study draws its inferences from a corpus of thirteen in-depth interviews with fifteen residents. As mentioned in my preface, the full corpus consisted of sixteen interviews with eighteen residents, but two of these interviews were retracted by the community members I interviewed and one was lost due to a faulty recording. Eleven of the thirteen remaining interviews were conducted over the course of two and a half months of fieldwork concluded in the days leading up to the 2020 presidential election. Three more were conducted over the phone after the fieldwork had concluded. Thirteen of the people I spoke to were residents in fenceline communities in Washington, Fayette and Westmoreland Counties. The remaining two were natural gas workers who lived in Pittsburgh but worked in those counties and elsewhere.

The people I interviewed were divided pretty evenly between Democrats and Republicans (as determined by their preferred candidate in the 2020 presidential elections). All told, there were seven Trump voters, eight Biden voters, and one undecided voter. For the purposes of this research, I am making the assumption that my Trump voters were more ideologically conservative and my Biden voters were more ideologically liberal. This assumption tended to be borne out by my interviews, so moving forward, I will be referring to the Democrats and Republicans in my sample interchangeably as conservatives and liberals. Political ideology is relevant for my study, because the literature on climate change denialism suggests there should be a natural affinity between the *growth ethic* and American conservative thought. The reasons for this will be further discussed in Chapter 3.

All participants were asked about their personal background and values, their attitudes toward the coal and natural gas industries, and their openness to transitioning to renewable energy. Fenceline community members were additionally asked about their experiences living next to fossil fuel developments. The developments participants were primarily asked about included an underground coal mine, unconventional gas wells, an abandoned industrial park and a waste treatment facility that received frack water and coal ash.

The participants for this study were recruited through snowball sampling. Seven of my thirteen interviews I obtained through my connections with the staff at the Mountain Watershed Association and the Center for Coalfield Justice, the two local environmental organizations I conducted fieldwork at. My remaining participants I met through attending a local board of supervisors meeting, starting a conversation on a walk, messaging a Range Resources employee through LinkedIn, and contacting a local journalist (see Appendix E for a more detailed description of my recruitment process).

My method of recruitment ensures that the people I spoke to had a much stronger connection to environmental organizations than the average resident of southwestern Pennsylvania. This would be a problem if I were attempting to assess the average viewpoints toward the fossil fuel industry in the region. Because, instead, my aim is to understand the way the *growth ethic* narrative influences local perceptions of the fossil fuel industry, a lot of the people I spoke to for this study represent critical cases for the question I am trying to answer: If the influence of the *growth ethic* can even be found in their accounts, then it stands to reason that it is influential among most groups in southwestern Pennsylvania. For my study, I have also sought out people to interview who actively attempted to oppose some of the activities of neighboring fossil fuel developments. These five participants are much more politically involved

on the issue of interest to me than the average resident of southwestern Pennsylvania. I also consider this to be a good thing, for the reason outlined above.

My sample also has some significant weaknesses: For example, it turns out that, likely mostly by chance, only one of the women I interviewed was conservative and only one of the men was liberal. As I have noted earlier, the work of scholars who have looked at the way gender influences attachment to the coal industry in Appalachia suggests that men would tie their identities more strongly to the fossil fuel industry. This complicates my ability to draw inferences about the ways political affiliation and political buy-in to the *growth ethic* influence each other, because that relationship is likely moderated by gender in a way that I won't be able to untangle.

Still, this is far from a fatal flaw: The aim of this study is to examine the ways a societal narrative justifying the exploitation of natural resources shapes the private understandings of the people most affected by it, so the demographic characteristics of the people I spoke to is less important here. Additionally, my research design can be allowed a few weaknesses because of the novelty of its contribution to the field. Several studies have looked at the rhetorical strategies employed by the fossil fuel industry in order to secure public consent for its activities, most notably Oreskes and Conway's book *Merchants of Doubt*[106]. Most relevant for my research is probably Schneider et al.'s study of the contemporary coal industry's rhetorical engagement with neoliberal discourse to justify its existence.[107] But, to my knowledge, no study so far has blended this rhetorical perspective with an ethnographic approach to try and understand why the communities most affected by fracking tend to acquiesce to the industry's activities.

Furthermore, my research design is strengthened by the use of a whole range of supplementary methods designed to provide additional insight into the personal and

environmental toll of the fracking and coal mining industries and the institutional and ideological matrix endowing the local fossil fuel industry with much of its power. As you have already seen earlier in this chapter, a rhetorical analysis of the Marcellus Shale Advisory Commission Report and of Obama's 2014 State of the Union Address allows me to illustrate the degree of institutional legitimation that the fracking industry benefited from in its infancy and a close reading of parts of then-Attorney General Josh Shapiro's Grand Jury Investigation into the abuses of the fracking industry helped me provide a broader context for my participants' experiences. Toward the end of Chapter 2, I draw on a discourse analysis of government and industry websites, an interview with an attorney at one of the environmental organizations I worked with, and some limited participant observation to paint a picture of the permitting process enabling the distribution of land for development to companies participating in the fracking infrastructure buildout in Pennsylvania. And in the conclusion, I draw on a summary content analysis of climate change coverage in American newspapers and on my participant observation of two environmental organizations to lay out potential strategies to deal with the problems uncovered by my research. In the following chapters, I will attempt to examine how the cultural narratives that fenceline communities in southwestern Pennsylvania draw on strengthen the local fossil fuel industry's "social license to operate." In Chapter 2, I begin by laying out how Logan and Molotch's central *growth machine* framework applies to the southwestern Pennsylvania context. Chapters 3 and 4 address different aspects of my central research question. Chapter 3 traces the presence of the *growth ethic* narrative in my participants' statements, while Chapter 4 examines why certain competing narratives have failed to take hold. Finally, in my conclusion, I suggest some tentative solutions to the problems uncovered by my research.

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[4] Ronald L. Lewis, *Transforming the Appalachian Countryside: Railroads, Deforestation, and Social Change in West Virginia, 1880-1920* (University of North Carolina Press, 1998), 17.
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[6] Kathryn Newfont, *Blue Ridge commons: Environmental Activism and Forest History in Western North Carolina* (University of Georgia Press, 2012) cited in Stoll, *Ramp Hollow,* 143.
[7] Stoll, *Ramp Hollow,* 145
[8] Lewis, *Transforming the Appalachian Countryside,* 4-5.
[9] Lewis, 9.
[10] Lewis, 7.
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[13] Stoll; Lewis, *Transforming the Appalachian Countryside.*
[14] Warren, *Wealth, Waste and Alienation.*
[15] 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* (University of California Press, 2017).
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[19] Lewis, *Transforming the Appalachian Countryside;* Stoll, *Ramp Hollow.*
[20] Warren, *Wealth, Waste and Alienation.*
[21] Lewis, *Transforming the Appalachian Countryside*, 4.
[22] Warren, *Wealth, Waste and Alienation,* 223-224.
[23] Warren, 13.
[24] Warren, 224.
[25] Patel and Moore, *A History of the World in Seven Cheap Things.*
[26] Warren, *Wealth, Waste and Alienation,* 11-12.
[27] Patel and Moore, *A History of the World in Seven Cheap Things,* 21-22.
[28] Stoll, *Ramp Hollow,* 29.
[29] Mitchell, *Carbon Democracy,* 15, 14.
[30] Mitchell, 139
[31] James Donaldson Sisler et al., "Contributions to Oil and Gas Geology in Western Pennsylvania," *Pennsylvania Geological Survey* 4, no. 19 (Harrisburg, Pa.: Department of internal affairs, Topographic and geologic survey, 1933), cited in Office of the Lieutenant Governor of Pennsylvania, *Governor's Marcellus Shale Advisory Commission Report* (2011).
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[38] Jerolmack, *Up to Heaven and Down to Hell,* 16.

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[91] Merchant, 29.
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CHAPTER 2: FIGHTING THE GROWTH MACHINE

The *growth ethic* – the theoretical concept that the bulk of this dissertation's original research is built upon – actually occupies a fairly auxiliary place in Logan and Molotch's larger theory. The central concept in *Urban Fortunes* is the *growth machine*: the process through which the city's institutions get co-opted to serve the interests of the growth coalition. The authors write, in the preface to their 20th anniversary edition:

> To build private wealth under changing circumstances, one needs permissions, subsidies, and the right kind of public infrastructure. So along with some crucial associates that service their needs (lawyers, bankers, media), the real estate interests push government levers. (…) In ways we explain, the city *becomes* a growth machine (X).

Pennsylvania's fracking infrastructure is not a city, but like most urban land development, it could not exist without heavy government investment. I will go into more detail on why the parallel is apt in the second part of this chapter.

The core argument I attempt to construct in this chapter is that Pennsylvania's choice to invest in its shale gas reserves (for whatever reason it was made) resulted in the emergence of a new growth coalition focused on reaping the benefits from this investment. The chapter begins by centering the narratives of the five resisters I interviewed for this research who chose to go on record.[1] By "resisters," I mean those of my participants who attempted to actively resist the encroachment of the fossil fuel industry into their backyards and communities (see Appendix F for brief portraits of my non-resister participants). It then summarizes the findings from two research articles on the Pennsylvania State's investment in hydraulic fracturing, framed through the lens of the *growth machine*. Next, the chapter zeroes in on two members of the fracking growth coalition highlighted by my participants' narratives: Range Resources and the waste

management company MAX Environmental. The chapter ends with a discussion of the Pennsylvania Department of Environmental Protection's (and to a lesser extent also the federal Environmental Protection Agency's) permitting process for fossil fuel development. Through this discussion, it attempts to make the case that the permitting process is one of the cogs in the Pennsylvania *growth machine* that the growth coalition exploits in order to reap the benefits from the state's investment in unconventional oil and gas development (UOGD), or hydraulic fracturing.

The resisters' narratives

Meg vs Rustic Ridge

I remember arriving to the interview with Meg late – probably the result of my usual excessive optimism about travel times compounded by winding country roads. She is sitting in the doorway of her farmhouse when I arrive and rises to greet me. . She is short and slender, dressed simply in cargo pants and a fleece jacket, with cropped curly white hair, a petite yet somehow commanding figure. When she speaks, it is with clipped authority. She says she has about an hour and we should get started.

We conduct the interview under the gazebo at a safe distance from each other, making small talk about her conservative neighbors' lack of COVID precautions, while she arranges raspberry leaves onto a paper towel. She fusses over our seating arrangement and our distance from the recorder for a minute, saying she has a daughter who recently completed her PhD, and so she understands the frustration of losing data due to an unclear recording. Sure enough, she

manages to maintain almost perfect enunciation throughout our entire interview. She goes indoors to fetch me a glass of kombucha before I begin with my questions. I remember chewing on the ice cubes and having a stray thought about the sound making it onto the recording.

As with all my participants, I begin by asking her about her background. She says she and her husband have owned the farm we are on for the past seventeen years and have been building the house they are now living in for the past twelve years. This makes them "new on the mountain." She adds: "We're newcomers to Pennsylvania, even though we've lived in Pennsylvania since 1976, but we didn't go to high school here in Pennsylvania, so that makes us foreigners," embroidering on a theme I would hear from several people while conducting fieldwork in the region: that unless you were born on the same side of the mountain as your neighbors and everyone recognized your last name, you were always to some degree considered an outsider. It was the reason Ashley Funk, who was a community organizer at the Mountain Watershed Association when I first reached out to her (and is now its executive director) gave for turning down a job at the Center for Coalfield Justice just an hour's drive away before the opportunity at the Mountain Watershed opened up. It was also a defining element of Kathryn and Gracie's experience, as we will go into more in Chapter 4.

Meg tells me she works part-time as a psychologist, while her husband is a retired professional engineer. They are attempting to transition toward spending more time working on the farm as she nears retirement, but she still works with children with special needs and has a riding program for special needs children and children from the community. She tells me she has always worked part-time, which allowed her plenty of time to stay involved with the community. Among other things, she says she serves on the Westmoreland County Conservation District board of directors and on library boards. She used to be very active on the board of the Mountain

Watershed, though she recently stepped down because of scheduling conflicts. Specifically, she was involved in the Mountain Watershed's fight against Rustic Ridge, an underground metallurgical coal mine that opened recently on County Line Road, on the border between Fayette and Westmoreland Counties. When the permit for the mine was approved, the small environmental organization brought a lawsuit against the Pennsylvania DEP and LCT Energy, the company now operating the mine. The parties ultimately reached a settlement, which allowed LCT to move forward with its development of Rustic Ridge, while imposing a number of additional restrictions on how the mine was allowed to operate and setting up the Mountain Watershed as a watchdog to monitor LCT's activities.

Meg and her husband's farm is in the "footprint" of the mine, she explains to me. They own their coal, so LCT is not able to mine under their farm, but they are still impacted by the mine's activity. When the Mountain Watershed settled with LCT, this left her in the position of having to negotiate additional concessions from Mark Tercek, the president of LCT, so that she could continue her work with special needs kids and her riding program:

> Because of my work with special needs kids and with community kids with our riding program who have had no experience with horses, we were concerned here at the farm about LCT's blasting schedule to open up the ground to start building the tunnel into the earth. I asked to meet with Mark Tercek, the president of LCT, and see what we can negotiate with regard to his blasting schedule not being at the time when I'm doing psychological assessments of severe special needs kids like severe autistic or I had a lot of down syndrome kids at the time, and also not when I was doing riding lessons for the safety of the kids. So that actually worked out well. Tercek agreed, we negotiated, and I agreed to move all my everybodies on three days of the week and he would not blast on those three days. It was exhausting for me, but it protected the kids. That way, if I had to do psychological assessments– People can't believe it, but some of the autistic kids I work with are so sensitive: They feel vibrations through the ground or hear noises that the rest of us don't hear. That worked out well, and I guess that maybe lasted about maybe six months for the blasting.

There were no problems after that for about a year, when the trouble with their Artesian well started. An Artesian well, she explains, "is under pressure. If it weren't developed, it'd be just shooting up like a natural geyser constantly. It was developed before we bought the farm and

then we just put another pump in so we actually use it to water our horses, especially in a drought period." LCT contracts with an engineering company called CME to sample the spring and well water of households within the footprint of the mine. At first, the sampling was done monthly, but then Mark Tercek scaled it back to quarterly testing, "which was probably a disaster in our case because our April flow on this artesian well was about 16 or 17 gallons a minute, which is correct, and the June flow was seven gallons a minute. Everything else was the same, all the chemistry was the same. I just assumed it was a typo. My mistake." Because of the three-month gap, it wasn't possible to pinpoint exactly when the decrease in flow happened, and then the chemistry of the well changed the first week of August. That's when Meg's husband went to take a flow count "and sure enough, it was 7.5 gallons a minute instead of 17, 18. The usual flow in a normal time is 20 gallons a minute. That's a lot of water and it's a discharge. If we're not pumping the water for the horses, it just flows up and out a discharge pipe into the creek. And the creek started turning orange. (…) We were able to watch it from this little patch about two feet by two feet of orange precipitate, growing and spreading down the creek."

Meg says she called the coal company and the Mountain Watershed and the DEP. "They all sent people out to look at it and sample the water and all of those field techs responded in a timely manner, which was good. The only unusual thing that showed up was a four times normal aluminum content in the water and that was in the coal company's lab assessment, but none of MWA's lab assessment showed that aluminum, so it's very bizarre." Notwithstanding the true aluminum content in the water, her horses were now refusing to drink it:

> It's always high in iron and sulfur. We understand that. It comes out of a shale layer, 120 feet down, but that's what we're used to. They've had this little mini - like a tank that he puts on the tractor and he pumps the water into the tank from the artesian well, and then he goes, and he siphons it out into their troughs, and we've had a drought almost all summer long. For them to refuse to drink that water, when this happens every summer — we have to take the water from the artesian well and put it in their troughs because the springs just start drip-drip-dripping. The flow just decreases if we don't have

> enough rain.That was a huge problem. I called Mark Tercek and after I think he sent two guys out to look at things and do sampling, and I said, "Listen, we need help." I guess I left a message for him, "Our horses refused to drink this water. Would you please temporarily provide a water buffalo for us so we can water the horses? We are in a drought" and he refused, which was a shock and disappointment. He was going on the results from LCT sampling of the water, which they got back very quickly, and he said, "Oh, your chemistry hasn't changed a bit."Well, that is not true. By that lab report, the aluminum was four times the FDA's allowable amount for drinking water — and horses are mammals so that includes safe for them. High aluminum content in water for any mammals would mean neurological problems, seizures, brain damage, that type of thing. That was a huge concern for us.

The next time CME came to do its quarterly testing, Meg says the flow was back up, but the creek was still bright orange. Meanwhile, the Mountain Watershed was sending its own field techs to sample the well every week or two, with none of the samples ever showing the high aluminum content.

Meg expressed the most disappointment about the DEP's involvement in the case:

> I received a letter from DEP, and people in the community need to know how this system works, assigning me to a geologist that was going to handle the case. I immediately called him, hi, here's who I am. Here's what's going on. What information do you need, and here's what I need to know, and I said, I'll follow you up by email so that we're all literally on the same page. I followed up with email, told him I needed to find out quickly because our horses refused to drink the water, and we depend on the water. It's the only developed source of water on that side of the farm. Didn't hear from him, called him back. "Oh yes, I haven't gotten around to that yet." Called him back again after several weeks and he still hadn't gotten around to it — to anything! I said, "This is serious. We have no source of water for our livestock on that side of the farm, and they refuse to drink it. I need this resolved." He still did nothing.

Eventually, Meg turned for help to LCT's geologist, Pete Mac. She found Pete Mac to be helpful:

> I wanted to know "where have you mined in the past X number of months, past X number of years, and where have you bored for new coal" — because they're planning to expand.He went over all of that by phone. He made sure that the CME engineering field tech came and I said, yes, she's due to come quarterly. I had to call to find out when she was coming. That's not what usually happens, and I said, "I can't believe that the president of your company has refused to test this artesian well monthly." and he said, "I'll make sure that that happens.", so we shall see on that. Meanwhile, he was able to get the results of the testing that the CME field tech got and everything looked fairly normal, no high aluminum. He's coming out next week with his maps. He's going to go over it with my husband and me.

Of the seven resisters I spoke to for this research (two of whom did not make it into my dissertation because of concerns over pending lawsuits), Meg was by far the best equipped to take on the fossil fuel development in her backyard. Relative to Range Resources, LCT Energy is a small company without much political muscle, and the settlement won by the Mountain Watershed Association set restrictions on its operations beyond the ones mandated by Pennsylvania law. In addition, according to Melissa Marshall, a lawyer for the Mountain Watershed Association, the legal framework governing mining in Pennsylvania is much more developed than the one governing fracking, which she says leaves residents relatively unprotected. Still, Meg's narrative shows how vulnerable she was to the whims of the mining company's management and to minor human error. Also shocking – and common to all the narratives of the resisters who had dealings with the agency – was the total lack of assistance she reports receiving from the Pennsylvania DEP. As we will see from Roger's story, where the DEP did take on a more active role, it was in service of the fossil fuel industry instead of the citizens of Pennsylvania.

Kathryn and Gracie vs Range Resources

I meet Kathryn and Gracie at a board of supervisors meeting in Cecil Township, Washington County, that I attend on the advice of someone from the Center for Coalfield Justice. The room is almost empty, except for the supervisors facing the audience, a group of about five women sitting in the center left row, and a few other audience members scattered about the room. The topic for discussion that night is the township's oil and gas ordinance. A woman, who I'll just call D-, is filming the meeting. I remember struggling to make out her role in the proceedings. Is she staff? Audience? At one point, she goes to the podium and launches into

about ten minutes of almost incoherent remarks, which I also struggle to classify as pro- or anti-fracking. The youngest-looking supervisor, a woman who looks to be in her late thirties, looks down at her phone and smiles. A representative for Range Resources, Jocelyn Ebert, joins the meeting via Zoom and suggests to the supervisors that they have a closed-door meeting to discuss the ordinance, but the female supervisor sharply rebukes her for the suggestion.

D-'s remarks are pro-fracking, I later learn from Kathryn and Gracie, whom I approach as they file out of the meeting (they were one of the row of five or so women). D- is not supposed to be filming. The audience does not have permission to record the proceedings, but the supervisors still allow it, for reasons which the women intimate are not to the credit of the municipal government. The female supervisor smiled because of a text Gracie sent her. The three women are good friends. D- later posts a comment on her Facebook page calling Gracie one of the supervisor's "minions," which Gracie reads to me with a mixture of glee and exasperation during our interview. They have apparently set up warring Facebook pages, which have turned into the online theaters of a township-wide quarrel over the place of fracking in Cecil Township.

I show up a few days later at Kathryn's house to interview the pair. I note a finger puppet of RBG on one of the great stainless steel fridge doors in the kitchen on my way in or out. Kathryn is a short, boisterous brunette, Gracie a more soft-spoken blonde, but when they get going, their speech is animated and fast, and they complete each other's sentences. The interview ends up stretching over almost two hours and yielding forty-six pages of transcript. The setting is easily the most chaotic I have ever conducted an interview in, but also the most charming, with both the women's children flitting in and out of the kitchen to grab a slice of pizza or some peanut butter and stopping by the table where we have set up to show off some art they made or a streak of pink hair (for breast cancer awareness month) that Gracie helped dye. Kathryn and

Gracie tell me their two youngest (a girl and boy) are best friends and communicate with each other through walkie-talkie.

Kathryn and Gracie tell me they are both Pennsylvania natives, but they moved to their current homes relatively recently. Gracie is from Johnstown, Pennsylvania, which is in Cambria County just east of Westmoreland County. She moved to the house she now lives in from South Fayette in 2016: "I'm picky about houses. (…) So I was like, we're not going to find something that I'm okay with, so let's build a house. And we looked actually for property over in South Fayette, and it was like $120,000 for a third of an acre. (…) Over here, it was like $60,000 for two and a half acres or whatever." Kathryn moved in next door to her in 2018. The women are both solidly middle-class. Kathryn is a stay-at-home mother who stays very active coaching softball and raising money for charities, while her husband works twelve-hour days as an engineer designing self-driving cars. Gracie works for Microsoft.

The women's friendship and activism precede Kathryn's move in 2018. The women say they have known each other for almost twenty years. Kathryn says Gracie is best friends with her sister, but over the years, the women's activism has brought them closer together, "because, according to Gracie, really we're the ones who care – we consistently care." The issue that has them the most fired up on the day of the interview is a well pad owned by Range Resources that was being built in the back of their properties, but before that, they fought the compressor station that MarkWest wanted to build next to the intermediate school and the zoning of oil and gas development as a "permitted use."

Permitted use, as the women explain to me (and I was able to corroborate through my research), stands in contrast to conditional use, which gives municipalities the authority to set local rules governing the development of oil and gas reserves within the township.[2] In February

2012, Pennsylvania legislators passed Act 13, a bill that made all oil and gas developments a permitted use, meaning as long as they met the specifications of the Pennsylvania State government, oil and gas projects could go into development without input from local governments. The women return over and over to the idea that local control of zoning laws regarding oil and gas development is crucial, that land development as risky as fracking and the infrastructure that supports it should not be exempt from the requirements that govern every other industry in Pennsylvania. The stakes are high, they insist: Children in Washington County, where fracking is the most active in the southwest of the state, have been dying of Ewing Sarcoma, a rare and aggressive form of bone cancer, at many times the rate in the rest of the country.[3] "There are people out there who truly believe that this has caused their loved ones to get sick and even die because of fracking," Gracie states.

Without a doubt, the conviction of parents in the township who had lost their children must have fueled the women's worry about the well pad coming in behind their houses, though they do not say so explicitly. There is some level of irony in the fact that the well pad in question is the result of a conditional use hearing - the portions of Act 13 restricting local zoning were ruled unconstitutional by the State Supreme Court in December 2013.[4] Apparently, the hearing was the first of its kind in the township. Kathryn says she is convinced it is not a coincidence: "They decided to use us as an example. And I'm convinced of that. And that's my personal opinion. (…) They wanted to prove that they could put it wherever they wanted, and so that anywhere else they applied in Cecil, they could say. 'Look, well, we put it here.'" Based on how the company has been reported to behave in other contexts, that idea is not so far-fetched, as we will see further down.

According to the women, from the time that the notice for the conditional use hearing for the well pad in their backyard was posted until the date of the hearing, there were as little as six weeks – not enough time for even Kathryn and Gracie, who had experience fighting the fossil fuel industry, to prepare. It doesn't help that even with all the time in the world to prepare, the odds would still have been stacked against them: "There is a very thin book of lawyers, attorneys that will take on a case to fight these oil and gas companies, Gracie explains, because they know that normal citizens don't have deep pockets like these oil and gas companies do. They have full-on fleets of lawyers, like – dozens of lawyers." As it so happens, they were acquainted with one of the lawyers in that thin book, John Smith, had been the lead attorney in the Act 13 challenge that had led to the repeal of parts of the law,[5] but Smith hadn't been able to help, because his work as solicitor in their township disqualified him from taking their case. He recommended someone else to represent them, but this lawyer also wasn't able to take their case.

> GRACIE: At this point, we've been trying to, flailing around, figuring out what to do for two weeks. And now we have like a month. And what lawyer wants to take on a case where they have probably other caseload, they don't have enough time to prepare and now they're gonna get sprung on this conditional use hearing that's coming up in less than 30 days that they they don't have any idea what what the scenario is. It's just not enough time.

It isn't clear from the interview whether the women managed to find someone to represent them by the date of the hearing, but what is clear is that Range Resources won. One detail of the case makes it especially painful for them: The well pad coming in behind their homes is technically on their neighbors' property, but the latter had chosen its location so that it is on the furthest point possible from their own home and much closer to where the women live.

Kathryn gestures toward the woods right behind her house. From a clearing right behind a thin layer of trees, I can see the white walls of the well pad reflect the setting sun.

Change (in the direction of stricter requirements for the oil and gas industry) moves at a glacial pace at the level of the local government, according to the women. Gracie says it took five years and hours of research and meetings every week for some of their recommendations to make it into the newest oil and gas ordinance:

> GRACIE: Yeah, it's a lot. It's a lot of meetings. How many meetings did we have on Mondays? Four or five, this last... Yesterday was the first Monday I wasn't at the township building, I want to say in six weeks.
> KATHRYN: Yeah, well that was you, because I couldn't go to the last meeting because I was at a softball game, so...
> GRACIE: Yeah, it was a lot of meetings. There was a well-pad conditional use hearing. There was an oil and gas ordinance revision meeting. There was the regular monthly meeting. And then there was the previous supervisor meeting and the previous conditional use hearing so there was like five meetings and every single one of them has to be prepared for. Like, if they're gonna hear our point of view, we have to prepare. This is hours and hours and hours and hours of our time and energy spent trying to do this for like literally no – [laughs]
> KATHRYN: Exactly.
> GRACIE: Literally no return. I mean, except, what I think, it was finally – and I was like so emotional after that supervisor's meeting. I think I made one of the supervisors feel uncomfortable because I was like, "I've been coming here" (like I even get like teary-eyed thinking about it) "I've been coming here for five years. Trying to talk (she's been coming way longer) trying to get you people to listen to me. And finally, finally, somebody heard what I said." And literally, that piece of paper, they took that. And that's what they put in the conditions. Like what we said, they did it. They're making them do third party independent sound monitoring, third party independent air quality monitoring. They're making them reapply if they don't do anything in a year. They're making them drill within two years.
> KATHRYN: All the things that we complained about.
> GRACIE: All the things that are why this is so unfair. They're doing them now. And that was huge.

But that still wasn't in time for the well pad now coming up in their backyard. The women say Elizabeth Cowden, a supervisor who leased with Range Resources, but was not disqualified from voting on decisions where the company is involved, is part of the reason the municipal government is so unresponsive to the interests of residents. And Kathryn thinks part of the reason their point of view was finally heard by the board of supervisors is because "some of the supervisors are getting older and have grandchildren now (…) that are being put at risk."

Kathryn and Gracie's story shows us one way the fight between residents and the fossil fuel industry can play out when there is still a layer of local government to interface between the two parties. The next two stories will show the shape this struggle can take when the main mediating entity is an environmental regulatory agency: the Pennsylvania DEP.

Roger vs Range Resources

When I finally reach Roger, he is apologetic: He says he is sorry it took him so long to find time to talk and he knows I must have thought once or twice, "this guy's just jerking me around" and that the interview would never happen. I ask him if he can spare an hour, and he says he can't but he will take it (the final interview ends up spanning an hour and forty-six minutes). "I've got a new furnace and I've got to get the venting holes cut through stone and block and everything else. (…) I'm going to be occupied the rest of the day." Roger is at that age where most people retire, but he is still a very busy man. He owns a 120 acre farm, on which he raises horses and hay and that takes up about twenty hours of his time every week. He also owns an extended stay and a few additional properties, which he says take up the majority of his time. "I'm up at 6:30 approximately every morning and I usually don't get to sleep till about 10:30." He is also well traveled: "I've been across the United States probably five times by vehicle. And he has been outside the country a few times as well. To relax, he says he likes to take care of the grandkids. He has four, aged four, six, fifteen and seventeen.

I obtained Roger's contact through a local journalist who Kathryn and Gracie put me in touch with. The day I get him on the line, I don't know much more than that he was initially happy to lease his land to Range Resources, but has since soured on the company. I ask Roger to fill in the details for me. Unlike the other resisters, environmental contamination or the fear of

environmental contamination does not rank high in his list of grievances against the company, though, in his words, “I can't say that six months from now or a year from now, I'm not going to come down with some type of a disease related to the byproducts or the exposure of being around that well site.”

Instead, for him, the problem started when Range Resources made a deal with him to lease his land without being forthcoming with him that he didn’t own the totality of his mineral rights, meaning that he feels he was cheated out of a portion of the royalties he thought he had coming to him. “I was quote unquote told by, by one of their employees that ‘If you got three checks in the mail, you'd never have to worry about cashing the third one.’” Meanwhile,

> the gas industry had found out within probably three years prior to their construction of a well site on my property that I did not own 100% of the mineral rights as to which I had signed for within the lease. Therefore, they withheld what I felt would have been pertinent information that would have allowed me to decide whether to continue to allow a well site to be built or whether to say "No, move on to another site." That information directly and specifically was withheld from me until approximately a year after the well site was developed and in production.

This led, according to Roger, to a great devaluation of his property, which had the potential to yield greater returns had it been turned into a housing development, instead of harboring the four wells that are now in production there.

To make matters worse, Range Resources then improperly applied to have their permit renewed, “giving false documentation to the DEP and being approved for that permit by the DEP.” This led to a lengthy bureaucratic battle to try and get the error cleared up. When asked to evaluate his experience leasing with Range, he opines: “[I]f I had to do it all over again, I would not do it.”

Tina[6] *vs MAX Environmental*

When I sit down to interview Tina, it is already the second, or by some standards, the third time we meet. About two weeks prior, I was first introduced to her through a meeting set up by the Mountain Watershed Association. On that occasion, she had taken me down the street where she lived and worked, Millbell Road, on the outskirts of the small town of Yukon, Pennsylvania. The road ended in a cul-de-sac that was already bordered on either side by waste impoundments owned by MAX Environmental, a company that billed itself as a waste management company, a label that did little to describe the true nature of the activity happening in the facility and much to conceal it. Superficially, MAX may not look like a fossil fuel company and, to be sure, that is not the only thing it is. But MAX's Yukon facility (as it openly advertises on its website) accepts waste from the natural gas and coal mining industries, including oil and gas drilling wastes, impacted soil from drilling sites, and fly ash (another word for coal ash) and, in 2017, most of its business came from oil and gas clients according to an article by the Pittsburgh Post-Gazette (see Figure 3).[7] As such, MAX Environmental, as a company, occupies an under-scrutinized niche of the fossil fuel cycle: The end-of-life treatment of its toxic waste by-products.

As we walked up and down the road, Tina would point to homes on either side of the street: One person in this or that home had gotten cancer or some chronic respiratory disease. This or that person had died from it. There was barely a house that was spared. Later, I learned from Stacey Magda, a community organizer at the Mountain Watershed who took over working with Tina after Ashley Funk rose to the position of executive director, that the home closest to the facility on Millbell Road was occupied by a young couple with three children. The mother

had had six miscarriages in order to carry her three children to term, and all three of them had birth defects.

The next time I meet Tina is at an EPA hearing about the facility that both Tina and the Mountain Watershed recommended I attend (if one can say "meet" – the hearing was online because of COVID restrictions, so all I encountered of her on this occasion was her disembodied voice). I remember Tina being quite adamant that we schedule our interview to be after the hearing, because the latter would provide me with context she thought I sorely needed. Indeed, the hearing was a wake-up call for me. In the first thirty minutes, the EPA officials leading the meeting painted the portrait of a facility generally in compliance, with no violations in 2020 and generally a low risk to "receptors" due to chemical "exceedances" (both the agency's chosen terms). The only remedies recommended were a "continued compliance with permits" and a recommendation to update the sampling parameters for surrounding residential wells to be in keeping with the standards used by the facility.

Then it was Tina's turn to give her public comment. In the approximately forty-five minutes that followed, Tina and the staff members of the Mountain Watershed in attendance methodically pulled apart the innocuous image of the facility that the EPA had projected: The facility was in a chronic state of infraction and the only reason it hadn't been cracked down on was because it wasn't being properly monitored. Tina had five open air quality complaints that she was still waiting to hear back from the DEP about and there had in fact been two violations filed against the facility in 2020 by Tina and the Mountain Watershed. One of them, Ashley Funk explained, was an effluent violation from a discharge into a part of Sewickley Creek where people swam and fished, involving elevated levels of radioactive substances that only stopped

after a “short-staffed” DEP took its own sample of the discharge three weeks after being contacted about the issue and reached out to the facility.

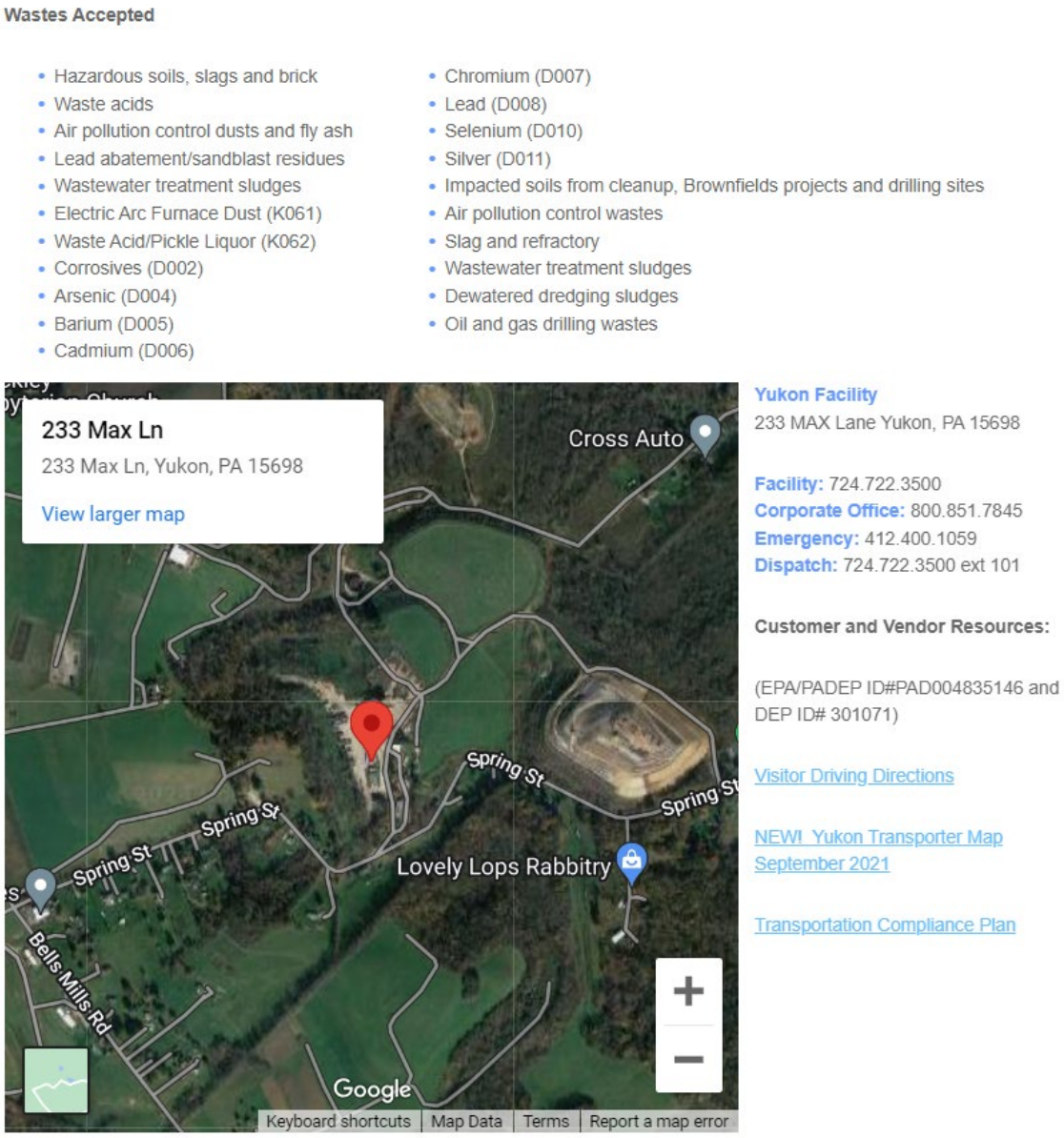


Figure 3. MAX Environmental Yukon facility wastes accepted.

For our third meeting, I join Tina in her small office at the back of the car mechanic shop run by her then-boyfriend. She tells me she divides her time in the office between helping him out with the shop, helping clients with their Interlock paperwork (an Ignition Interlock Device is a breathalyzer used by people convicted of driving under the influence) and filing violations against MAX, though she says roughly sixty percent of her time goes toward fighting the facility and only forty percent goes toward her actual jobs. A thick row of binders lines one wall of her office. These are all files related to MAX, she tells me. As she moves around the office, selecting papers to photocopy or staple here, keeping up a light banter with her clients there, I can see how she might be able to squeeze a full-time job into the paltry forty percent of her time that she dedicates to her work and still have the lion's share of her time available to fight the facility.

None of the people I interviewed who were actively involved in fighting the fossil fuel developments in their backyards could be called "normal," in any accepted sense of the word. To a person, they were unusually sharp and single-minded, sticklers for fairness, willing to follow a cause they believed in without regard for their own self-interest, and with a level of doggedness and grit I have seldom encountered in any other person. Of all the people I interviewed, however, Tina was by far the most unusual. And like many people who are capable of extraordinary things, that capacity is accompanied by substantial eccentricities, of which she is aware and makes no secret. To my surprise, for instance, she tells me she suffers from debilitating social anxiety:

> I've left the house to actually physically go to the store since COVID started, maybe four times, but I can only go in particular stores. Like Aldi's in Belle Vernon, J.M. Fabrics in Belle Vernon, and that's it. Uh – the dollar store down there. And sometimes that bakery, but I don't like it now since they've changed it. So I don't go there anymore. So J- will go in there for me.

In her element, however, which is the office, she is imperious. Within a few minutes of turning on the recorder, she has taken over full control of the interview process. It is clear that in her mind, it is less about faithfully answering my questions than to make sure I leave her office aware of what is going on at MAX. She also makes it her responsibility to spread the word to anyone who will listen, including her clients, who (I can tell from their exchanges with her) have been receiving the play-by-play about the EPA hearing and her other struggles with MAX. The combination of clients coming in and out, her flitting back and forth through her office making photocopies of records she wants me to keep, and chiding me for not ordering the documents she hands me properly, makes it hard for me to get a word in edgewise. At one point, she jokes, handing me a file: "Oh, here's your thing. I get 2% of your book sales." She adds, more seriously: "Don't forget about me." I end up just leaving the recorder run through all of the interruptions, hoping I will end up capturing all the information I need. The final recording ends up pushing on three hours, but it does capture most of the information I was looking for, and much more.

Tina tells me that she was born in Ruffs Dale, Pennsylvania, about five miles from where she now lives in Yukon. Then, she says, "she grew up on the mountain, in Donegal," a township of about two thousand people some twenty miles east. That is where she was living when she met J- and decided to move to Yukon with him in 2006. The years since her move have been marked by illness – her own, and those of her loved ones. In 2014, she suffered a series of tiny strokes that left her paralyzed on one side and unable to do basic things for herself. She says she had to teach herself how to walk and talk again: "I've had six years to learn how to live my life over again. I don't think I did too bad of a job. By no means perfect, and I like to swear like a truck driver." Her experience informs the philosophy she adopts regarding MAX: "I had to

figure out – every single time I took a step, I had to figure out how to do that. Every single time I took a step. Every time I wanted to move from the chair or anything, Jim had to stand there. (…) They can figure out a way. But if they can figure out all these ways to do it illegally, they can figure out a way to do it right."

Tina does not attribute her illness to living next to MAX, but she does that of those around her. Her boyfriend was diagnosed with laryngeal cancer and had to get his voice box removed shortly after her illness. His half-brother and father (unrelated to each other biologically) suffered from the same kind of lung cancer that spread backwards into their bones and broke their spines before they died. Then there's the illnesses in her community. She says on her street alone, there are at least twelve people who died of cancer or some chronic respiratory condition (see Figure 4). One teenage boy in town got his voice box removed at fifteen. "Fifteen years old, same surgery J- had. Could you imagine that? Fifteen years old. Okay, that kid has not had enough time to do any damage to his body. It's awful, I think."

Tina tells me she has been keeping tabs on the MAX facility for four years. She says she had known about the facility since her move to Millbell Road. Her elderly neighbor, whom she had introduced me to, was obsessed with the place, but, she says, "I never understood the caliber of MAX until J- got sick. J- started telling me about it." Then one day a runaway pig breached the fence around the facility, which Tina says is full of holes, and in an attempt to get the management at MAX to come fix it, Tina ended up getting drawn into the thicket of irregularities surrounding the facility. "I bet you [the president of MAX] wished he'd come out and fix that fence," she quips.

> So when I started my research on them, I started with this little book. This little book contains every phone call, everything I did, and all my notes. And it's funny because I look back at it now, and I think, oh my God, I didn't know anything. Actually, you'll see Ashley's names in here. That's

how we figured out what date we started working together. That's what this is. It's just, that was my first little notes and such.

Since then, her activism has branched out to include an attempt to put a hazardous mitigation together for the community in case of a chemical accident, because, she says, the current plan put together by the township is inadequate ("This is our evacuation plan. It's a dead end. It's taking you right to MAX Environmental") and filing dozens of violations against the facility, from issues ranging from an expired pipe permit to attempts to expand their waste impoundments illegally.

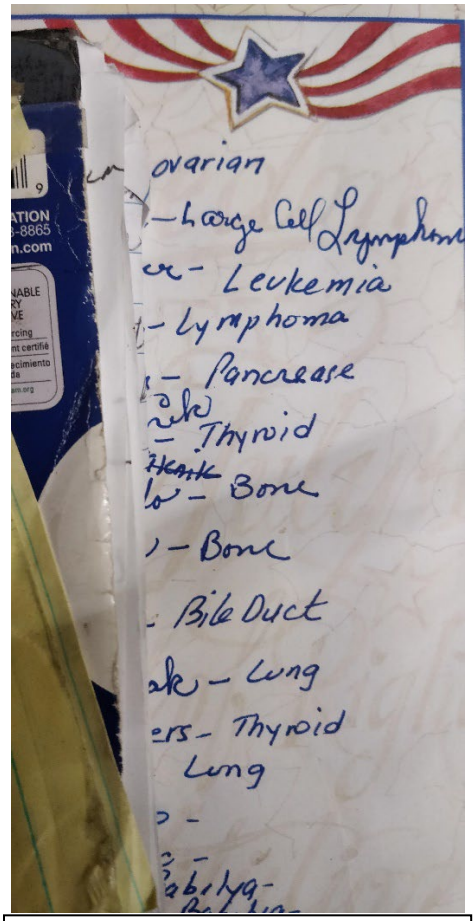


Figure 4. List of Yukon residents who died of cancer provided to Tina by a local woman (with names covered up to preserve their anonymity).

Over the course of our interview, the portrait that emerges of MAX Environmental is that of a company capable of almost farcical levels of dishonesty and malfeasance. Among the more fantastical details she mentions is the company's frequent use of a fake address in its correspondences (selected, seemingly, in a flash of self-awareness: "Cemetery Road") and an alleged scheme to ship toxic substances to the facility through UPS (Tina tells me the employee who told her about it subsequently got fired). Inevitably, the company's roguery often turns extremely harmful. Tina tells me of a pipe permit that she says has been expired for over ten years. She says she went to a DEP National Pollutant Discharge Elimination System (NPDES) meeting in January 2020 with staff from the Mountain Watershed and the agency did not renew their permit. MAX, however, did not let itself be deterred, continuing to use the pipe, which is still discharging contaminated water into the Sewickley Creek (a tributary to the Youghiogheny River) at a speed of about one liter every two seconds and pulling it up whenever they believe there will be an inspection. This is just one of a few strategies Tina says MAX uses to downplay the toxicity of their discharges. Others she says she has documented include mislabeling outflow pipes and flooding their property before inspections in order to dilute the chemical composition of the samples.

Tina briefly interrupts her manic transit across the office and shuffling of papers in order to check the air quality:

> If you go on Purple Air, look how horrible the air's been. You hear my [sniffing]... I'm not sick. Let's wait for it. Look the red, it's in the fricking red today. That means nobody should be outside at all. That's how bad that is. That's horrible. I'm going to file a complaint there.

Later, she comments on the smell in the air: "Can you smell that right now? It smells like stink. Just dirty, dirty stink." I don't smell anything, likely the result of permanently damaged airways

due to chronic untreated sinus infections as a child, but I do taste something on my tongue – a weird kind of tingling that almost evades description from being so far outside any frame of reference for me. It is a profoundly troubling and uncanny sensation after only a few hours spent onsite.

Over the course of the three-some hours I spend in her office, Tina verbally peels away all the layers of government that on paper are meant to keep her community safe. First, there is the local government. The Township, she insists, is corrupt. Apparently, one of MAX's impoundments was in violation of a setback requirement set by Huntingdon Township, and instead of holding the facility to that requirement, it passed a law reducing the required distance of the impoundment from the road. Then, there is the Township's promotion of a road crew supervisor to host municipality inspector assigned to MAX Environmental for the sole purpose, Tina thinks, of keeping an eye on her:

> TINA: I have a letter from the county solicitor, the South Huntington Township solicitor, telling me that – I'll show it to you – that they have nothing to do with Max.
> HL: Mm-hmm.
> TINA: Another lie.
> HL: Mm-hmm.
> TINA: They have everything to do with Max. As a matter of fact, the day after the meeting, the EPA meeting, the township supervisor called my cell phone, did not leave a message, but I didn't have the number saved, and I thought, well, who would call? It's like a normal area code, you know, around here. Who would do that and not leave a message? It must be somebody I know, because they didn't leave a message. So I called it back, and he says, "hello," and I say, "who's this?" He says, "J-" I said, "Oh hi J-," but I'm thinking it's one of these attorneys I work for, his name's James Webb. And he says, he said, "I apologize for not going to the meeting last night, making the meeting last night." I said, wait a minute, who's this again? He goes, "J-." I said, "J- who?" He said, "S-." I said, "No, that's all right. I said, but you missed one hell of a meeting."

J-, Tina adds, "does not have a clue about that place. No freaking idea. (…) But here's the thing, this kid says to me, I said, 'Well J-, how many pages is the permit?' (The permit's like 700 pages.) And he says, oh, it's a lot. I said well, what's a lot? And he says. '32 pages.'"

It doesn't get much better as we move higher up the ladder: The DEP, according to Tina, purposely turns a blind eye to the violations committed by MAX. She says this explains the discrepancy between two inspections performed by the agency, one in January 2020 and one a month later, the first of which found nothing (because, Tina believes, the first inspector didn't take any samples), while the second one found "a 16-page NPDES permit was violated." Like Meg and Roger, Tina makes it clear she doesn't feel too kindly toward the DEP. According to her, the DEP's failure to do its job is the primary reason her life has become consumed by monitoring the facility, and she says the agency doesn't even return her calls anymore.

The DEP's collusion with MAX is not confined to this form of malign neglect, however. Carl Spadaro, MAX's current "Environmental General Manager" (a rather sinister title, given the context) used to review waste permit applications for the DEP before coming to MAX, a fact I was able to confirm by going to his LinkedIn page.

> Now understand something. Carl Spadaro when he filled this petition up – this is where he comes in handy for them. DEP said that they have not seen this many delisting petitions ever as they did this year. They said they had like 10 or 11 of them. They've never seen one in over 10 years. All of a sudden there's 10 or 11 of them show up this year. That's because of him. It's Carl Spadaro.

Delisting petitions, Tina explains, are petitions to get the DEP to relabel toxic waste as nonhazardous. MAX has been filing them in an attempt to increase the amount of waste it is able to process at its Yukon facility. The petition, if granted by the DEP, would enable the company to transport its most hazardous waste after treatment from Yukon to its Bulger facility in Washington County (which, as a so-called "subtitle D" waste management facility, does not meet the requirements to store waste as toxic as its Yukon sister).

The government doesn't perform much better when it comes to protecting the residents of Yukon from the risks they should have prevented. Tina recalls reaching out to the president of

the Slovenian Hall in Yukon, which had been designated as a shelter in case of an accident at the facility:

> I said, is the Slovenian Hall our shelter? He says, "Oh, I think so." So that tells you right there: There's no supplies for the community. Because if there was, he would have been like: "Oh yeah, we're totally equipped, ready for it." So right now, we've got J-'s 80 year old mother, E-'s 90, P- and S-, two 85 year olds, 86 year olds. You got a family back here with small children, they don't have a clue, know anything about that except for what I try to make awareness about. If there was a catastrophe right now, what do you do? You don't know if you should go outside, because it's chemicals. So your skin might melt off your body. You don't know, what do you do? You know what I mean? So I tried putting mitigation workshops together for the community, I got zero. I got about 15 different chemical lists. The firemen don't even have a current chemical list. Which – that's a federal law being broken. (…) [W]e don't have a Board of Health in Westmoreland County. We house the largest toxic chemical treatment facility in the state, but our county doesn't even have a health board. Do you understand that? Like, this is their – this was so hush-hush. That's why the more people that know about it, the better; the more awareness I can get out, it's better.

Sitting there in Tina's office, it might have been easy to mistake her for a conspiracy theorist, except this was a conspiracy she was able to document, not in its entirety, but to a very large extent with handwritten lists and agency emails, government reports and fact sheets and maps made available by the company itself. Still, had I not heard her, just a few days before, show better mastery of the violations committed by the Yukon facility than the EPA officials charged with monitoring it, I would have found what she had to say even harder to believe. So much that profoundly surprised me that day, I would later learn is widespread. For example, *On the Fenceline,* a documentary about the community struggle to keep PES closed after the 2019 explosion, opens with a scene uncannily similar to the one I encountered when I let Tina take me on a walk down Millbell Road: A woman (she is a Black woman in the documentary) walks down a street a few blocks from the now shuttered refinery in Philadelphia's Grays Ferry neighborhood, naming all the people who fell ill or died from cancer or some chronic respiratory illness. And this prodigious social harm is met with systemic government neglect and complicity, as Governor Shapiro's own Grand Jury Investigation documents more thoroughly than I could

ever hope to. I do not pretend to know why Pennsylvania, of all the states sitting atop the Marcellus, chose to invest so heavily in the development of its shale gas resources. And it does not fall within the scope of this research to probe into the corporate onslaught unleashed by this choice. What follows is a synthesis of two research papers written on this topic, framed through the lens of Logan and Molotch's *growth machine* theory.

The banquet: Pennsylvania's UOGD rush

Recall the quote from Logan and Molotch's preface that this chapter opened with. In the book, the sentence continues: "In ways we explain, the city *becomes* a growth machine, and its custodians are the people who grease its wheels, refurbish its parts, and tweak its direction as the need arises. Although many – residents, tourists, manufacturers – use and have interests in the city, for one group, the city *is* their business."[8] This group is the "growth coalition." In the case of Pennsylvania's UOGD infrastructure, the growth coalition is the class of people for whom capturing the federal and state government investment in developing the Marcellus shale gas reserves *is* their business.

The growth coalition plays an outsized role in guiding government investment, but (and this is less explicitly spelled out in Logan and Molotch's book) they are also *made* by that investment. This is made clear in Rudel's case study of tropical deforestation caused by suburban sprawl. According to the author, robust state programs in South America and Southeast Asia in the post-World War II period "encouraged the formation of new social groups dedicated to capturing profits from settlement expansion."[9] In the case of Pennsylvania's natural gas boom,

the profits in question are the result not of settlement expansion, but of the state buildout of unconventional oil and gas infrastructure. Robust government investment in the fracking industry is crucial to making investment in the industry worthwhile for private developers. The state, according to Sica and Huber, sets "the institutional conditions for capital accumulation. Examples abound of state's constitutive position alongside capital. Territorial states act as regulators of global capital accumulation by enforcing rules and conditions that allow free markets to function (cf. Das, 2006). States not only provide 'incentives' to attract capital like tax breaks and subsidies, but also provide legal certainty for investments by enforcing contracts and property rights."[10] The rest of this section will discuss in more detail the federal and state investment in developing the Marcellus.

Federal investment in UOGD

In Chapter 1, in my section about spinning the natural gas boom, I wrote about how fracking at its inception was one of those rare issues that garnered bipartisan support, with Obama calling the development of our unconventional oil and gas reserves key to securing our energy independence. The truth is of course much more complicated than that. Sica and Huber, who study how the pretext of energy independence has been used to justify the development of fracking, argue that infrastructure in Pennsylvania, contrary to the "geographical worldview," which holds that that territorial states act primarily to "secur[e] energy for the benefits of their specific nations and citizenry, [they] just as often facilitate energy production by multinational firms and a global network of investment."[11]

This more morally grey role of the state as a broker for global capital is evidenced by the shape that fracking infrastructure has taken in Pennsylvania and the rest of the country. The

authors write: “Energy independence discourse assumes that states seek to retrieve or gain access to undeveloped energy deposits for their own citizenry. Fracking in Pennsylvania suggests, instead, that the state was more concerned with opening up energy deposits to capital accumulation, regardless of where the physical resource actually ended up.”[12] They continue:

> In recent years the industry has made a concerted push to export US natural gas in the form of liquefied natural gas (LNG). LNG is gas that has been cooled to less than 150 C to drastically reduce its volume and allow for transcontinental shipment via specially-made tanker vessel (Bridge, 2004). Currently there are 13 facilities with US Federal Energy Regulatory Commission (FERC) approval to export LNG. Marcellus and Utica Shale Gas from Pennsylvania is set to travel by pipeline to a LNG facility in Cove Point, Maryland (set to open in 2017 (Marcellus Drilling News, 2017)). Meanwhile, construction is either pending or underway on 12 new import-export terminals, with eight of the total devoted to exports (U.S. FERC 2016a). FERC is also in the process of reviewing proposals for eight additional facilities, and expects submissions from 13 more, which are now in the “prefiling” stage (U.S. FERC 2016b). Since fracking and horizontal drilling began in earnest, the number of facilities planning to export gas to foreign markets has increased more than 200%, aided by an agency of the US territorial state (FERC) which has been reviewing and approving LNG export plans all along (341).

The State also facilitates energy extraction more passively, through the laws it already has on the books. Andrews and McCarthy argue that federal environmental legislation “plays a crucial role in enabling shale gas extraction. The production of natural gas is subject to many separate Acts. Some provisions, however, have been restricted” - most famously, for example, through the 2005 National Energy Policy Act, or “Halliburton loophole,” which exempted fracking from the provisions of the Safe Drinking Water Act relevant to the underground injection of hazardous chemicals into the ground (see also Underhill et al.), but through many other exemptions as well. “These provisions, the authors continue, lessen the responsibility for oil and gas producers, and at the very least, make this development more profitable, alongside weak enforcement measures. In more marginal environments, they may be essential conditions for its profitability and hence economic viability."[13]

Pennsylvania State investment in UOGD

Pennsylvania has a unique status among all the states sitting atop the Marcellus, in that "[n]early all of the approximately 8,200 Marcellus Shale wells drilled since 2003 have been in Pennsylvania (PA DEP 2013)."[14] In order to carve out this special status, the state made use of a few blunt force legal weapons of its own, including tax incentives and loose regulation.[15] No other measure was as sweeping or as controversial as Pennsylvania's Act 13, however, which I already briefly discussed in the context of Kathryn and Gracie's narrative about their struggle against the well pad in their backyard. Act 13, according to Sica and Huber, emerged as the culmination of the recommendations drafted by the Marcellus Shale Advisory Commission, which was also discussed in the last chapter.

The provision at the root of Kathryn's and Gracie's troubles is Section 3304, which seeks "uniformity of local ordinances" in order to "allow for the reasonable development of oil and gas resources" (2012, §3304). Restrictions imposed on local ordinances in order to ensure this "reasonable development" included that they "[m]ay not impose conditions requirements or limitations on the construction of oil and gas operations that are more stringent than conditions, requirements or limitations imposed on construction activities for other industrial uses within the geographic boundaries of the local government" and that they authorize oil and gas operations, provided they follow a short list of additional parameters outlined by the bill, as permitted use in all or most zoning districts (§3304).

In December 2013, Section 3304 was found unconstitutional by the State Supreme Court as a result of a lawsuit brought by seven municipalities, a local environmental NGO, and a Pennsylvania physician against the State of Pennsylvania in March of 2012, on the grounds that it interfered with the right of municipalities to determine their own zoning laws (Robinson

Township et al. vs Commonwealth of Pennsylvania et al. 2013).[16] Overall, the restrictions on municipal zoning imposed by Act 13 were only in effect for two years out of the sixteen since Pennsylvania's natural gas boom started. But that doesn't mean it didn't have time to do damage: 2012 and 2013 were two of the most active when it came to expanding the state's fracking infrastructure. In those two years alone, the Pennsylvania DEP issued 6,209 new unconventional well permits, or about twenty percent of the total number granted between 2007 and 2022.[17] It is unclear how many of these permits Act 13 helped streamline. There can be little doubt, however, that statewide permitted use for unconventional oil and gas development was an extremely coveted outcome for the state's oil and gas industry, as my discussion of Range Resources later in the chapter will show.

The inheritors of the spoils: The growth coalition

Judging by the roster of members of the Marcellus Shale Advisory Commission, it also appears clear that the growth coalition played a prominent role in shaping Pennsylvania's attempt to legally streamline the process of siting fracking infrastructure. The Commission's infrastructure working group, for example, consists of the vice chair of U.S. Steel, the chairman of the Pennsylvania Public Utility Commission, the CEO of a natural gas utility company and the U.S. government affairs manager of Exxon Mobil, with the chair of the working group, then-State Secretary of Transportation Barry Schoch the only non-industry participant. Industry representatives also snuck their way onto the other working groups, including the "Public Health, Safety, and Environmental Protection" working group, where the senior policy advisor for

Chevron appears alongside environmental agency heads and a few representatives from environmental groups.

Bankrolling this growth coalition is the international network of capital we are already familiar with from the discussion of the American logging industry in Chapter 1. Sica and Huber, describing the geography of Pennsylvania natural gas investment, write: "Profits from fracking in Pennsylvania entered an international network of investment institutions with few geographic boundaries." Among other things, "88% of the wells drilled in the Marcellus Shale are owned by publicly traded companies that distribute profits through a global network of investors."[18] The top three most active firms in Pennsylvania, Range Resources, Chesapeake Energy, and EQT, pay dividends to investment institutions like Sanders Capital, a global investment management firm, BNP Paribas, and the Dutch pension fund (PGGM). And the list of the twenty most active drillers includes multinational gas companies like Chevron (number 7) and Swepi, a subsidiary of Shell (number 5).

An exhaustive overview of the Pennsylvania fracking growth coalition and its international network of investors falls outside the scope of this chapter. In the next two sections, I will delve a little more deeply into the backgrounds of two members of the Pennsylvania fracking growth coalition that feature prominently in my resisters' narratives: Range Resources and MAX Environmental.

The pilot fish: Range Resources

"The pilot fish is carnivorous and follows sharks and ships apparently to feed on parasites and leftover scraps of food. It was formerly thought to lead, or "pilot," larger fishes to food sources, hence its common name." - Encyclopedia Britannica

Range Resources, according to Volume 45 of the International Directory of Company Histories, was incorporated in Hartville, Ohio in 1976 under the name Lomak Petroleum. In 1992, the company relocated to Fort Worth, and in 1998, it acquired Domain Energy and changed its name to Range Resources.[19] In 2004, it began its operations in the Marcellus Shale.[20]

According to Sica and Huber, Range Resources was "the most active firm in Pennsylvanian shale gas development" in 2015.[21] In 2011, at the height of the Pennsylvania natural gas boom, the DEP handed out nine percent of its permits to Range. That number goes up to 28 percent if we consider the four counties where I conducted my fieldwork in 2020.[22] Based on these numbers, Range Resources is arguably the primary beneficiaries of the shale gas boom in Pennsylvania. This conclusion is also apparent when we consider the growth in the company's share price of less than $6 at the end 2003, before it first started operations in the Marcellus, to more than $80 at its peak in April 2014.[23] According to an article by Forbes, Range Resources multiplied its operating income by sixteen in just a single year from 2009 to 2010, just two years after drilling its first exploratory well in the Marcellus in 2007.[24]

Range Resources achieved this phenomenal success, first of all, by being the most advantageously positioned to reap the benefits from Pennsylvania's massive investment in UOGD: According to *Forbes*, "[e]ngineers at Range Resources discovered the Marcellus gas in 2004, giving Range a two-year head start in scooping up 1.3 million acres of leases." In this sense, the niche it occupies in the Pennsylvania UOGD growth coalition is similar to that of the pilot fish: It is a relatively small player compared to the Federal and Pennsylvania State governments or to multinational oil and gas companies like Exxon or Shell. But it still benefits from a privileged position at the government investment banquet. That the pilot fish's name is a

misnomer is actually appropriate too, as we might be similarly tempted to overstate Range's influence on Pennsylvania's decision to invest in shale gas because of how much it benefited from it. That is not to say that the company doesn't have formidable political clout, as I will illustrate below.

Another reason for the company's success is the way it made use of its advantage: by operating like a textbook growth entrepreneur, acquiring land with the objective of maximizing profits and making the best possible use of all government levers at its disposal. The vast acreage of land that the company was able to scoop up early as a result of its home field advantage played an important role in its success: "Range spent less than $1,000 an acre to acquire its land; recent deals price prime parcels at $14,000 per acre."[25] In this sense, Range Resources is not unlike its more infamous competitor, Chesapeake Energy, whose erstwhile CEO Aubrey McClendon captured the news media's imagination by going out in a blaze of glory on 2 March 2016 after "slamm[ing] his Chevrolet Tahoe SUV into a concrete viaduct under a bridge on Midwest Boulevard in Oklahoma City" only one day after a federal grand jury had indicted him for violating antitrust laws during his tenure at Chesapeake.[26] Goodell explains that the key to Chesapeake's success lay in the peculiarities of fracking as a technology: "In the natural gas industry, the advantage had long gone to operators with the geological and engineering expertise to pinpoint gas reservoirs. Now it didn't matter where you drilled – the gas was pretty much evenly distributed throughout the earth's deep shale layers. The edge suddenly belonged to operators who could lock up as much land as quickly and as cheaply as possible," – something McClendon and his colleague Tom Ward had developed expertise in through their time working as landmen. As a result, Chesapeake's business model relies less on selling natural gas than on "buying and flipping the land that contains the gas," resulting in a company flush with land

bought with "junk bonds and complex partnerships and future production deals, creating a highly leveraged, deeply indebted company that has more in common with Enron than ExxonMobil."[27]

In addition to Range Resources' good fortune in being able to reserve the first seat at the Marcellus banquet, the company also distinguished itself by how expertly and unscrupulously it resorted to political manipulation. Over the course of my fieldwork, I came across a few examples of this: E.g., the company's "misrepresentation" to Roger about his mineral rights, Jocelyn Ebert's suggestion to hold a closed-door meeting with the Cecil Township Board of Supervisors to work on the township's oil and gas ordinance, Elizabeth Cowden's seat on the Board, and Kathryn's theory that the company had made an example of her and Gracie to discourage resistance by residents in later conditional use hearings.

In 2011, an episode of NPR's *This American Life* actually documented a much more extreme and systematic example of this in Mt Pleasant, a borough in Westmoreland County: "Mt Pleasant, with its hilly old farms and windy main streets and handful of restaurants is, according to Credit Suisse and Morgan Stanley, smack in the middle of the, quote, 'highest rate-of-return' spot for gas exploration in the United States."[28] At the time the episode aired, NPR reports that Range had leased 95 percent of Mt Pleasant's land for mineral rights. Act 13 was not in effect yet, so the company had to rely on its own wiles to smooth the process for siting its well pads. Its primary strategy consisted of pitting lease holders against non-lease holders and the borough's board of supervisors in order to put pressure on the board of supervisors to scrap its conditional use oil and gas ordinance. According to Mary Ann Stevenson, Mt Pleasant's township manager, over the course of 18 months the board of supervisors repeatedly attempted to elicit feedback on its draft ordinance, to no avail. In the meantime, Range's communications director claimed that

the company provided comments on the ordinance a full 36 times (without ever producing any evidence of the correspondence).

> The next thing Range did - surprise, surprise- was send out not one letter, but two. The first was mass-mailed to everyone in Mt. Pleasant. It was cheerful. It laid out the advantages of Range's model permitted use ordinance and talked about how Range was confident the town and company would continue to happily coexist.
>
> The second letter was mailed out at almost the same time, but it went only to residents who had leases with Range. The tone was completely different. "We've tried to work with your township officials," it said, but "our attempts continue to be rejected." As a result, the letter went on, "we may be forced to shift activity to other, more cooperative townships." The letter also noted that Range would be "evaluating legal action" (19)

Range later claimed that sending the two letters at the same time was a mistake. The township later proposed to the company to go into mediation, which resulted in a conditional use ordinance that "would streamline the process so the company would avoid the kinds of delays that it feared."[29] The company still feigned being blindsided by the vote and pulled out of the town, likely as a warning to neighboring townships. It worked in Cross Creek Township. As Koenig reports: "The manager there told me her supervisors were one step away from approving a conditional use ordinance when a big group of residents came in and made a fuss, pointing to the strife in Mt. Pleasant. The supervisors changed their minds and approved permitted use instead."[30]

Revealingly, Range Resources' strategy of "divide and conquer" in Mt Pleasant rested on class dynamics very similar to the ones described by Kathryn and Gracie:

> The underbelly of this argument is about class. That the people without leases don't have leases because they don't own their mineral rights. And they don't own their mineral rights because they're newcomers (the earlier owners retained the rights), and newcomers, in a lot of cases, is code for city folk, who've moved in and who have more money than the farmers who've lived there forever. In other words, the people without leases are either just bitter because they can't cash in or they've already got money, so they've got the luxury of questioning this whole endeavor (21).

And it was also paired with a strategic infusion of cash into the community, a strategy I will discuss further in Chapter 3:

> Evidence of the spending is everywhere. They've given a few hundred thousand dollars to 4-H and Boy Scouts and other local charities. Their matching grants have kept the local library open for the past two years. One of those oversized checks hangs over the front desk for $10,000.
>
> There's the bronze statue next to the fire department, honoring the farmers of Mt. Pleasant Township. iI's of a farmer in a hat and boots, holding a calf. The plaque below it lists about 20 donors – all farmers – and then at the bottom "Special thanks to Range Resources," which gave about $40,000 toward the statue (15-16).

The bottom feeder: MAX Environmental

Unlike Range Resources, MAX Environmental is not one of the primary beneficiaries of the rising tide of the UOGD rush. Its business model is not exclusively dependent on Pennsylvania's natural gas boom. Because of this, I argue that MAX can be likened to a bottom feeder, benefiting from the scraps from all the highly toxic industrial processes occurring in Pennsylvania. However, as we've seen through Tina's narrative, it did receive a healthy boost from the development of the fracking industry, making it at least an honorary member of the UOGD growth coalition. MAX's business model depends on providing a cheap solution to the gas, coal, manufacturing, and construction industries' problem of massive toxic waste generation (see Figure 5).

The magnitude of the waste problem engendered by fracking has already been discussed in the last chapter, but let me briefly elaborate on the waste problem of the coal industry. Coal ash, or fly ash, the residue from burning coal in power plants, is one of the most toxic by-products from coal. According to a report by Physicians for Social Responsibility and Earthjustice, "coal ash toxics have the potential to injure all of the major organ systems, damage physical health and development, and even contribute to mortality."[31] The disposal of coal ash is

a serious problem for coal industry groups, so much so that they have created a trade association to lobby specifically for "beneficial uses of coal ash," the American Coal Ash Association (ACAA), which lobbied the EPA to keep classifying coal ash as a solid waste (the same as household garbage) instead of a hazardous waste. This classification essentially devolves the authority over coal ash disposal to individual states.[32]

MAX's prime "cheap" input (in the sense that Patel and Moore use the word in) are not the chemical processes it pioneers in order to treat the waste it receives. Rather, it is the communities that its facilities are located next to. Following that logic, the company's most important decision becomes where to locate its landfills, and, judging by Hochschild's discussion of the "least resistant personality," MAX seems to have chosen well. Hochschild introduces the concept of the "least resistant personality" as part of her explanation for what she calls her "Great Paradox" in her book *Strangers in Their Own Land*: "great pollution and great resistance to regulating polluters" among Tea Party members in the Louisiana Bayou.[33]

The concept is based on a 1984 study commissioned by the California Waste Management Board from the public relations firm Cerrell Associates that came up with the sociodemographic profile of communities least likely to resist so-called "locally undesirable land uses" That profile, according to the study, was Southern or Midwestern rural communities open to promises of economic benefits; susceptible to conservative, Republican, free market ideology; and above middle age, high school or less education, low income, Catholics, not involved in social issues, with low residential mobility and dependent on "nature exploitive occupations" like farming, ranching, and mining.[34] Significantly, in my own research, I find that many of these traits are associated with a stronger belief in the *growth ethic* (see Chapter 3). The sociodemographic characteristics of Yukon, Pennsylvania for which the Census has data also

correspond almost perfectly with Cerrell's "least resistant personality" profile. On the whole, Yukon's population is older, lower-income, less employed, and significantly less educated than the rest of the State.

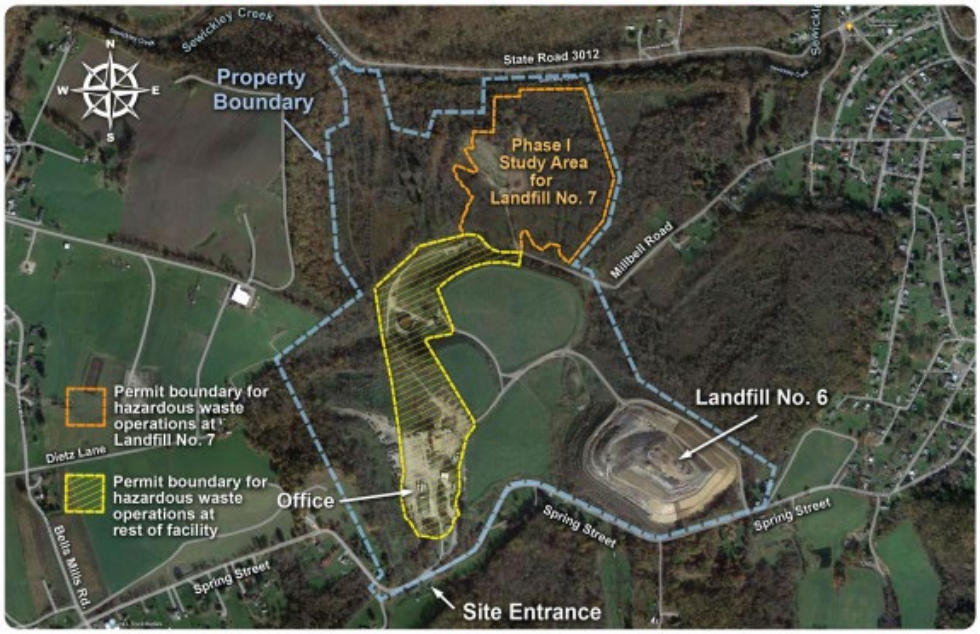
It is important to note here that the concept of the "least resistant personality" at least superficially runs counter to the broader Environmental Justice literature, which has probably contributed the most to our understanding of the siting of risky land developments. The consensus in that literature is that these projects are more likely to be sited in minority neighborhoods.[35] That contradiction may be resolved by considering that the sociodemographic profile put together by Cerrell designates communities that are least likely to *resist* risky land development projects, not communities least likely to be *protected* from them. Rothstein documents how the United States' emphasis on zoning ordinances protecting single-family

MAX ENVIRONMENTAL

FACT SHEET

NOVEMBER 2022 UPDATE

Proposed Hazardous Waste Landfill No. 7



Hazardous Waste Landfill No. 7 will be located within the Phase I study area.

Siting Plan

- Current soil borrow area
- Further from neighbors
- 14 acres inside perimeter
- Avoids streams and wetlands

Disposal Operations

- Similar types of waste and treatment as Landfill 6
- Same volumes as currently approved
- Hazardous and residual waste
- Phased opening of sections

Transportation

- Same access routes to facility
- Same truck traffic limit
- Same driver training and emergency response program

Estimated Economic Benefits

- Jobs, Pay and Taxes - $20MM - $25MM
- Local Goods and Services -> $2MM
- Benefit Fees -> $1.5MM to South Huntingdon Township
- Community Civic and Environmental Organizations -> $1MM
- PA Fees Generated - $20MM - $30MM

MAX FACT SHEET ◆ NOVEMBER 2022 UPDATE ◆ PAGE 1 OF 2

Figure 5. Fact sheet on MAX Environmental's Yukon facility's Landfill No.7 available on the company's website. Note how the *growth ethic* is being used to make the proposed land use attractive to stakeholders in the lower third of the pamphlet under "Estimated Economic Benefits."

homes over apartment complexes (where poorer black people were much more likely to reside) made Black neighborhoods particularly vulnerable to the infiltration of polluting industries.[36] Following this criterium also, Yukon is relatively more vulnerable to industries like MAX than most of the communities surrounding it (which throughout southwestern Pennsylvania are overwhelmingly white), because it is an unincorporated community without the political protection of a town or a village to help it fight MAX's encroachment.

A cog in the growth machine: The permitting process

Though the Pennsylvania DEP's purported mission is "to protect Pennsylvania's air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment" and we could be forgiven for taking it at its word (after all, it has the words "environmental protection" in its name), one of the core contentions of this dissertation is that the agency's oil and gas permitting process (as well as that of its federal sister, the EPA) actually functions as one piece of the UOGD growth machine. In other words, while the permitting process' official function is to *regulate* the oil and gas industry, its unofficial function is to act as an interface between the Pennsylvania State government and oil and gas companies (and associated industries) in order to facilitate the state's fossil fuel infrastructural buildout.

To be clear, I am refraining here from staking a claim with regards to the *intention* with which the permitting process was set up and runs today in the United States. What I am claiming here is that the oil and gas permitting process *functions* like a cog in the growth machine, *regardless of the intentions of the people running it.* Judging by the self-presentation of the DEP Office of Oil and Gas Management, the branch of the agency tasked with handing out permits to

the oil and gas industry, however, it would be tempting to conclude that the agency's goals align more tightly with the interests of the industry than with the Pennsylvania citizens it is supposed to be protecting them from. Take the Office's 2022 Oil and Gas Annual Report, for example. Right below the DEP's mission statement and a paragraph about the office's organization, the report launches into a description of trends in the state's oil and gas production. Or take the glowing opening paragraph in a blog post by Range Resources about the DEP's 2015 Oil and Gas Annual Report:

> The Pennsylvania Department of Environmental Protection (DEP) released a report summarizing key facts on the Commonwealth's oil and gas industry. It's full of charts and maps that tell the interesting story of an international industry birthed in the Keystone State.[37]

This self-presentation is consistent with the impression that the residents I spoke to had of the DEP, which ran the gamut from "missing in action," to actively colluding with the fossil fuel industry. One resident I spoke with referred to the agency as the "Department of Closed Eyes," while another described it as "crooked."

More crucially, however, regardless of the intention with which the permitting process is run, in practice, it functions to lend a patina of civic responsibility to the process through which land is granted to fossil fuel companies for development, thereby diverting public oversight away from it. As Melissa Marshall, a lawyer for the Mountain Watershed Association, explains to me, in lieu of electing representatives to run our government agencies, we get to participate in the rulemaking processes that these agencies engage in through public hearings. One of these processes is the permitting process for oil and gas developments. Melissa says that public participation usually does improve the permits that get issued a lot: "It […] helps slow down the

process, make it a better permit, makes the DEP not just be rubber stamping projects through, which we see oftentimes, you know. They're […] not super well considered."

The problem is that the public feedback from the permitting process is nonbinding. Perhaps even more serious, the permit notices are advertised in obscure registers that most lay people are not aware of and would find very difficult to query, like the Federal Register or the Pennsylvania Bulletin. And the window of time between the posting of the notice and the hearing date is usually thirty or fifty days, with environmental agencies opting not to hold a public hearing unless they see "a substantial community interest." Melissa tells me even an organization like the Mountain Watershed, with a lawyer, community organizers, and an environmental scientist on staff, still struggles to identify worrisome permits and rustle up sufficient public participation within that window. Regular residents, left to their own devices, do not stand a chance.

Turning a blind eye: The role of the media

A crucial ingredient in cementing this system is the general neglect by the local news media of the issues with the fossil fuel permitting process and the process of siting fossil fuel development projects in general. From my conversations with local activists and my own inquiry into the local newspaper coverage of fossil fuel development sites in southwestern Pennsylvania, it seems like, while not completely absent, this coverage is vanishingly sparse and fails to meaningfully expose the dynamics described in this chapter or to introduce narratives critical of the industry.

There are many structural factors that could be pointed to as potentially at the root of these problems. These include the spread of news deserts resulting from the collapse of local newsrooms throughout the United States and the overreliance of commercial newspapers on advertising revenue.[38] Both these seem to be problems in southwestern Pennsylvania as well: For instance, Westmoreland County (where MAX's Yukon facility is located) saw the closure of the *Valley Independent* in 2015.[39] And, according to a staff member at the Center for Coalfield Justice whom I spoke to about this issue, the fossil fuel industry contributes significant advertising revenue to the remaining newsrooms, resulting in coverage of the industry that, in her opinion, is far too timid. A look at the local coverage of the MAX Environmental Yukon facility confirms this impression.

For this analysis, I took a systematic random sample of one in four articles I could find about the facility in Westmoreland's *Tribune Review* and the regional *Pittsburgh Post-Gazette.* Among many of the things I found was that neither paper covered the November EPA hearing on the facility that I attended, even though, as the first federal environmental hearing of the only Class C waste treatment facility in Pennsylvania (meaning it was permitted to receive the most toxic substances of any landfill in the state), it was eminently newsworthy. A look at the rest of the coverage in the *Tribune Review* revealed that over a stretch of twenty-two years (from 2001 to 2023), the newspaper published just over sixty articles about the facility. Of the sixteen articles I reviewed, three were short descriptions of recent hires made by the company and two more helped enhance the company's public relations efforts. The remaining eleven did highlight examples of industry abuses, such as environmental violations or evidence of corruption or manipulation of the system by the company, but all of these suffered from serious issues which

all contributed to downplay the severity of the impacts of the facility on the surrounding community.

For example, all but one of the articles that mentioned the facility's impact on the community limited themselves to reporting on residents' quality of life complaints. The mention of "dust and odors," for example, recurs across several of the articles I reviewed, without mention of any evidence for the serious health impacts that these are associated with. And one article that did include a claim by a fenceline resident that the facility posed a threat to public health immediately undermined this claim by mentioning that this same resident denied personally seeking medical treatment for the impacts of the facility under questioning by a company attorney.

One specific piece that was of particular interest to me reported on a spike in radiation alarms from garbage trucks carrying fracking to MAX's Yukon location that triggered a temporary closure of the facility. A close reading of the article shows it made use of a number of devices that all contributed to tamping down the alarming nature of the topic it was reporting on. For instance, the article follows up the brief, neutral description of the issue at hand with several quotes from government and industry authorities all downplaying the risk posed by the radioactivity but does not include any statements from the community. It then throws in a brief allusion to the *growth ethic* frame, quoting Carl Spadaro complaining about the "business disadvantage" caused by the closure of the facility. And it ties it all together with a peculiar pattern I noted across several articles in both news outlets, that consisted of juxtaposing shockingly high levels of chemical exceedance with reassurances by experts or government

officials about the benign nature of the violation, essentially contributing to normalizing the problem of chemical exposure:

> It's more than 40 times the federal limit for industrial discharges, but it can be diluted in treatment or separated with chemicals into a sludge, said Mark A. Engle, a groundwater expert and study co-author. Engle said that the radioactive sludge should be safely contained by a dump's liners.[40]

Only one article I reviewed gave voice to the health concerns of residents – the same one I mentioned earlier up about the public permitting hearing. The hearing was part of a successful effort mounted by the Mountain Watershed to draw community attention to MAX's attempt to get a permit for a new landfill, I was told by Tina during one of our follow-up calls, who thought of it as the most promising development in her personal fight against the facility so far. What this suggests is that sustained grassroots pressure can occasionally partially counterbalance the fossil fuel industry's influence on local news coverage. But this is a woefully insufficient corrective if we take into account that it took an unusually successful grassroots push to produce a single account of the facility from the perspective of Yukon residents that wasn't counterbalanced by the statements of an industry shill, and that even this account failed to look into the foundation for their health concerns.

The coverage of the facility in the *Pittsburgh Post-Gazette* is somehow even worse: The outlet produced only about forty articles about the facility in the span of twenty-nine years (from 1991 to 2020). Of the eleven articles that I reviewed, four were about recent company hires, one announced a MAX Environmental contract bid, and two articles were extolling of the company, praising it for complying to regulations and being on the technological cutting edge or reporting on a hazardous waste-disposal pit closing ceremony that quoted MAX Environmental's president

as saying: “It’s a big load off my mind.” Two more included some version of the *growth ethic* frame, including this tonally confused headline reporting on the same spike in radiation as the *Tribune Review* article – “Marcellus Waste in Landfills Examined Amount of Radioactive Material Reflects Industry’s Growth.” – and a 1991 article about a temporary closure of the facility due to a violation that mentions the “additional costs” of the closure to the facility as the only negative externality. Only three of the *Post-Gazette* articles mentioned the chemical exposures caused by the facility, and none of these included a community viewpoint. Two exhibited the same pattern found in the *Tribune-Review* of juxtaposing shocking figures about chemical exceedances with reassuring statements by experts or officials and none of them made a mention of health impacts. But the cherry on the cake is probably a 1997 article reporting on the KKK’s desire to join the ranks of the environmentalists fighting the facility.

To summarize then, judging by the local coverage of the MAX Yukon facility, the local news industry in southwestern Pennsylvania leaves a yawning chasm where detailed and sustained coverage of the abuses and impacts of the fossil fuel industry would be warranted. Not only that, but what coverage of the industry does exist fails to seize on one of the most effective counternarrative strategies that can be made against the local fossil fuel industry. There is a strong consensus within the field of environmental communication, for example, that the public health frame is one of the most effective frames for raising concern about environmental degradation. My own overview of the local coverage of the Yukon facility found this frame employed only once among a total of twenty-seven articles without being counterbalanced with an opposing frame. Even then, this one article failed to draw on a plethora of evidence for the negative health effects of the facility that I was able to uncover by attending just one

environmental hearing, driving to Yukon twice and conducting one long sit-down interview with a concerned resident.

Closing thoughts

This chapter provided a description of the political economy of the fossil fuel industry in southwestern Pennsylvania through the lens of Logan and Molotch's concept of the "growth machine," from the large-scale government investment that provided the impetus for Pennsylvania's UOGD rush to the underlying bureaucratic process allowing the distribution of land for development to the fossil fuel industry. This description is grounded in the accounts of the five fenceline residents I spoke to who chose to actively resist the industry developments in their backyards. What the individual narratives and the general discussion of the Pennsylvania UOGD *growth machine* illustrate is that the individuals attempting to fight fossil fuel developments in their backyards are engaged in a David versus Goliath struggle of truly biblical proportion. Unlike the story, however, what we are dealing with here is reality and not a parable, and social science teaches us to be wary of the way the narrative of the hero overcoming overwhelming odds can obscure the cumulative impact of an uneven playing field.

The growth machine stacks the odds against regular residents in such a way that private individuals on their own are in no way equipped to defend their rights in the face of the formidable government-industry apparatus deployed against them. It is no coincidence that the resisters I spoke with were all extraordinary people, but even extraordinary people have to endure extraordinary adversity if they want to put even a tiny dent in the armor of the growth

machine. Members of the growth coalition still retain the advantage, because, in a similar fashion to the city in *Urban Fortunes,* Pennsylvania's UOGD rush *is* their business. As Roger very aptly puts it, "the gas industry is privy through the mass network of lawyers and researchers and so forth, to information that the general public has no idea about: ownerships, mineral rights, etc. and so forth. And although you hold a lease with the gas industry, they will use every legal aspect of the law to keep you as uninformed of anything that is not going to be beneficial to them."

In the face of such a foe, effective resistance can only be collective. Even if it could be otherwise, we should only *want* it to be collective, because to allow it to stay individual is to allow the people leading that charge to carry an unacceptably large burden on their shoulders. Now that I have highlighted the structural conditions from which the local fossil fuel industry draws its power, I turn to the question that has motivated this research in the first place: In light of the egregious violations committed by the coal mining and fracking industries, why has a robust collective resistance to these industries so far failed to emerge in southwestern Pennsylvania?

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[1] Two more asked for their statements to be retracted, for fear of their impact on pending litigation. I owe a debt of gratitude to the Mountain Watershed Association for putting me in touch with two of the five: Meg and Tina, whose accounts are presented in the first and fourth profile in this chapter.
[2] In 2011, NPR's *This American Life* aired a really excellent episode on the social forces enabling the development of the fracking industry in Pennsylvania that discusses the differences between permitted and conditional use and their implications: Ira Glass, host (with Sarah Koenig), "Game Changer," *This American Life,* July 8, 2011, 13-14 https://www.thisamericanlife.org/440/game-changer.
[3] Eliza Griswold, "When the Kids Started Getting Sick," *The New Yorker,* March 2, 2021, https://www.newyorker.com/news/dispatch/when-the-kids-started-getting-sick
[4] Lindsay Lazarski, "The Oil and Gas Law of the Land: Act 13," *State Impact Pennsylvania,* n.d. https://stateimpact.npr.org/pennsylvania/tag/act-13/
[5] Eliza Griswold, *Amity and Prosperity: One Family and the Fracturing of America* (Farrar, Strauss and Giroux, 2018).
[6] Tina asked not to be anonymized, and so appears here under her real name.
[7] Anya Litvak, "Bob Shawver – MAX Environmental." *Pittsburgh Post-Gazette,* May 26, 2017.
[8] Logan and Molotch, *Urban Fortunes,* X.

[9] Rudel, "How do People Transform Landscapes?" 134.
[10] Carlo E. Sica and Matthew Huber. "'We Can't Be Dependent on Anybody": The rhetoric of "Energy Independence" and the legitimation of fracking in Pennsylvania," *The Extractive Industries and Society* 4, no. 2 (2017): 338
[11] Sica and Huber, "We Can't Be Dependent on Anybody," 338.
[12] Sica and Huber, 338.
[13] Eleanor Andrews and James McCarthy, "Scale, shale, and the state: political ecologies and legal geographies of shale gas development in Pennsylvania," *Journal of Environmental Studies and Sciences* 4 (2014), 11.
[14] Eleanor Andrews and James McCarthy, "Scale, shale, and the state: political ecologies and legal geographies of shale gas development in Pennsylvania," *Journal of Environmental Studies and Sciences* 4 (2014), 11.
[15] Sica and Huber.
[16] Robinson Township v. Commonwealth, 147 A.3d 536 (Pa. 2016), https://casetext.com/case/robinson-twp-v-commonwealth-9.
[17] Pennsylvania Department of Environmental Protection, *2022 Oil and Gas Annual Report* (n.d.), https://storymaps.arcgis.com/stories/a090f1b68daa477cae2706538f6a2c74; Pennsylvania Department of Environmental Protection, *2015 Oil and Gas Annual Report* (n.d.)
[18] Sica and Huber, "We Can't Be Dependent on Anybody," 341, 340.
[19] Jay P. Pederson (ed.), "Range Resources Corporation," in *International Directory of Company Histories* 45, (Chicago: St. James Press, 2002), 353-355.
[20] Range Resources, *Form 10-K December 31, 2021,* https://www.sec.gov/ix?doc=/Archives/edgar/data/315852/000095017022001634/rrc-20211231.htm#executive_summary_for_2021
[21] Sica and Huber, "We Can't Be Dependent on Anybody," 341.
[22] See PA.gov's Oil and Gas Well Production portal for data (Jan – Jun and Jul – Dec 2011 reporting periods): https://greenport.pa.gov/ReportExtracts/OG/OilGasWellProdReport.
[23] "Forbes Profile: Range Resources," *Forbes,* n.d., https://www.forbes.com/companies/range-resources/?sh=4d9eca674920
[24] Christopher Helman, "Range Resources Is King of the Marcellus Shale," *Forbes,* August 9, 2010, https://www.forbes.com/forbes/2010/0809/companies-energy-range-resources-bp-gas-blowout-beneficiary.html?sh=3ceb170913d3
[25] Helman, "Range Resources is King of the Marcellus Shale."
[26] McLean, "How America's 'Most Reckless' Billionaire Created the Fracking Boom."
[27] Goodell, "The Big Fracking Bubble."
[28] Glass, "Game Changer," 13-14.
[29] Glass, "Game Changer," 22
[30] Glass, 19
[31] Barbara Gottlieb, Steven G. Gilbert, and Lisa Gollin Evans, *Coal Ash: The Toxic Threat to Our Health and Environment* (2010), vii, https://psr.org/wp-content/uploads/2018/05/coal-ash.pdf.
[32] Dawn Reeves, "Industry Seeks Role in Shaping EPA Risk Assessment of Coal Ash Reuse," *Inside EPA's Risk Policy Report* 19, no. 2, Jan 10, 2012, https://proxy.library.upenn.edu/login?url=https://www.proquest.com/trade-journals/industry-seeks-role-shaping-epa-risk-assessment/docview/914933520/se-2.
[33] Arlie Russel Hochschild, *Strangers in their Own Land: Anger and Mourning on the American Right* (The New Press, 2016), 22.
[34] Cerrell Associates, "Political Difficulties Facing Waste-to-Energy-Conversion Plant Siting," 1984.
[35] See Robert D. Bullard, *Dumping in Dixie*; Robert D. Bullard, "Environmental Justice in the 21st Century: Race Still Matters," *Phylon (1960-)* 49, no. 3/4 (2001).
[36] Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright Publishing Corporation, 2017).
[37] Range Resources, "Pennsylvania: Where it All Started… And Continues," August 14, 2016, https://www.rangeresources.com/pennsylvania-where-it-all-started-and-continues/.
[38] Victor Pickard, *Democracy Without Journalism?: Confronting the Misinformation Society* (Oxford University Press, 2019).

[39] Newspaperownership.com, "Daily Papers that Were Closed, Merged, or Shifted to Weeklies," https://newspaperownership.com/additional-material/closed-merged-newspapers-map/.
[40] Timothy Puko, "Radioactive fracking debris triggers worries at dump sites," *Tribune-Review,* April 26, 2013, https://archive.triblive.com/business/local-stories/radioactive-fracking-debris-triggers-worries-at-dump-sites/.

CHAPTER 3: TRACING THE INFLUENCE OF THE GROWTH ETHIC IN RESIDENTS' VIEWS OF THE LOCAL FOSSIL FUEL INDUSTRY

The last chapter has shown that it is difficult for residents to resist the local fossil fuel industry without gaining an intimate understanding of its workings and of its interactions with other local institutions. All of my participants, whether they identified as liberal or conservative, expressed feelings of anger and bitterness from their experiences dealing with the industry. For the latter, however, there was a pronounced disconnect between their pronounced dislike and moral indictment of the local fossil fuel industry on the one hand, and of the way they think about the value of the fossil fuel industry to society on the other.

The Mafia Is bad, but gangsters are okay

As you recall from my interview with Tina about her fight with MAX Environmental, this waste treatment facility had already imposed extremely high costs on the local natural environment and on the health of her neighbors and of her loved ones. From speaking with her, it was very clear that she considered the company's actions to be directly linked to these costs. Below, for instance, she is referencing a pipe that she claims the company was discharging contaminated water through into the nearby creek that she had filed violations against:

> TINA: So that pipe that we got the samples out of that expired in 2009 that we went to the NPDES meeting for, after treatment, their leachate was still three times the standards of what drinking water would be, but like Eric Harder [the Youghiogheny Riverkeeper] said, the aquatic life that lives in there, how fragile is a tiny little fish? You understand what I mean?

Tina expresses in no uncertain terms how harshly she judges the harm that company management have imposed on her community. Below, she is responding to a question about what she hopes will be the outcome of the actions she has taken against the company's pollution of her environment:

> HL: What are you hoping is going to come from all this?
> TINA: They get criminal charges filed against them and have to clean it up and quit putting it in our environment and in our air. And quit harming people that did not give them any permission to do so. Listen, if I wanted to harm myself, there's plenty of ways that I could do it myself. I don't need help from anybody else. And to do it to people who don't even realize that they're there.

Throughout our sweeping, almost three-hour interview, Tina does not mince words in her appraisal of the company, accusing them of lying, playing word games, calling them "shady," "criminals," and calling their activities "illegal" on four different occasions. See for example this particular exchange, where she likens the management of MAX to the mafia for using a fake address for some of its dealings:

> TINA: Look that address up. Cemetery Road, Yukon, PA.
> HL: Cemetery Road. Is this right here or – ?
> (…)
> HL: I see. Okay. So it says that it's an hour away from here. That doesn't seem right.
> TINA: No. Cemetery Road, Yukon, PA.
> HL: Okay. Cemetery Road. I see, Yukon. PA. Is it with an A? Oh, there it is, wait. No' it's not giving it to me for some reason.
> TINA' It's because there isn't one.
> HL: Oh, there isn't one? So they put a fake address?
> TINA: Mm-hmm.
> HL: My goodness, why?
> TINA' It's on everything, all kinds of stuff'. I'm the only one that noticed it, but the Attorney General is going to deal with that. Because 'they're criminals. Think about it. Who in New York City deals with garbage?
> HL: I don't know.
> TINA: Mafia.

On another occasion, while discussing the usefulness of Carl Spadaro[1] to the company, she calls him rather colorfully a "grimy little scoundrel."

But when asked directly to weigh whether the industry or the government should ultimately be held responsible for the harms caused by MAX, she comes down unequivocally against the government. Here I am repeatedly asking her why responsibility for the situation with MAX isn't shared by the company:

> HL: Yeah, so, can you tell me a little bit more about why you have issues with politicians?
> TINA: Because every single one that I've come across during this journey with MAX has been nothing but corrupt.
> HL: Yeah. But I mean, MAX is a business.
> TINA: Right, but I had to deal with trying to get – organize like the mitigation. Every politician I had to deal with, I got nowhere with them and it was all lies.
> HL: Yeah... But then–
> TINA: Except for John Peck, our District Attorney, who was very helpful with giving me the referral and Mr. Shapiro.
> (…)
> HL: Yeah. One thing I don't understand though is that – like – I understand the frustration with politicians, but MAX is an example of a business and they've done a terrible job as well.
> TINA: Right, but also the Governor covers it up for them.
> HL: Yeah, so why is it worse though that the business is definitely in violation?
> TINA: But the government's not doing their job!
> HL: So you think it's the government's job to keep them honest?
> TINA: I've been doing DEP – this is all DEP's work.

In light of how clear her indictment of MAX Environmental really is, it is rather stunning to see her resist my efforts to argue that the company shares the blame for the environmental harm they jointly caused. It is amply documented in the political communication literature that conservatism is associated with a fear of "Big Government," and as we learned in the last chapter, Tina was a Trump supporter and a lifelong conservative. But at a more fundamental level, I want to argue that this conservative fear of "Big Government" is due to a flaw in logic that I myself was a victim of in the very exchange I just highlighted: In the same way that Tina wanted to lay blame at the feet of the government in spite of the ample awareness she had that the company was also at fault, I was trying to pin it exclusively on the company, even though my memory was still fresh with horror stories about the Pennsylvania DEP's complicity with fossil fuel companies.

Both these impulses – Tina's to blame the government and mine to blame the company exclusively - I want to make the case, have their root in the phenomenon of "splitting" (my choice of terminology) of the economic from the political arena, which I discussed very briefly in Chapter 1. If we recall, Wallerstein, in his seminal work *Historical Capitalism* (1983), argues that capitalism as a world-system rests on a mechanism of unequal exchange that consists of the extraction of commodities from a relatively politically weak "periphery" to the advantage of a politically strong "core." "Splitting," which constitutes a kind of blindness to the use of state violence to facilitate resource extraction by corporations, functions to throw a veil over the violence inherent in this unequal exchange and seems to be exercising a conceptual pressure so strong on our worldviews that even though we are extensively aware of the entanglements of state and corporation, we both seem very intent on conceptualizing them as ontologically separate.

I argue that it is this tendency to split the economic from the political arena combined with the *growth ethic* that resulted in the aforementioned preference of "Big Business" over "Big Government" in my conservative respondents (while this is not explicitly articulated in Logan and Molotch's theory, I think it stands to reason that an ideology legitimating capitalistic land development would attempt to cast business and businesspeople or entrepreneurs as good). It follows logically from this framework that conservative thought would be more closely associated to the growth ethic and its ideological corollaries, as indeed I found some evidence for, something I will discuss further down).

Another place these dynamics show up in my conversation with Tina is in the contrast between her awareness and disapproval of MAX's business dealings on the one hand and her

approval of Trump's business savvy on the other. Here she is, for example, describing how MAX goes about making the business of "processing" waste profitable:

> TINA: So Altus Capital Partners, too is invested into Max, okay? Which, they're getting awards for this other companies that – this company only purchases companies that are worth a minimum of 30 million dollars. This place annually is a minimum of a hundred million.
> HL: Oh my goodness.
> (…)
> HL: So that's how profitable it is to process this waste?
> TINA: Oh yeah, you put any price on it you want.
>
> TINA: And then if you look and put it all together, I mean you can track these companies back and forth, these LLCs. This is a big game that they've been running for years around here [unintelligible]. Just look at [MAX's] client list.

From her choice of language in the second excerpt (calling the financial market for toxic industrial waste "a big game that they've been running for years") and her repeated characterization of MAX management as "shady," and "criminals," it is clear that she finds their financial dealings unethical. And yet, in the case of Trump, the permeability between business and government that she finds so reprehensible in the case of Carl Spadaro suddenly turns into a worthwhile goal, so much so that she would back the candidacy of a businessman to whom she struggles to attribute any other desirable qualities:

> HL: So, besides Biden being a politician, what other issues do you have with him?
> TINA: I just don't... I didn't care for anything that I heard come out of his mouth. For example, the night of the big debate, they asked him what he was going to focus on for the debate. His answer was, quote, "I'm going to focus on Trump's failures." (…) I didn't hear him say one thing about of how he was going to do anything that made any sense to me.
> HL: So Trump makes more sense to you?
> TINA: I'm not saying he makes more sense to me, but I'm saying coming from a business angle, his business skills are savvy, you know what I mean?
> HL: So you're just hoping for something different?
> TINA: That's all it was, was just change.

One might hypothesize that she is not aware of the dubious nature of Trump's own business dealings, but the following assertion should lay this idea to rest:

> Do I think he's a good person in general? No, absolutely not. I think he's a gangster from New York. A rich baby, spoiled brat turned out to be, he ended up being, working with gangsters. He's a real estate mogul, from out of New York, you know what I mean? Mogul may be the wrong word.

Note how strikingly similar the language is between her characterization of Trump as "a gangster from New York" and her likening of MAX management to the New York Mafia. I argue that it is the same combination of "splitting" with the *growth ethic* that allows Tina to describe Spadaro and Trump in such similar terms, and yet view them in such contrasting light In summary, because Tina has developed such an intimate understanding of the enmeshment of business and politics in the case of the fossil fuel development that has victimized her community, "splitting" in combination with the *growth ethic* has resulted in a deeply contradictory view of the world: On the one hand, at close up, the evil of this enmeshment appears clearly to her, but conceptually, or from further away (as is the case with Donald Trump's bid for re-election), it becomes possible to think of these "arenas" as distinct again and to *want* a greater penetration of business into politics.

"You have smarter minds than me making those decisions"

I find a similar pattern when reading through my conversation with Roger. On the one hand, in the following statements, he delivers a searing indictment of the natural gas industry that cheated him out of his land and violated his personal sovereignty when renewing its permit with the DEP:

> ROGER: I would have to say my general consensus of the gas industry, and it's not just with the one that I hold the lease with, but general speaking, what I have found, and to include them, is that the gas industry has no use for you once they have received what they want from you. How would

> I say this? The gas industry, to me – I gotta find the right word for it here, to be polite. They use a lot of misrepresentation. They present a lot of promise that rarely comes through as a whole. They're an industry that basically seeks to use other individuals' hard work and accomplishments.
>
> ROGER: Well, the gas industry is privy through the mass network of lawyers and researchers and so forth, to information that the general public has no idea about: ownerships, mineral rights, etc. and so forth. And although you hold a lease with the gas industry, they will use every legal aspect of the law to keep you as uninformed of anything that is not going to be beneficial to them.
>
> ROGER: [T]he only reason that the gas industry is able to pay well is because they're making all the money off of the people that have the land. And they go after the least – although it may seem very generous as to what they're paying, it's very minimal [00:41:00.17] in regards to what they're making.
> HL: Mm-hm. So you're saying they're taking most of the profit?
> ROGER: Oh, of course!

Note in particular his lack of hesitation to indict the natural gas industry as a whole, accusing people in the industry of misrepresentation and of profiting off of other individuals' hard work, a very serious charge among conservatives, as we will explore further in the next chapter. Roger also on more than one occasion explicitly calls out the collusion between the Pennsylvania DEP and the industry:

> ROGER: A lot of government agencies, in my opinion, were basically very nonchalant and casual with the gas industry and allowed a lot of activity that was either borderline not within the guidelines of the law or was not in the guidelines of the law.
>
> ROGER: A–a whole – my experience, and this is my experience: I absolutely can document unprecedented favoritism of the DEP toward the gas industry.

From a liberal perspective, this makes his assessment of the relative merits of fossil fuels versus renewables all the more stunning. Consider the following exchange:

> HL: Okay, what is your opinion of renewable energy?
> ROGER: Well, my opinion of renewable energy... I don't 'believe there's been enough research and exploration done for renewable energy.
> HL: What makes you think that?
> ROGER: Just the – well, number one, the development of it, or lack of development of it.'
> HL: Um, don't you think that maybe that might be related more to an allocation of resources?
> ROGER: Well, I think it's like any business. Business is driven, business is created by the belief that something will work–And that's – I don't believe that the research and minimal development that's been done has been enough to interest those that are willing to do the development of it. So you have smarter minds than me making those decisions, whether to put up a hundred million or a billion dollars for that versus what the gas industry has done.

And when I circle back to the question about two minutes later:

> HL: But regardless, to go back to this idea of business and what creates business, I just wanted to challenge that idea that it's created only by the belief that something will work. Because if you have this kind of collusion between what you call the, I guess, the higher-ranking people at the DEP with the gas industry, don't you think that that's part of the reason that they are as successful as they are?–
> ROGER: Oh – I believe in the drive of the entrepreneur. I believe that when you have – it's just like playing the stocks. You have a good stock, a lot of people are going to buy it. If you don't, people aren't going to buy it. What do you have? You have the gas industry, which is already – of course, it's going to run out eventually, but in the interim, it gives us the opportunity right now to use this natural gas and to explore the alternative energy. So I think that the natural gas, in my opinion, is pretty much a necessity to use. We are going to run out of those resources, not in our lifetime or maybe not in our kids' or next lifetime, but we will run out of it. But it should allow us, as technology develops, to figure out that alternative energy. But like I said, right now, I believe it's driven by profit. Where can you make profit? In the gas industry you make profit. In natural energy, how many of them have gone bust? The government even funded tens of millions of dollars for projects that have gone bust?
> HL: Are you referring to that one that Obama tried to fund? '
> ROGER: That's a good example.
> HL: I'm trying to remember the name. Something with an S.
> ROGER' Yeah, I don't remember it either, but that was a very good example. There was tens of millions of dollars invested there and it went bust.
> HL: Yeah, okay. So are you saying that mostly what will determine what energy source we're exploiting is going to depend on the quality of the product, basically? '
> ROGER: That's a pretty good analysis.

Just as was the case with Tina, I believe it is "splitting" that allows Roger to hold in his mind at the same time his awareness of the collusion between Range Resources and disapproval of the industry's *modus operandi* on the one hand and his belief that the merits of the natural gas industry could still be governed by impersonal market forces alone on the other. Again, we find that the details blur at long range: While the uneven playing field is clearly visible at short range, when we zoom out to the whole industry it seems impossible that the DEP's favoritism toward natural gas or the industry's use of asymmetries of information simply could tip the level hand of the market.

What intervenes here, beside the celebration of the entrepreneurs who make growth possible, is a concept of the economy undergirding his assessment of the natural gas industry that

is consistent with those outlined by Straume, Merchant, Mitchell, and Wallerstein: For example, I believe the argument Roger makes in the second excerpt – that if investors have not funded renewable energy yet, it must be because it has not been developed enough yet or the idea that the sum of decisions by "smarter minds" than his could render something like a neutral judgment on the profitability of the natural gas industry – is consistent with the notion of economics as an exact science, with the capacity to operate without the intrusion of things like history or context to arrive at its always correct pronouncements. In addition, Roger's statement that "business is created by the belief that something will work" as almost an immutable law of nature is consistent with economics' model of the rational actor and with the understanding of the discipline as governed by mechanical laws, like physics.

In summary, as with Tina, "splitting" makes Roger more susceptible to the *growth ethic.* And in return, his buy-in to the *growth ethic* is what allows him to render the (from a liberal perspective) somewhat stunning judgment that if the industry is profitable, then in spite of its duplicitousness and its exploitation of landowners, in the grand scheme of things it must still be good.

Growth is always good: "They've given a great boost to the community"

With both Tina and Roger, we've seen how their ideological "splitting" of the economic from the political arena strengthens their buy-in to the growth ethic. The rest of this chapter explores whether there was evidence of this phenomenon among my other participants, and whether, more broadly, buy-in to the *growth ethic* was widespread among the people I spoke with. I find, in the case of the latter question, that buy-in to the *growth ethic* was in fact widespread, though it manifested differently for the conservatives and liberals I spoke with. This

section and the next discuss how it manifested among the conservatives I interviewed. The second-to-last section of this chapter goes into how it manifested for liberals.

Among the other conservatives I interviewed, I also found that "splitting" strengthened their buy-in to the growth ethic. Because they, unlike Tina and Roger, did not have first-hand experience of the ways that the fossil fuel industry colluded with the government, "splitting" manifested more simply as an insensitivity to the ways industry was subsidized and otherwise aided by government. See, for example, the following statement by Brian, one of the natural gas workers I interviewed for this research. Brian was a young man with a bit of a swagger who had netted a job managing water distribution logistics at Range Resources fresh out of college[3]:

> [W]henever the first gas petrol stations were being built, it was all due to economics. There were no federal subsidies on building pump stations. It was all economics-based. Nowadays, I don't think we can build natural gas stations to fuel your vehicle without the government subsidies. I think Big Oil has kind of taken over. Or Big Oil is too in touch with the politicians to do that. If we are able to transition vehicles over to be running natural gas and transitioning all pump stations from gasoline to natural gas, that would be a huge incentive – a, a huge gain in the local economy. From all the employees, all the construction workers, all the manufacturing just transitioning over.[4]

Note that Brian does recognize a current synergy between the government and the oil industry, but he believes it did not exist in the past. Further, if he views government subsidies to the natural gas industry as necessary in the current economy, it is only because Big Oil has "taken over" and is "too in touch with the politicians." In other words, it is Big Oil's tipping of the scales that is moving us further away from an economic state of nature, not that government and business have acted in concert from the beginning in order to secure the state's access to fossil fuel energy.

Similarly to what I found with Roger, I also found evidence from at least two of the other conservatives I spoke with that "splitting" made them more susceptible to the belief that industry

was subject only to economic forces. One of the logical outgrowths of this belief is that, if industry is subject only to economic forces and it is dominant in the current market, it must be competitive or, in other words, inherently generate economic growth. See for instance how this assumption is apparent in the following exchange I had with one of the other conservatives I spoke to:

> NED: Natural gas right now is a booming industry in Western Pennsylvania. It has the potential of becoming the leading industry in Pennsylvania because of the quantity of natural gas that we have. I also think that they're not fulfilling their responsibility by not setting aside enough money in an escrow account to clean up any problems that they create in the future.
> (…)
> HL: Imagine this scenario, someone might tell you if we actually create this escrow account and raise it to 15¢ and 20¢ a ton while the mining is still in business, or while the [unintelligible 00:30:47] is still in business, and that makes it not profitable anymore so then the industry might leave?
> NED: If raising it from 4.50¢ to 15¢ makes it non-profitable, the only reason why it would be non-profitable is because it cut into their private profits rather than making money. Instead of making $14 million a year they're only going to make $12 million.
> HL: You wouldn't be worried that industry would up and leave if they did this?
> NED: No. There's too much demand for both coal and gas for them to get up and leave.

Ned's views likely don't reflect those of the average conservative in the region, because he is also a member of the Mountain Watershed Association and even served on its board, so it is not clear to me how much bipartisan support there would be for the idea of having fossil fuel companies pay into an escrow account in order to fund the restoration of areas degraded by fossil fuel activity in southwestern Pennsylvania. But it is telling to see a conservative sympathetic to environmental causes voice the belief that the coal and natural gas industries are inherently competitive enough that an escrow tax high enough to fund adequate cleanup efforts for their activity would not cut significantly into their profits.

The final logical step from "splitting" to the *growth ethic* is that if the fossil fuel industry inherently generates economic growth, and the capitalist narrative predicates that growth is inherently good, then all fossil fuel developments must constitute desirable land development.

Indeed, I found elements of this logic present among three of the seven conservatives I interviewed for this research, including Ned: To my question about how we should think about jobs in different industries like tourism or the fossil fuel industry, his response was that "[a]ll jobs benefit the community through wage taxes, consumer spending, and the quality of life," with the only difference in benefits accruing to the community being how much they pay. Roger provides a very stripped-down version of Ned's answer to the same question, stating that he thinks the jobs are "very important," that "they've given a great boost to the community."

We can see in both Ned's and Roger's answers the heart of the logic of the *growth ethic*, that any kind of capitalistic land development is good for the community, regardless of its nature. It is especially striking to see this belief expressed by Ned and Roger, who were otherwise quite critical of the industry. That said, the logic of the *growth ethic* is at its most well-developed in the responses given to me by Al, another one of the residents of Laurel Highlands I spoke to about his attitudes toward the Rustic Ridge mine. Like Ned, he had also served on the board of the Mountain Watershed Association, but unlike him, he did not seem to share the concern for the effects of the activities of the fossil fuel industry on the environment and vocally supported the mine, arguing that the research that the coal industry had done made it safe. Al did believe in the necessity of environmental action, but thought it should be focused on things like E.coli, sewage spills, and updating old septic systems instead of combating the activities of the coal industry. He had joined the board because, in his words, "they were in pretty desperate need of having people on their board who were business people," and in keeping with this motivation, he expressed an aggressively pro-business outlook throughout the entirety of our interview.

This outlook is clearly on display in the excerpt below, where he argues that fossil fuel developments are still desirable, even (as he has himself just acknowledged) jobs in the pipeline business mostly go to people from out of state:

> HL: If an industry isn't able to employ people locally, is it still a good thing for the community?
> AL: The people do come, and they work, and they spend money, and maybe eventually if that area ever starts developing, or young people choose to stay around then maybe slowly we can develop a better work ethic, and get people off of drugs. It's a big challenge to figure out how to change this culture that's been going on up there for 30 something years.

Al's argument follows the classic growth ethic narrative about how capitalistic land development is always good for the community. We also get a glimpse here of this narrative's resistance to counterevidence: If the pipeline business fails to create jobs locally, it is not because there is something inherently wrong with the development, but because people in the region have a bad work ethic or a drug problem. The following exchange further showcases this logic and also makes it clear how closely intertwined land development and broader economic development are in Al's mind:

> HL: So we talked a little bit about what you like about the area in western PA. Could you tell me a little bit about what you think are challenges in the area?
> AL: The biggest challenge in that area I would say is unemployment. There's very high unemployment in that part of Westmoreland County and Fayette County. We have a major drug problem in both of those areas. There isn't a lot of economic development in the area. There's also reluctance by the community to do some basic things to develop the area like put the sewage treatment plants in. A lot of the residents of the community really don't want any development.
> HL: Why do you think that is?
> AL: They like it the way it is.
> HL: Okay. **This reluctance to develop the area like you said, how much does that account for the lack of economic development?**
> AL: **I think, quite a bit. Without having the infrastructure, I think that's hard to attract the business.**
> HL: You're saying infrastructure is key?
> AL: Yes (emphases added).

It isn't just the lack of positive externalities from the fossil fuel developments that can be explained away in this way. Negative externalities from the developments can also be reframed as lack of progress. Below, for example, I have reproduced part of his response to a concern that

other residents and environmental groups brought up that the Rustic Ridge Mine could affect the quality of their well water:

> AL: I don't know why the people are still on well water when city water is widely available, the quality of well water is terrible in that area. The amount of [crosstalk]
> HL: You're saying that we should probably just take city water, and not be drawing from wells anyway.
> AL: Well, the well water quality there and in that whole watershed area, the whole region is very poor.[5]

Al was a strong outlier when it came to the extent to which he aligned himself with the growth ethic narrative, and in a large-n, statistical study, his views would probably not feature prominently, because they were so extreme. But I argue it is precisely their extremity that makes them meaningful, because they provide the clearest confirmation of the influence of the *growth ethic* on our collective belief systems and of the ways it can work through us to affect our outlook on the world. For example, in Al, more than in any of the people I spoke to during my research, we get a glimpse of the ways the *growth ethic* as a narrative can work to deny the negative externalities of growth on our communities and natural environments.

Al's views represent an edge case when it came to how comprehensively he articulated and endorsed the logic of the *growth ethic.* But even among the conservatives for whom this endorsement was less complete, I found clear buy-in to certain elements of this logic. For example, as we have already seen with Tina, her personal experience and condemnation of MAX's business practices did not dampen her enthusiasm for business and entrepreneurship, leading to her endorsement of then-incumbent Donald Trump for the 2020 presidential elections.

Consider as well the lip-service that Brian and Kyle, the two natural gas workers I interviewed, felt inclined to pay to the position of their companies as innovators in the field of hydraulic fracturing. Brian, speaking about the practice of sharing water that has been used to

frack a well with other oil and gas companies instead of sending it to a treatment facility, claims that "Range as a company kind of pioneered water sharing." And Kyle returns on two occasions to the innovativeness of his company:

> HL: Okay, so is it fair to say that you're – you sort of absorb new technology into the company?
> KYLE: Yes and no, we actually develop our own new technology. We're very well known for being innovators in what we do. We're one – we're one of the only companies in our industry that actually has released a tool that has 100% success rate and it's a tool that we've developed internally. All of our deployment systems that we use to do the job that we do, other than two are internally developed technologies that we built' In fact, we're beta testing a new technology as we speak. We're pretty much ahead of the curve.
>
> [I]n fact, my company right now is pioneering an 100% electric perforator, which is the unit that we use to run the wireline. We have three in use, in fact, here in Pennsylvania. So once we get to location, there's no diesel motor. It's all electric. (…) So, my industry is not afraid to try new things. In fact, we are – we're building our own electric trucks. We have a really cool engineer, M-, who's designing these things from the ground up. And we're not buying new equipment, we're converting our old equipment. So we're actually recycling as we're doing it too. So I'm very proud of that. Our goal is to be as close to 100% electric by the end of 2025. So our diesel fleets are slowly but surely going away.

It goes without saying that these two natural gas workers have an interest in positively representing the companies they worked for. For the purposes of this research, however, it matters less what they actually believe about the innovativeness of their company than that they perceived it as an important quality for a fossil fuel company to have. Their use of the word "pioneered" or "pioneering" is perhaps especially meaningful, because it ties into the case that Logan and Molotch make at length that the advancement of the Western frontier was intimately bound up with the effort of "growth entrepreneurs" to gain rents through capitalist land development. As with Tina, we see how this celebration of business and innovation is tied together with embracing the growth goal (at one point, she justifies her support of Donald Trump by claiming he has "boosted the medical [and] the cleaning product profession").

In a very similar vein, at different points over the course of my conversations with Roger and Ned, I also noticed them linking their pride in their birthplace with the growth goal, either

directly or through their attachment to the local industries that historically produced growth – what Logan and Molotch call *place patriotism.* For example, Roger describes Pittsburgh as follows: "it goes without being said, the number one steel city in the United States for the longest time" and Washington, PA, the town he was born in and still lives near, has always been "the center of some type of new development." Similarly, Ned calls heavy industry, which was the dominant industry in the region in his lifetime and the one he worked in himself, "the backbone of the economy" and claims natural gas "has the potential of becoming the leading industry in Pennsylvania."

In summary, the evidence from my interviews strongly suggests that the *growth ethic* plays a key role in informing the belief systems of the conservatives I spoke with – even, most interestingly, the ones who were actively fighting the fossil fuel developments in their backyards. While it is true that most of them did not directly articulate its central logic, all of them in one way or another expressed values that were in line with it. As I will discuss later, this was in many ways also true of my liberal participants, even though it manifested very differently and with arguably different consequences.

As Al's responses make manifest, if we follow the political ontology of the growth ethic to its logical conclusion, then this precludes any kind of principled challenge to the industry, since if any capitalistic land development is automatically good by virtue simply of its presence (which implies that it has fairly outcompeted all other projects on the free market), then resistance to it must automatically be bad. Adherence to any ideological system is of course never perfect, but I believe my interviews reveal how even an imperfect adherence to the growth ethic can make resistance to the fracking industry difficult and an organized resistance based on shared collective principles even harder.

That said, buy-in to any kind of ideological system never happens in a vacuum and instead is always compelled by a specific set of material circumstances. In the next section, I argue that the most prominent of these is a felt or real dependence on the fossil fuel industry, which motivates residents to let industry off the hook when evidence of malpractice does surface. I will ground this argument primarily in my participants' responses but will also briefly discuss how the literature on the region supports this conclusion. I will then turn to the way the growth ethic manifested in the responses of the Democrats I spoke with.

Letting industry off the hook: "They tax them to the point of extinction"

Recall how Tina let business off the hook when it came to deciding who, business or government, was ultimately responsible for the harms caused by MAX, in spite of clearly understanding the direct role that the facility's management played in polluting her community and characterizing their actions as immoral. Among all the people I interviewed, there was one other person who displayed a strikingly similar chain of reasoning: an old man I'll call Craig. I found Craig sitting on his porch in South Greensburg, a sparsely populated borough in Westmoreland County, across from a largely abandoned industrial park that was now occupied by an abandoned transistor factory by ABB, a natural gas fueling station, a school bus parking lot and a large restaurant. I met him on a walk along a trail that snaked along abandoned railroad tracks and a small creek that was dyed bright orange by what looked like acid mine drainage. Craig lived just a few feet from the tracks, which were the only thing separating him from the industrial park.

Like Tina, Craig expressed awareness of the environmental violations committed by the industries he lived with in his backyard, accusing them at one point of dumping chemicals in the nearby creek. Like Tina, he goes back on multiple occasions to the idea that polluting the environment is fundamentally wrong and that nothing should be put back in nature if it is still toxic:

> Anything you do to disrupt this planet is a sin, the way I see it.
>
> You monkey with chemicals, you have to have some way to make it enough so that you could put it back in the nature. If there's no way to contain the poison that they have, what they're doing, you're fouling the earth. Not a good thing.

And yet, in spite of this fundamentally environmentalist core belief, Craig resists the implication that the industries directly causing these violations are to blame. He does this in part by being unremittingly evasive every time I return to the idea of dumping or of the industry's stewardship of the environment more broadly, not wanting to identify a culprit and pleading ignorance more generally:

> HL: Could you tell me any personal experience you've had with dumping growing up here? ′CRAIG: I don't know what the heck– I don't even remember the name of the place, but they'd dump stuff. You'd see barrels down over in the bank and it was all over. Who knows what they dumped? I don't know. There's been millions of things dumped out here. People don't even know about it. There's a guy who's down here once in a while. He checks his creek that runs down. It's over there along the road, water runs down through, they test it.
> (…)
> HL: Do you think the dumping has gotten better or worse lately? ′CRAIG: There's no dumping around here. This is clean now.
>
> HL: You were telling me that they were dumping in the stream.
> CRAIG: Not that place.
> HL: Not that place, but who was dumping in the stream then?
> CRAIG: It goes on all over the place. The' dump. I don't know. It happens everywhere around here.
>
> HL: Any other thoughts about them?
> CRAIG: About what?
> HL: About the industries. Are they good stewards for the environment?
> CRAIG: I have no idea what they do. I don't know. That's something the average person just doesn't know. I don't do any research in the woods, so I really don't know.

And, like Tina, he chooses to shift blame for this state of affairs away from the industry onto a corrupt government. Here is his reaction when I tell him about people living next to a coal ash deposit who I have spoken to who claim that the coal industry does not dispose of the coal ash properly:

> CRAIG: Then that's the bureaucrats' fault, because they're supposed to be monitoring this stuff, what they were paying all these ridiculous taxes for.
> HL: When you mean the bureaucrats, I'm guessing the government?
> CRAIG: The state in particular. Do you know what? I'll tell you something about ’he state. It's funny. If it wasn't so sad, you'd laugh about it. You have more people that were federally indicted in charge of this state than all the other states put together, so what's that tell you about it?
> HL: More people federally indicted?
> CRAIG: Absolutely, more officials.
> HL: They're corrupt.
> CRAIG: A lot of corruption in this state.
> HL: I've heard that.
> CRAIG: So you know.

In Craig, it seems clear that this shift in blame is motivated by a kind of fatalism, which recognizes the harms caused by the industry, but sees no real solution to them that wouldn’t result in the loss of an industry on which he feels dependent. This fatalism appears particularly clearly in the following exchanges:

> HL: How do you keep industry jobs and also make sure that they dispose their waste properly?’
> CRAIG: They're not going to do that. It's futile.
> HL: Do we do away with industry jobs or do we accept the pollution?
> CRAIG: The planet takes care of itself in a way’ No, you can't put stuff back into the earth that doesn't belong here. You have to have a way to contain it. It's a problem. You could launch that stuff out into space and you won't even know what it will do out there. It might do something even worse.

> HL: At this point, what's going on is that communities that get really poisoned by coal ash, for example, they don't even manage to get bailed out of their own homes by the industry.
> CRAIG: Companies aren't going to do that.
> HL: You would think they should, right?’
> CRAIG: That's why you levy the fine enough it covers. What it is is they'll levy a fine, but the money won't go to whoever suffers. The money will go somewhere else.
> HL: So then the fine should go to the people who are being affected?’
> CRAIG: That's reason.
> HL: Why does that not happen?
> CRAIG: Greed. Everything else, they don't want to give that money up.

HL: I see.
CRAIG: They're not going to give that money up if they don't have to.

In this section, I argue that fatalism is another factor strengthening fenceline communities' buy-in to the *growth ethic*. In other participants, this fatalism is less obvious, but does show up in their normalization of the pollution caused by industry or the risk posed to them by the neighboring fossil fuel developments. I would argue that this is at play in Ned's statement on two different occasions that he has not noticed much of an impact from Rustic Ridge, even though from my conversations with staff at the Mountain Watershed Association, I was aware that they were working with multiple people who were experiencing subsidence or water loss from the mine. Of course, it could be that Ned was really not aware of any of these impacts from the mine, but I think it is more likely that the impact seemed relatively negligible to him compared to the severity of the pollution and industry malpractice he historically experienced. As he puts it, when asked about how highly pollution ranks as a problem in his area, "[t]he pollution 10 years ago was 100% worse than it is now. Since the Watershed has worked diligently in doing the testing and cleaning up, the water quality in Indian Creek in particular has improved about 200%."

Similarly, I heard from a few of the people I spoke to the (accurate) belief expressed that gas was cleaner-burning than coal, but the leap to supporting the industry for being more environmentally friendly may have less to do with the overall track record of the natural gas industry than it has with how historically polluted the area was:

HL: You were saying that gas basically displaced coal, but what do you think is their actual environmental impact?
ROGER: I believe that gas is a cleaner-burning energy than coal. I believe it's healthier in the long-term to produce throughout the region. Coal has, in my opinion, more waste, more byproducts than the gas, the natural gas and the liquid.

HL: Do you notice any improvement to the environment with the replacement of coal with gas or do you not notice it?
ROGER: Well, I have to say since I was a kid when growing up when you drive into Pittsburgh and you see the clear, the more clear air and when I drive around Washington and I see the sky versus when I was a little kid and almost every house on the block had a coal furnace, I'd say you definitely see a difference.

As staff from grassroots environmental groups who I spoke with frequently noted, when communities rely economically on industries where injury, illness, and general environmental degradation are commonplace, as it was with the American coal industry, it is easy to become inured to it. I believe that is what is at play in the excerpts above.

The normalization of the pollution caused by the fossil fuel industry did not only occur in reference to a more polluted past. In the case of Bonnie, who like Tina, lived close to MAX Environmental, they took the shape of life adjustments she made to the ambient environmental degradation without wanting to completely acknowledge their meaning:

BONNIE: [Tina]'s the one, the only one I really talked to about it, but she's found some really interesting things that she had really explained to me that I had no idea about numbers and stuff that are in the water and things like that. The dangers it could be– and I have animals, so I worry about my animals as well. I had two dogs that died unexpectedly. I don't know if it has anything to do with that or not, but I just found it to be weird.
HL: What'd they die of?
BONNIE: We don't know. The one was 10. I left for work, my son woke up to go to school, came downstairs and she was dead. We don't know. She was healthy, very healthy. Then the other one died. 11 months later, she ended up getting MRSA.[6] We don't know. She was only two and a half years old. We have no idea.
HL: That's like tuberculosis?
BONNIE: I don't know. We were brushing her and she just was popping. She had pus pockets and started to bleed. We had to put her down because she never would have lived.
HL: Oh, my God.
BONNIE: That was two downs within one year.
HL: That's terrible. Oh, my God. I'm sorry to hear that.
BONNIE: I have my dog now and I'm very protective of.
HL: Does he stay indoors?
BONNIE: Yes. The only time he's outside is to get in the bathroom and he might sit on the front porch with us. We don't leave them outside for a long period of time. He doesn't like to be out anyways unless someone's out there with him.
HL: That seems strange to have to keep your dog indoors.
BONNIE: **Well, I think it's my choice, to be honest with you** (emphasis added).

In this heartbreaking exchange, we see Bonnie describing the loss of two pets to unusual circumstances, but then normalizing her choice to keep her pet indoors by calling it a personal choice, rather than outright naming her suspicion that the waste treatment facility might have had something to do with it. This choice, to not look too closely or think too hard about the impact of polluting industries on one's health, is also apparent in Cecilia, the one liberal I manage to interview who doesn't have a strong political stance on the fossil fuel industry. When I ask how fracking has affected her, she complains in first line of the eyesore created by the well pads on the previously rural scenery and only mentions a concern about the potential fracking has to taint the groundwater later in our interview. When asked to rank these two concerns, she states that water pollution is the more important one, indicating that if it is not top of mind, it is probably because she chooses not to think about it.

As mentioned above, fatalism was not the only thing that I conjecture played a role in Craig's choice to shift blame from the industry onto the government. Another important factor was his strong emotional attachment to the industries that were booming in his youth. From the following passages, for instance, we can sense how strong the pain is of living in an economically depressed area and how strong the longing for a return of industrial activity:

> HL: What are some of the things you like about this place?
> CRAIG: I like the railroad right there, that's about it. There's nothing here anymore. We used to have all kinds of jobs and factories and places doing stuff and busy, now there's not much here.
> HL: You'd say this is the main challenge with this place right now is that industry has left?
> CRAIG: No. There's Walmart jobs. That's all there is. There's really just jobs that aren't significant. If you're capable doing machine work like I do, and you can be taught. These places do on-the-job training, and like I said, the jobs that they have, I don't know, they're minimum wage jobs, that's all there is.
> HL: Is that the one issue with the jobs right now, is that they're a minimum wage?
> CRAIG: Yes, the cheap wages. It's not even so much. A minimum wage job is for a high school kid. They want to pay people that are married with three kids the same amount of money that they should be paying a high school kid just for a part-time job. That's how minimum wage is supposed to be. It's not supposed to be a career.

> CRAIG: Back when you had auto plants. It's the area. This place here used to have a big company up there where they made valves. They moved out. There used to be a PPG, a glass where they made windshield, it's gone. This place here, ABB, they're pretty much moved out of that place. They got a place down in south of New Stanton like Hunker area down that way. Not much around here to do.

Craig had such an affection for the railroads that he actually had a functioning replica of a coal-powered locomotive in his garage. He noted that one of the main things that stood out from his visits to Europe when he still had his well-paying job at a valve company were the train excursions:

> CRAIG: What I'd do is I'd get on the train excursions. These were neat. You'd get to go there. It was like a group. You'd go there, and then they had like reservations for you for everything. You were on a railroad, on the steam engines and stuff. It was pretty cool.
> HL: This was Europe?
> CRAIG: Yes. I loved that place. Man, their railroad system is great.

Craig lived in an area that had been deserted by fossil fuel-powered industry. But nowhere in southwestern Pennsylvania is the threat of boom and busts associated with the coal and now the fracking industry far away. This is clear from a comment by Kyle, one of the two natural gas workers I interviewed, who worked at a company specializing in cracking the shale rock formation with explosives in preparation for fracking:

> KYLE: [T]he problem we're having with the numbers right now 's everything's either in the well in the pipe or in storage. We have no way to get it to market. The only saving grace for Western Pennsylvania is we're not based on oil, we're based on natural gas. And since most power plants and most homes use natural gas, it hasn't hit us as hard as it has Texas, Louisiana, Oklahoma, North Dakota, Colorado. A lot of those states pretty much dead in the water right now. When you take the GNP of that, and you take the amount of tax base that comes from those industries that puts those states in a hand – like we're talking 60% of their income is out the window right now. All because we're too stupid to get out of our own way. If you have the industry in place, until something better comes along, let it play out. Let it play, because otherwise you're either going to destroy your economy or you're going to a lot of people out of work. That's kind of where we're at right now. I'm not gonna lie to you. I laid it off over 700 people this year. That's a lot of friendly faces.

It is no surprise, then, that jobs as an important social good or motivator is least touched on by several of the people I spoke with, both among Republicans and Democrats. And several of my conservative respondents noted that they considered fossil fuel jobs better than other types of jobs that could be had in the area. The primary reason given was that they paid better, but the strenuousness or drudgery of other jobs available was also mentioned. Here is how Kyle, who worked his way up to field level supervisor at his company, describes the appeal of his position:

> KYLE: [A]s far as money goes, it's a great job. Great job.
> HL: Um, so what goes into a good job? In your mind?
> KYLE: Well, being able to provide for your family, having enough money to pay for a mortgage, pay taxes. If the ki– need help – I have a couple'– I mean, I'm not rich. I'm not making millions if that's what you wonder. But I have a couple of dollars that if somebody would get into trouble, like right now I have a family member living with me. I'm financially stable enough that I can – I can accommodate that without killing myself.

Adding to this appeal is the perceived dearth of other high-quality job opportunities in the area, a fact commented on by at least four of the people I spoke to while conducting my research. As Al puts it:

> AL: There are entrepreneurial opportunities, stores, gas stations, restaurants. Unfortunately, the likes of Walmart have come in and destroyed the small entrepreneur, that used to pay a decent wage, and replaced those jobs with low-paying jobs. I don't know how we break that cycle, because Walmart started it, then Target, and Home Depot and Lowe's, many other companies have picked up the same model. None of them are actually paying a living wage.

This concern about the boom and bust cycles of the extractive economy and the dearth of other good job opportunities is also expressed by Cecilia, the one disengaged liberal I interviewed. She tells me she does not like what fracking is doing to the area, but she is concerned if the industry were to leave southwestern Pennsylvania, there would be people sleeping in the streets. Unlike the conservative participants I spoke to, she does not think of work in the fracking industry as a high-status occupation (likely because her own son worked as a drill hand for a few years, one of

the lowest status jobs offered by the fracking industry), but she still worries what the disappearance of these job opportunities would mean for people down on their luck.

Poverty was not the only injury that the conservatives I spoke to associated with the lack of a living wage:

> HL: You're telling me the tourism and the restaurant and service industry, they're not very good jobs?
> NED: They're probably not the jobs that you can raise a family on comfortably. They're a great second job if there's two people in the family working. It probably does not pays well enough to raise a family. ′HL: It doesn't give a family wage?
> NED: Correct.
> HL: What if two people work jobs in tourism, for example, do you think they can–
> NED: Well, if two people are working in it and both of them are making minimum wage, that work averages out to be $15 an hour. A $15 an hour job is at the bottom scale of raising a family. You need to be in the $20 to $25 an hour range to have a decent income for a family.
>
> HL: You'd say this is the main challenge with this place right now is that industry has left?
> CRAIG: No. There's Walmart jobs. That's all there is. There's really just jobs that aren't significant. If you're capable doing machine work like I do, and you can be taught. These places do on-the-job training, and like I said, the jobs that the' have, I don't know, they're minimum wage jobs, that's all there is.
> HL: Is that the one issue with the jobs right now is that they're a minimum wage?
> CRAIG: Yes, the cheap wages. It's not even so much. A minimum wage job is for a high school kid. They want to pay people that are married with three kids the same amount of money that they should be paying a high school kid just for a part-time job. That's how minimum wage is supposed to be. It's not supposed to be a career.

There are a lot of things at play here in these two passages, none of which, obviously, can be carried exclusively by these two quotes. But the Appalachian Studies literature has a lot to say about how work in the mines was symbolically coded as masculine and as capable of providing a "family wage," with one the male head of household able to support his family. A hearkening for the kinds of jobs that can provide such a wage is thus about much more than just the money. It is also the way of life that these kinds of wages used to enable.[7]

Memories of a time when jobs in coal or steel that could provide such a wage were commonplace are still fresh in southwestern Pennsylvania. Among the people I interviewed, over half the ones who were native to the area reported some kind of family ties to the industry, and a

few worked blue-collar jobs. Given the personal connections that many residents still have to the fossil fuel industry, it shouldn't be all too surprising if some residents felt a strong emotional attachment to fossil fuel jobs, even when, like Al, they do not necessarily believe that jobs were primarily going to locals. In his research on the factors motivating local attachment to the coal industry in one county in West Virginia, for example, Lewin finds that residents still strongly supported the industry, even though it accounted for fewer than 75 jobs in the county. And from my conversations with staff at the local environmental grassroots groups I worked with, as well as from two of the interviews I conducted with liberal residents, I learned that in the case of Rustic Ridge, LCT did in fact dangle the promise of local jobs in order to drum up support for the mine.

In the absence of media narratives critical of the industry or of news stories documenting its abuses, fossil fuel companies have pretty much free reign to take advantage of residents' sense of economic dependence to position themselves as innovators and community benefactors, bringing jobs and economic development to disadvantaged communities. One means they use to do this is either through traditional media channels or through cash infusions, as I discuss in Chapter 2, or through other forms of strategic signaling. Examples of these that I was told about or observed while conducting my fieldwork include Al's description of the way LCT dangled the promise of direct investment in the community to sway public opinion in its favor during the Mountain Watershed's suit to attempt to prevent the mine from opening. Al makes mention of an offer of "2 million of community funds," to be allocated by a board of local citizens appointed by the company that was rescinded after the environmental group did not retract its suit. Cecilia also mentions on several occasions the investment of the fracking industry into her community, whether through scholarships or the organization of public events for the community.

Figure 6. Greene River Trail trailhead.

Another effort by the fossil fuel industry to sway public opinion in its favor that I came across purely by chance was the funding of a local trail in Greene County (the poorest county I consider in this research) by Consol, a fact it advertised very clearly at the trailhead (see Figure 6). Finally, according to a staff member at the Center for Coalfield Justice, the other environmental group I was involved with during my fieldwork, Consol made the layoffs of a two hundred miners coincide with the group's successful petition for a supersedeas to prevent the mine from longwall mining under a creek[8], followed by the taking out of billboards accusing local environmental groups of killing local jobs.

In the last few pages, I have done my best to document through my conservative participants' voices the way the historical presence of the coal and steel industries and the region's economically depressed status might create a sense of dependence on fossil fuel industry jobs and on the other economic opportunities that the industry promises. Before I turn to the liberals I spoke with and the ways that they internalized the *growth ethic,* let me return to the

relationship between the conservative hatred of Big Government and "splitting" that I opened this chapter with. Based on my findings, I want to propose the hypothesis that at a more fundamental level, this hatred of Big Government may have its roots in "splitting" combined with this sense of dependence on the industry, which would motivate residents to shift blame for perceived social ills from the fossil fuel industry onto the government.

I of course realize that the data I have collected on this question is too thin to allow for a thorough documentation of this mechanism, but if subsequent research could lend weight to its existence, this could be very consequential, because it would link the well-documented conservative preference for small government to the *growth ethic* as I have adapted it from Logan and Molotch and would have some important implications for the relationship between capitalism and political ideology in the United States. In addition, as many scholars have noted, the conservative hatred of Big Government is politically consequential: To name just one example that is relevant to my field, Hochschild documents how Tea Party attitudes toward government lead to their rejection of environmental regulations in the Louisiana Bayou, an area that encompasses the so-called Cancer Alley and is famously polluted.[9]

I found some evidence of this phenomenon in the interviews I conducted, as can be seen for example in Ned's reaction to my explanation of the Green New Deal:

> HL: They're pushing for very widespread government action.
> NED: That scares me.
> HL: They call themselves the Green New Deal because they're modeling themselves on the New Deal.
> NED: Government action absolutely scares me to death. I've never seen any government program on a major scale that was successful because of all the politics involved.

Or Craig's views on how to alter policy regulating industry:

> HL: How do we fix this? If you could write policy, how would you fix this?

> CRAIG: The only way you're ever going to attract business to this state is if they get rid of these ridiculous taxes that put these businesses in a position where they can't keep going at that pace. A guy has a company, he wants to be able to have enough people to work and get the job, have a product to sell, and be able to expand. If there's no way to expand because of the ta' rate, there's no incentive.
> HL: You think that the taxes is the reason that business has left this place?
> CRAIG: Absolutely. You could talk to anybody, will tell you the exact same thing. They tax them to the point of extinction.

While this research amply documents that conservatives are far from unfounded in their dislike of government intervention, this stance tends to translate into laxer regulations of fossil fuel activity.[10] This should not be altogether surprising, since while evidence is undeniable that the government are complicit with the industry, it also paradoxically constitutes the political body with the most power to regulate the industry. It is fair to say, then, that this fear of Big Government also contributes to strengthening the grip that the fossil fuel industry has in politically conservative regions.

This is not to say that liberal worldviews don't also resonate with the *growth ethic* or offer other entry points for the industry to justify its activity. The evidence for this is what I will be covering in the next section.

Liberals and the growth ethic: Like fish in water

One striking observation that I made is that, among the southwestern Pennsylvania residents I spoke with (with the one exception of a former unionized miner who was concerned, for legal reasons, about having his views represented in my research), political ideology mapped almost perfectly onto support or opposition to the fossil fuel industry and renewable energy, with liberals expressing opposition to the industry as a whole and support for renewable energy (the

only exception to this rule came from an interview I wasn't able to use with a former coal miner who was a pro-union Democrat).[11] Somewhat paradoxically, however, their assimilation of the *growth ethic* still manifested in their disapproval of fossil fuels and support for renewables.

One of the main ways this occurred is in response to the conservative argument that the fossil fuel industry creates jobs. All but one of the liberals I interviewed for this research responded to this charge by arguing that the jobs created in this way didn't go to locals. Ironically, however, their counterarguments rested on and validated the same assumptions and values undergirding their conservative neighbors' support for the industry: Namely the creation of jobs through land development as desirable and, by logical extension, land development that creates jobs as good. On only two occasions did the liberals I spoke to offer a different counterargument. And this was that there was something fundamentally bad about the jobs, either because they were polluting or associated with bad labor conditions.

Another argument that was made by two of the Democrats in my group was that the fossil fuel industry was bad because it displaced other, more desirable industries like tourism:

> One of the big things – the biggest industry we have here is tourism, and we did not want that to go away (TOM).

> Because tourism is our number one moneymaker up here in the mountain, in the TriCounty area, because it's so beautiful up here. Not tourism — there are not a lot of fun things to see, but there's skiing up at Seven Springs, a lot of outdoor stuff, amazing trout fishing streams, kayaking on the Youghiogheny River. A lot of outdoor things for sportsmen. Tourism and heavy industry with a lot of trucks on the road are not a great combination (MEG).

Again, while this constitutes a challenge to the uses the fossil fuel industry is putting their land to, it is far from being a fundamental break from growth ethic language that holds that one capitalistic land use can only be replaced by another, more profitable one.

The second most common place that buy-in to the *growth ethic* showed up among the liberals I interviewed is when they expressed support for renewable energy: When asked about her attitude toward fossil fuels, for example, Meg expressed her support for renewable energy in language more consistent with a macroeconomics class than with sitting at a table outside a farmhouse arranging raspberry leaves:

> MEG: Well — we can't be naïve. The Western world is dependent on fossil fuels. However, where are the incentives to explore and develop alternative energies? When we bought the farm, there were a lot of incentives for solar, micro-hydro. We're set up for micro-hydroelectric here, and we have solar in our hay equipment shed on the other side of the farm. Right now, we're electric in those little barns and in our big barn, but for a long time, we were totally solar in those little barns, but the incentives have evaporated. We have geothermal also. That incentive, we were able to take care of. The micro-hydro is not fully developed because we keep waiting for a residential micro-hydroelectric incentive. That's from the top down. That has to start at the federal government' Usually, it's federal, and then like the state governments kick in as well, and then the home owner has a copay of some sort to get alternative energy at a residential level. At a bigger level, our vehicles. My Pittsburg daughter and her hubby and their family have a hybrid car that's electric and gas. I guess Ford does it. It's called a C-Max. Ford doesn't make those anymore. They drove all the way across the state to get a used one because they were so committed to the concept. I mean, we can't be naïve. Right now, we are stuck with an infrastructure that uses fossil fuels, but it really is not rocket science to start making the change.

While the argument she makes above couldn't be more different from the one Roger made at the beginning of the chapter, it rests on a conception of the economy that is essentially the same: That of a neutral space encompassing all monetary transactions, that can successfully be described with words like "incentives" and ideas like consumer choices, and where things like force, conflict, and collusion don't intervene.

Tom and Brenda, the liberal couple I interviewed, also argue that we should switch our investment to renewable energy, but in their case, they substitute her economic language for the language of boosterism and competition between nations on the criterium of innovation:

> BRENDA: I guess I feel I little bit that, that they want to go back to the fifties, with a lot of the ideas they want. I think we have to look forward, we have to look at renewable energy. We were in Europe last year, and we were just amazed going down the rivers there, that they're all going to solar and getting rid of everything. **So where is the United States going to be? We're at the end of the line, we should be the leaders and not at the back picking things up.** So I – we talked

> about the grants that they give to the coal, and yeah, I think that's an issue, because they're subsidizing a company that is on the bound, and not looking to the future. I think **we should be looking more to the future** as to what's going on, and that type of thing.
>
> BRENDA: I, from what I've heard, and looked at, I think [the Green New Deal is] a goal. And I think you have to put the goals pretty high, but if you get a third of the way, or half the way to the goals, I think it's worth doing. (…) **It kinda goes back to what I had said too about Europe. They're going to be at the cutting edge of things, and we're going to be back in the fifties.** So, I think there's a lot of good things, good ideas in the Green New Deal, and maybe it's worth starting and going towards that direction.
>
> TOM: You have quite a few colleges in Pittsburgh. Carnegie Mellon is one of the leaders in robotics. The technical field UPMC in Pittsburgh **is taking over the whole town**, so, they've switch from a steel town, to medical and high tech, so it could happen in other areas (emphases added).

Another argument that the liberal residents I spoke to made in favor of renewables in response to the idea that energy transition would cause job loss was that people could be retrained. Like the argument that job creation from fossil fuel projects didn't benefit locals, this claim draws on some of the same premises used by conservatives lamenting the loss of fossil fuel jobs, demonstrating a similar conception of wage labor and the way that workers are expected to navigate through the job market:

> GRACIE' But why can't some of that be redirected to green energy options? Like, why couldn't we do something with green energy around here and redirect and get jobs for people in that area? Like, there's gotta be another alternative.
>
> TOM: That was kind of interesting. The Green New Deal. (…) We did go to a – it's called Voices of Westmoreland County. And they were talking about – what is involved in the Green New Deal. And it is just not a lot of – asking government for money. It's about repurposing people's knowledge. As Brenda had just mentioned about, say for example, I'm an electrician, I can work as an electrician in a steel mill, as much as I can work as an electrician… I'm a welder… the transfer of knowledge, bringing jobs into there. It was kinda interesting.

I want to note here that I am aware that my first four readers (as well as the many more who will hopefully follow) will likely comment that these last two quotes simply reflect a working understanding of the wage labor market. Yet I would argue that this understanding of wage labor market transitions is also bound up with the capitalist conception of the economy,

and that this conception of the economy brings us back to the *growth ethic* and to the implicit expectation that new job creation will be the result of capitalistic land development, except this time the good, renewable energy kind. And in the case of Meg, we see how she skips past the idea of job retraining to lament the loss of entrepreneurial spirit in the country, bringing her even more closely in line with growth ethic values:

> HL: At the same time, I also see what they mean. Initially, they would lose their job. That would be the first thing that would happen. Other people are concerned that the jobs would be lost in Pennsylvania and then gained in California, for example, with solar or wind.
> (…)
> MEG: Yes. I don't know. In Pennsylvania, the attitudes that I hear sometimes — not always and not from everyone — are so fatalistic like, "Oh, poor us. They're going to steal our jobs." Instead of, "Wow, what a great opportunity that will be for some creative entrepreneurs to move from fossil fuel to renewable energy." Where is that mindset? That's what we need, people to grab that mindset and say, "I'm going to be on the cutting-edge of that."
>
> MEG: You know what? In my opinion, the hallmark of America used to be a pioneering spirit and creativity. If we move from — we used to all ride horses until Henry Ford started mass-producing automobiles, so that was a huge changeover. There was a time when both horses and buggies and cars were on the road. We can make the change. Will some people have to change their job? Yup! Yes. Is it impossible? No.

Closing thoughts: The impossibility of imagining a fossil fuel-free world

What my liberal participants' responses illustrate is the sheer difficulty of imagining a world outside of the parameters of the global capitalist economy that the fossil fuel industry has created. My findings suggest that the *growth ethic* does seem to be more tightly associated with conservative thought, a link that the scholarship on climate change denialism also points to. Environmental Sociologist Robert J. Brulle and others find that what he calls the climate change countermovement has strong links to the American conservative movement, a connection that many note is not simply pragmatic, but also ideological, predicated on, among other things, the conservative movement's traditional view of the relationship between nature and society and to the conservative fear of Big Government.[12] Austin describes this ideological dovetailing of the

climate change countermovement and the American conservative movement in ways that are largely consistent with our understanding of the *growth ethic*: As stemming from a "cult of growth," which portrays economic growth as "the key to solving all our problems."[13]

Still, it is deeply telling that it was precisely in those moments when the liberals I spoke to searched for language to express their opposition to the fossil fuel developments in their backyards that the *growth ethic* framework manifested the most strongly. One reason for this was undoubtedly that they find themselves frequently in the position of having to defend their beliefs to a conservative audience. When I asked them to argue against the charge that fossil fuel developments create jobs, for example, it makes sense that they would feel some pressure to adopt the language of the opposing side. But the causes also undoubtedly run deeper than that: As with the conservatives I spoke to, their endorsement of the idea that the value of land was tied to its potential to generate economic growth hung together with a range of other ideas, including the neoliberal reification of the economy, the celebration of entrepreneurialism and the participation in a culture of boosterism that connected land development to a spirit of economic competition between places. Together, these interconnected values and beliefs feed into a powerful overarching narrative justifying the capitalist project.

Now, I want to make clear two things before I start the next chapter: I do not intend, throughout any of my analysis in this and the next chapter, to fault any of the people I spoke with for their beliefs. I see ideology as something that exists, at least in terms of having causal power, not within an individual consciousness, but primarily between people. It is in the air that we breathe, which brings me to my second point: If I could trace its influence through every interview with residents that I conducted, then the power of my findings lies in the fact that this liberal buy-in to the *growth ethic* ideology is unlikely to be shared only by the people I spoke to

or by liberals in fenceline communities in southwestern Pennsylvania. This is one reason I believe some of the patterns I have attempted to point out among the liberals I spoke to may appear superficially almost trivial (at least to myself and to the liberal committee who will be my first readers).[14]

Yet, I would argue that these patterns are actually far from trivial. What my findings reveal is that my participants did not appear to have a better choice, when attempting to argue against the capitalist land developments in their backyards, but to fall back on the language that had been developed to defend those same developments. This is not to say that the people I spoke to, whether conservative or liberal, didn't also express beliefs that significantly challenged the capitalist ideology of land use (something I will go into in the next chapter). But a cohesive counternarrative with the potential to rival the *growth ethic* framework seems to be absent.

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[1] Recall he was the Environmental General Manager at MAX who had been poached from the DEP.

[3] I will confess to coming away unimpressed by the lack of expertise he displayed and highly irritated by what I imagine must have been the size of his paycheck in comparison to mine at the time.

[4] It is interesting to note that Brian conceptualizes the interests of his company as distinct from those of Big Oil. While I believe this is an oversimplification, there is also some truth to his belief: Following Russell Gold's classification of companies involved in the fracking boom in his history of (and largely paean to) the American fracking boom, Range Resources belongs to what he calls the "independents," a group of midsized oil and gas companies that "didn't sell gasoline or operate refineries [and] didn't have the money and engineering muscle to compete with globe-straddling energy titans such as Chevron and BP for giant projects in the Middle East or deepwater exploration off the African coast" who got their big break when fracking was developed and the business of drilling wells for natural gas didn't require the geological know-how only accessible to multinational oil companies. Russell Gold, *The Boom: How Fracking Ignited the American Energy Revolution and Changed the World* (New York: Simon and Schuster, 2014).

[5] Sociologist Rebecca Scott actually finds the exact same argument being made in her ethnography of mountaintop removal by a lawyer representing Massey Energy in a suit brought by a community in Mingo County in West Virginia for property damage due to subsidence. SeeRebecca R. Scott, *Removing Mountains: Extracting Nature and Identity in the Appalachian Coalfields* (University of Minnesota Press, 2010), 193.

[6] A search of the biomedical literature turned up this article, which suggests that MRSA may be linked to air pollution: Kevin J. Psoter et al. (2017), "Air pollution exposure is associated with MRSA acquisition in young US children with cystic fibrosis," *BMC pulmonary medicine*, *17*(1).

[7] Philip G. Lewin, "'Coal is not Just a Job, It's a Way of Life': The Cultural Politics of Coal Production in Central Appalachia." *Social Problems* 66, no. 1 (2019): 51-68; Maggard, "From Farm to Coal Camp to Back Office and McDonald's"; Christiana E. Miewald and Eugene J. McCann. "Gender struggle, scale, and the production of place in the Appalachian coalfields," *Environment and Planning A: Economy and Space* 36, no. 6 (2004): 1045-1064.; Scott, *Removing Mountains.*

[8] "Consol Laying Off 200 At Bailey Mine," *Observer Reporter,* February 8, 2017, https://www.observer-reporter.com/news/2017/feb/08/consol-laying-off-at-bailey-mine/.
[9] Hochschild, *Strangers in their Own Land.*
[10] Hochschild.
[11] This is consistent with research on the political polarization of the belief in anthropogenic climate change and attitudes toward renewable energy in the United States. See for example Aaron M. McCright and Riley E. Dunlap, "The Politicization of Climate Change and Polarization in the American Public's View of Global Warming, 2001-2010," *The Sociological Quarterly* 52, no. 2 (2011), http://www.jstor.org/stable/23027550 or Cary Funk and Meg Hefferon, "U.S. Public Views on Climate and Energy," *Pew Research Center,* November 25, 2019, https://www.pewresearch.org/science/2019/11/25/u-s-public-views-on-climate-and-energy/.
[12] Robert J. Brulle, "Institutionalizing Delay: Foundation Funding and the Creation of US Climate Change Counter-Movement Organizations," *Climatic change*, *122*(4). See also Austin, "Advancing accumulation and managing its discontents"; McCright and Dunlap, "Defeating Kyoto."
[13] Austin, 77.
[14] In spite of the effort I put into remedying my own blind spots, I also simply do not think I am as effective a research instrument when attempting to analyze the statements of my liberal research participants. Much more of what they said struck me as being simply "common sense," even armed with the analytical frameworks I was attempting to apply to their statements.

CHAPTER 4: PRIVATE PROPERTY AND POLARIZATION: HOW POLITICS THROWS A WRENCH INTO RESISTANCE

The people I interviewed for this research did not draw on a cohesive counternarrative in order to challenge the fossil fuel developments in their backyards. They did, however, express a number of less developed beliefs that, while still embedded in a capitalist mindset regarding land use, could pose a significant challenge to the specific way that this ideology has been employed by the fossil fuel industry. As I pointed out in the closing of the last chapter, there is an inherent limitation in having to borrow the language of the oppressor to challenge the order created by the oppressor. But while using the language of growth to challenge capitalist land developments is limited, it can still be effective to at least some degree. Take, for instance, Tom's and Meg's choice to challenge the development of the Rustic Ridge mine by arguing that it displaces a more desirable kind of capitalist land development: tourism. In the context of southwestern Pennsylvania, this argument is unlikely to resonate, given local perceptions that jobs in coal or natural gas are preferrable to those in tourism. But it demonstrates how one might resist the industry's arguments while still accepting the basic tenets of capitalist land use it employs.

The larger point I am making is that there is no ideological tenet that does not contain within itself the seed of its own subversion. This is the truth that anthropologist Anna Lowenhaupt Tsing develops in her concept of "engaged universals" to explain how Enlightenment universals such as rights and reason could be "implicated in *both* imperial schemes to control the world and liberatory mobilizations for justice and empowerment." In Tsing's words, "[e]ngaged universals travel across difference and are charged by their travels.

Through friction, universals become practically effective. Yet they can never fulfill their promises of universality. Even in transcending localities, they don't take over the world. They are limited by the practical necessity of mobilizing adherents. Engaged universals must convince us to pay attention to them."[1] In other words, the belief in the goodness of capitalist land development cannot have "grip" without passing through the prism of individual priorities and perceptions, meaning that for it to be politically effective, it inevitably becomes bastardized and, through this process, can become an effective tool to shoehorn values challenging it.

We can glimpse this process at work in the argument Meg makes about tourism:

> Because tourism is our number one moneymaker up here in the mountain, in the TriCounty are', because it's so beautiful up here. Not tourism — there are not a lot of fun things to see, but there's skiing up at Seven Springs, a lot of outdoor stuff, amazing trout fishing streams, kayaking on the Youghiogheny River. A lot of outdoor things for sportsmen. Tourism and heavy industry with a lot of trucks on the road are not a great combination.

While she is making an argument about replacing one capitalist land use with another, she is also expressing a desire to preserve the scenery and the environmental integrity of the scenery. This concern can be seen more clearly in the following statement by Brenda:

> And, I did mention before about the settlement, that we're still cleaning up from mines that were here years ago, and now they're going to put more discharge into it? I mean it's something that's of real concern. And again, this area, one of the biggest incomes that they have is through tourism. A lot of campgrounds, people come here to hunt and fish. (TOM: Ski in the winter.) And… that's going to cause a lot of problems if the streams need to be – have a lot more clean up done for them.

The following comment by Ned, the conservative environmentalist who supported the creation of an escrow account to fund the restoration of former mining sites, demonstrates most thoroughly how concern for the environment can come to moderate the belief in the goodness of capitalist land development in a way that translates into support for putting guardrails on it:

"Well, the focus on clean water means more jobs, more industry, more population because, without clean water, it's hard to do anything."

Private property and the *growth ethic*: A double-edged relationship

No value demonstrated this ambivalent engagement with the *growth ethic* quite as clearly as that of private property. Jerolmack and Walker, in their study of why there would be support for fracking development in a community in northeastern Pennsylvania, found that residents' beliefs about private property were key in fostering consensus on the value of fracking in the community.[2] This is not generally what I found in my interviews with residents in southwestern Pennsylvania. Sometimes, support for private property did go hand in hand with an endorsement of the activities of fossil fuel companies, as we can see in Al's response to my question about whether he would support the payment of reparations to homeowners who had experienced subsidence after being undermined by LCT Energy: "If somebody puts a business there or does something to enhance the value, do they want to pay some of that back?"

But for the most part, the value of homeownership and the property rights of fossil fuel companies were viewed as being in conflict by the people I spoke with. This conflict was expressed most succinctly by Tom, the husband in the couple whose home was being undermined by Rustic Ridge:

> TOM: One of the major problems is… the sole security of most of the people around here – not all of them, but most of the people around here – is their property. They might not have a lot of money, but their property is their most secure item. A lot of the properties have been in families for hundreds of years. And if they lose their water, their property becomes useless, absolutely useless.

Tom, whose views aligned more closely with the Democratic party than probably any of the other people I interviewed, opposed coal mining in general, but even Roger, who we have seen in the last chapter was sanguine about the capacity of the natural gas industry to generate economic growth, at other times also expressed deep sadness about what fossil fuel development and land development in general meant for farming:

> ROGER: [A]s far as ownership of land goes, many have benefited by it, but yet they have, bottom line, pretty much sold their dreams out for the gas and oil.
> HL: Could you tell me a little bit more concretely what you mean by that?
> ROGER: Well, again, most farm owners took a lot of pride in their property and continue to do so. But the location of the well sites, the pipelines, and so forth, have creaI different... land, ability to use and so forth, as far as normal production of farm crops and so forth.
>
> I was a contractor after I left Washington Steel in 1979 until 1997. I loved doing renovations and restoring houses and that, but I hated to see development at the same time. I didn't like to see farmland taken and turned into homes, which in my lifetime of almost 70 years, I've seen a lot of that take place, a lot of major changes throughout the Washington area.

Even Al, who was the most uncritically supportive of the fossil fuel industry out of all the people I spoke to, admitted when prompted that the loss of farmland to the fossil fuel industry would eventually become a problem.

Among the liberal "resisters" I interviewed, the conflict between individual and company property rights was much more overt: All three expressed an intention to use their personal property rights to foil those of the industry:

> MEG: [T]hey should not be mining anywhere near our farm. Our farm is 95 acres and the bulk of it goes back that way. The woods back there toward the coal mine, that's our coal.
>
> KATHRYN: You know it's just and the other thing is too for me, like, constan"ly,'constantly "You're just mad because you're not getting any "money off of it'"
> GRACIE: That's what they say.
> KATHRYN: Believe me! If they offered us $10,000 to drill back there, I would still tell them no.
> GRACIE: If they offered me $50,000, I would still say no.

These views are more in keeping with the work of Chad Montrie, who, in his history of the popular (and sometimes violent) resistance to strip mining in Appalachia that culminated in the

passage of the Surface Mining and Reclamation Act of 1977, identifies conflict over private property as the movement's driving force.[3] Like Meg, Kathryn and Gracie, the people who spearheaded the effort to ban strip mining were small local landowners who objected to the use that strip mining companies were putting the land to. If one were to frame this conflict in terms provided to one by Logan and Molotch's theory, one might say that it was really a conflict between the "use value" of land (the value that can be derived by living on it) and its exchange value (the value that can be derived from profiting from it).

Later in that same exchange, Kathryn concedes that others in their community do not always have the luxury to turn down a large paycheck from a natural gas company, gesturing to some of the pressures homeowners feel to lease their land to the industry highlighted in Jerolmack and Walker and Jerolmack.[4] At the same time, there are clearly some things that money simply can't buy:

> KATHRYN: Like, how much money would they have to give us? And we were like $50 million. Yeah. Like, $10 million a piece for us to want it there. Otherwise, like we've all built our dream houses up here. This is what we've wanted to do. We built this community for ourselves and this is what we wanted, this is what we've all worked for our whole lives. Like this is it. So I don't care if you give me a million dollars or five million, I'm not going anywhere. I don't want your dirty money. Like I wanna live, what would I do with it that I don't already have? Put a pool in? Pffff – Do that next summer anyway.
> GRACIE: Can't do it when they're drilling now.

And, as Kathryn points out, private property is not an absolute right'

> HL: I mean I've read elsewhere that one of the arguments that people make is that people are allowed to do whatever they want with their property. Even something like this because it's technically their property.
> KATHRYN: – Right. And it's – I don't deny that, but there's also a place in the Pennsylvania Constitution that says that you don't have the right to take away your neighbor's enjoyment of their property.

It is not just the enjoyment of personal property that the fossil fuel companies' property rights run up against. We recall from Meg's, Roger's and Tina's narratives in Chapter 2 that the

fossil fuel industry's use of land can have serious repercussions on people's livelihoods and health. The impact on the environment was also a concern for several of my respondents, as we've already seen. For Anabelle, one of Meg's neighbors, the tradeoff between the benefits from mining and health are simply not worth it: "I mean, the way they go in and get the coal. The – the dust that they emit – it's going into those guy's lungs and everything. And then, the way they leave it, when they're done, just to basically collapse in..."

This is not the only tradeoff my participants expressed skepticism about. The argument that fracking or coal mining were important for energy independence did not have a lot of traction with most of the people I spoke to, and even Roger, for whom it was an important goal, did not feel that it was balanced adequately against the wellbeing of the people: "Because of that security that we're seeking against our enemies, does not mean that we are to sacrifice the people of this country and the hard work that they've done and allow the gas industry to run rampant and just do as they please without following the codes and regulations of the law. And that's what's been allowed." Overall, most of the people I spoke to disagreed with the current balance that was being struck between the goals of growth, energy independence and job creation on the one hand and the lives and livelihoods of local people on the other. Tina perhaps put it best, when referring to the jobs of the people working at MA' Environmental: "I'm not trying to be a dick and take somebody's, you know, their livelihood away from them – by no means. (…) But in the same sense, they're trying to take my life."

The role of private property in Kathryn and Gracie's narrative

We have now seen both how buy-in to the *growth ethic* makes it harder for the residents I spoke with to create a counternarrative with the power to really challenge the presence of the fossil fuel industry in the region, but how inevitably, this ideological framework also was vulnerable to what political economist Jamie Peck call– "mongrelization" - a process through which ideologies can sometimes become subverted in order to spearhead social causes antithetical to the interests they were originally designed to protect.[5] We also learned that this had previously occurred in Appalachia as late as the 1970s, when the value of private property that had historically been wielded by the ruling powers to justify the exploitation of the region's mineral resources was repurposed to defend the property rights of local landowners against the strip-mining industry. Among the people I interviewed, the value of private property was much more frequently invoked to argue against fossil fuel industry land use than in favor of it. This brings us to the question (which in a way is the central motivating question of this dissertation): If history shows us that it is possible to ground an effective resistance to the fossil fuel industry's current land use in the value of private property, why is this potential not being realized in the current context?

A reading of Montrie alongside Jerolmack and Walker and Jerolmack suggests some of the answers lie in the inherent differences between fracking and strip mining and the way they are perceived: Natural gas was generally considered to be cleaner than coal by the people I interviewed, while surface mining was seen as "dirtier" than the underground coal mining it was replacing. According to a lawyer at the Mountain Watershed Association I spoke to, conventional oil drilling had been commonplace in southwestern Pennsylvania before the late 2000s, so residents' perception of the fracking industry as cleaner was likely partially informed by that experience. There is also the fact that the move to strip-mining was associated with

massive job losses,[6] while most of the evidence I encountered, on the field and in the media, suggests fracking is perceived as adding jobs.[7] Compounding this are the unique dynamics between private landowners and natural gas company "landmen" described by Colin Jerolmack in his book and his co-authored article with Edward Walker, which, as we have touched on before, led most members of the northeastern Pennsylvania community they studied to at least publicly express support for fracking.[8]

While this was not the role that private property played in my participants' thinking (which was likely due in great part to the contrast in the social location of both groups), I found some evidence of this logic at play in the statements of Kathryn and Gracie, the two activists I interviewed about their struggle against the unconventional gas well that was being built in their backyards:

> KATHRYN: [T]he division was never here like it is now. Now it's all about money. All about money. They want their money and we're stopping them from getting their big payday.
> GRACIE: Yep.
> KATH'YN: That's what it's all about.
> GRACIE: And jokingly, and I'll go on the record to say this: I call it the redneck lottery. They're pissed off that we won't let them cash in their redneck lottery tickets. They're like, yes, I worked hard, but it's like, what's the correlation between you working hard and doing what you did and this ridiculous windfall of money? It is like winning the lottery. You're not really owed that. It's luck.

In addition, Meg, the organic farmer living next to Rustic Ridge, also made the case that there were similar motivations underlying the support of some of her neighbors for the mine:

> So, my impression in talking with people while we were opposing the mine — trying to keep it from getting permitted in the first place — was the reason people wanted the mine to come is, number one, they believed what the company PR people were saying that there would be jobs that would pay big bucks, but they didn't describe either the type of jobs that would be, or the type of training, and how long that would be for individuals that didn't have mining experience. So that's the one thing. Then the other thing is if they own their coal and agreed to sell or lease it, then they stood to, according to the company, get a lot of money from the sale or lease of their coal.

As we already saw in Chapter 2, in the case of Kathryn and Gracie, this dynamic fueled community conflict and widened social cleavages. Recall for instance how some of their outrage at the well pad being built in their backyards was connected to the fact that the home of their neighbors, who had leased to Range Resources, was located much closer to the well pad than theirs was. What Kathryn and Gracie's narrative suggests is that it is precisely this conflict over private property that prevents local landownership from becoming a unifying value against the land uses of the fossil fuel industry. In the following section I explore the social and economic roots of this conflict and discuss what I see as the compounding effect of political polarization. I argue that one of the effects of this community conflict is to isolate them in their anti-fracking stance and to contribute to profound feelings of burnout. Then, in the next (and final) section, I attempt to construct a slightly more nuanced argument: I begin by showing the ways this experience of isolation and burnout constricted the nature of the arguments the women felt able to make. Then, based on that example, I attempt to show how conflict can function as an additional factor restricting our ability to come up with an effective counternarrative to the *growth ethic*.

The center cannot hold: Kathryn and Gracie's experience with community strife

Following Kathryn and Gracie's account, the fracking boom had exacerbated existing social divisions in the township. Older residents of the township tended to be homeowners, while newer residents tended to live in housing plans, so to have no claim to the mineral rights below their homes. Older residents tended to harbor some resentment against the newer arrivals due to

the building of the housing plans allegedly resulting in the felling of patches of forest (though, as Meg had quipped, locals just generally didn't consider you to be truly a part of the community unless you had gone to high school with them) and now the unequal windfalls from the fracking boom were exacerbating these tensions. Gracie referred to a "whole old Cecil/new Cecil dynamic here":

> GRACIE: Like if you haven't lived here for 20 plus years, you don't actually deserve anything according to –
> KATHRYN: You don't deserve a say in the matter.
> GRACIE: No, you get, no – no. This is their township and you're just living in it. That's their opinion. So they feel like, you know, it's their due to be able to make money off their mineral rights because we came in and these big housing plans and took down all their trees. Does it look like we live in a big housing plan? No, but they lump us into this category of these big housing plans that have been built with, you know, 300, 500 homes in them. And they put us into that category, even though that's not how we live. They still don't believe that we should have any rights to our prop–ty. Their rights – they believe their rights trump our rights. And we're there to tell them that's not the freaking case and we're not gonna put up with it anymore.

In the case of the relationship between Kathryn and Gracie and their neighbors and the wider community, tensions had escalated to a pretty high level, resulting on two different occasions of police being called to the scene, once because Gracie's husband yelled out of his car window at the neighbors who had leased to Range when he was stuck in traffic caused by the construction of the well pad and another time when an argument between Kathryn and another community member over the health effects became heated:

> KATHRYN: There was one meeting about a year ago where certain issues were brought up at the meeting and after the meeting this lady got in my face, this older lady, like my mother's age, got in my, like 65, 68 years old, got in my face and started yelling at me about why I was wrong and how I had no right to say the things I said and how, you know, fracking didn't cause cancer... And I said back to her and I kind of pointed a" her and I was like: "Go say that to J-'s face. Because he' son L- died of Ewing's sarcoma a few years ago. I was like:' "How about this? You're such a big shot - 'you go say that to J-'s fac'. After you say to J-'s face, then you come talk – me. But until then –" And I was mad. I was definitely pointing my finger, and I was definitely mad. But then her daughter came down from the front of the room and got in my face.
> GRACIE: Ready to punch her in the face.
> KATHRYN: This big thing blew up [00:56:00] and the police chief said, please just go, please just go. So me and my sister l–t. Um, so this – girl – this daughter – blows it up on Facebook to all these people saying that I shoved... first I tried to hit her elderly mother, then I shoved her elderly mother, then I assaulted her elderly mother. I never laid a finger on her. Never touched her. In fact,

> I have it on record that, at the police department, because I checked, that her mother told the police chief that "She never touched me. She never laid a finger on me."

Kathryn and Gracie weren't the only people I spoke to who complained that tensions over fossil fuel developments fueled conflict within their communities (though their account was by far the most detailed and probably the most extreme). Anabelle, one of the Democrats I interviewed about her experience living next to the Rustic Ridge mine, shared that her stance on the mine had attracted the ire of both mine workers and her neighbors. According to her, a little wood cutout of a dinosaur with the words "Coal Extincts" painted on it that had been gifted to her by another member of the Mountain Watershed had been shot at and garbage had been thrown in her yard. And it is probably telling that neither Anabelle nor Meg were willing to connect me to any of their neighbors who supported the mine.

Democrats weren't the only ones who complained that differences in attitudes toward the fossil fuel developments led to tensions: Roger also shared that his five-year long quest to get Range Resource's permit extension reversed also led to some cooling in his relationship with well pad workers he had previously been friendly with:

> I mean, individuals that I talked to before my instance with Range Resources, even in their organization were very friendly with me. All of a sudden: "You know, I can't really talk to you, you know?" I wasn't asking them that I needed to know information from them, you know what I mean? It's just like, you know, "I can't risk my job," you know?

That said, it seems likely that in the case of Kathryn and Gracie, party politics had a compounding effect on these dynamics. Here is the pair's response to my question about whether the Old Cecil/New Cecil dynamic mapped at all onto political affiliation:

> KATHRYN: See, I'm not entirely sure about that, because I think that a lot of Old Cecil is Democratic. It used to be that you couldn't win an election around here if you weren't a Democrat. Now I think a lot of them are Republicans, b– it's just hard to say – because on a national scale, you know, Oil and Gas is very – you know –

> GRACIE: – pro-Trump.
> KATHRYN: – Republican, but I think that people around here have been leaning that way just because of natural gas. It's such a big issue around here.
> GRACIE: Plus, it doesn't help that Range Resources global or whatever, you know, US headquarters is in Cecil Township.
> KATHRYN: In South Point.'
> GRACIE: Like, so there's a lot of people around here that this is what they do for a living. A lot of the even Democratic politicians won't touch this topic of Oil and Gas in this area for sure.

Kathryn does express some doubt at the beginning of this passage as to whether Old Cecil/New Cecil dynamics map neatly onto political affiliation in their township, but when asked directly whether natural gas enthusiasm and Trump support go together, she assents.

Party politics didn't need to piggy-back on divisions in public sentiment about the fossil fuel industry in the fall of 2020, at least not directly. The evening after the board of supervisors meeting at which I met Kathryn and Gracie, Kathryn described incidents of people stealing Biden campaign signs out of their neighbors' yards. Anabelle reported this as well and explained that she had refrained from putting up Biden signs herself for fear of having them stolen or shot at like her dinosaur. In fact, the counties of Washington, Westmoreland and Fayette seemed almost completely barren of Biden signs during the two months I was conducting fieldwork in the region, even though the candidate carried a third or more of the votes in all three counties.[9] Anabelle's experience of incivility from Trump supporters was severe enough to prompt fears of political unrest:

> ANABELLE: And I have fears that – he loses, Trump loses – which I'm praying for. That there's going to be terrible things going on.
> HL: Do you think right here or – ?
> ANABELLE: I'm not sure. We're so out in the country that I don't know.
> HL: So, what are you most concerned might happen?
> ANABELLE: Riots. Him not leaving the White House peacefully. Just a lot of his followers – they can really be rude and crude. And I hate to see that happen. I hate to see the people get nasty over the election. I can see it happening.

Democrats were not alone in predicting political violence or lamenting the loss of civility. Al went so far as to speculate that there could be another Civil War and made no secret of his low opinion of Biden voters:

> HL: What are your thoughts on Biden supporters?
> AL: You got a large portion of the population who thinks that they should be given funds that they didn't earn.
> HL: The takers?
> AL: There could be another civil war between the givers and the takers over time because at some point, as this country goes more towards socialism, people who are givers are going to quit giving.

Kyle, the natural gas worker I interviewed who worked as a wireline operator, deplored the shifts he observed in the Democratic and Republican parties over his lifetime, adding: "We just have two warring factions that are so far right and left of one another that I go back to what Nikita Khrushchev said back in the USSR, where he said the United States will destroy itself from within. Well, guess what' We're getting there. We're right there right now." Ned also lamented what he saw as a decline in bipartisanship. As he put it: "[Y]ou have to be willing to change your mind and not be just steadfast in this is the only way to go. There are always alternatives and if you and I work together, life can be a whole lot easier than if we fight each other. It doesn't mean that we have to totally agree' on everything but if we're' digging a ditch and you're throwing the dirt back in and I'm trying to take it out, what do we accomplish?"

In spite of many of the residents I interviewed expressing a desire for more bipartisanship, I also found them echoing some of the more divisive soundbites of the election news cycle: On the Democratic side, Anabelle expressed disgust at the appointment of Amy Coney-Barrett to the Supreme Court and with the Trump presidency in general: "I am disgusted – with Trump. Period. He's not my president [laughing]. It's not nice to say, but if I could run him over and then back over, I might be happy." Gracie and Kathryn evinced the same visceral

dislike of the sitting president and mocked him for campaigning in Pennsylvania so soon after getting sick with COVID.

On the Republican side, these kinds of divisive viewpoints were expressed much more frequently: Ned lamented the money wasted on the impeachment investigation. Craig and Al both echoed some of the allegations of corruption against the Biden family made in the right-wing media on the corruption in the Biden family. When asked about Trump's promise to build a wall with Mexico, Craig responded colorfully (and, from my point of view as a Californian and a Canadian, also alarmingly) that he would be glad if Trump built one "across California, all the way up to Canada, and then one clear across Canada, then you'd have it solved." Al, as with his statements in the support of the coal industry, was again the most prolific, casting doubt on Biden's ability to survive long into his first term and stating among other things that "the swamp needs draining," "NATO has been pretty much walking over us for years," and the problem with voter fraud would be solved if we reverted "to the voting system in India where people have to come in person and put their thumb in purple dye once they've cast one ballot."

Media were blamed by both sides for fanning the flames, but for different reasons: According to Kathryn, it was Trump who had destroyed the integrity of the news. Al blamed Facebook and the left-wing media.

Opinions about climate change and the environment also fell along partisan lines: The Republicans I spoke to were for the most part (though not entirely) skeptical of the idea of man-made climate change (interestingly both of the fossil fuel workers I spoke to acknowledged its existence). Democrats all believed in it. The Green New Deal seemed "scary" to Ned, because it entailed widespread government action. Tom thought of it as an interesting idea and only lamented that the political gridlock in Washington meant it was probably not going to go very

far. Both Al and Roger blamed the fires in California on improper forest management, rightly arguing that the practice of controlled burns could have helped curtail the problem. Still, the argument was reminiscent of Trump's statements blaming California for its fires, citing, for example, the alleged Finnish practice of "raking and cleaning" its forest floors in a speech made during a visit to Paradise, California in 2018, after the Camp Fire devastated the town and killed 85 people.[10]

Residents I interviewed also perceived the existence of this division in their national politics: Unfortunately, I did not ask all of my participants who they thought supported fossil fuel energy versus renewables, but I find it telling that only Anabelle provided an answer that did not make at least an indirect reference to party politics. Here is how Bonnie responds to my question of "who are the people who are for fossil fuel, and who are the people who are for renewable energy": "Do you mean like political parties? Is that what you're saying or – Because I'm going to say, I think the Democrats are going to be for the renewable." Bonnie also makes the connection between Republicans and blue-collar workers that animates some of the conflict experienced by Kathryn and Gracie in Cecil Township (as I will elaborate below): "I noticed just from watching some of the Facebook things I see on there or on the news, that a lot of Republicans are like the miners, the fracking people, which is nothing wrong with them at all. (…) Republicans are trying to gather those kind of peoples' support." Roger, for his part, does not explicitly mention political parties, but ties belief in anthropogenic climate change to the Hollywood elite: "You've got an actor, oh my God, climate change this, climate change that. But Oprah and them don't hesitate to jump on their $10 million jet and pollute the air with jet fuel."[11]

Al goes even further than Bonnie, attributing downright hostile intent against the fossil fuel industry to the Democratic party: “I think if Biden gets in regardless of whoever he stays in or Harris or Pelosi takes over, they will start shutting down extractive industries. It will be devastating to Pennsylvania. I don't mean Western Pennsylvania, but all Pennsylvania.” Kyle, the wireline operator, echoes this same perception: “[I]t depends on which party is in office depends o’ how well we do. The Red's in: We tend to do very well. If the Blue's in, then we tend to do horrible. I’m not gonna, you know, I'm not gonna say one is better than the other. I'm just saying that: The Blue tend to hate what we do and the Red tend to like what we do.” Asked who he supports for president, Kyle responds that he will reluctantly vote for Trump, “because if Biden gets in, I’m gonna be out of a job.” This perception seems partially based in one of Biden’s campaign rallies that he went to in Washington County, where he recalls the candidate saying “I will not renew any permits, nor will I issue any new permits for fracking.” This takeaway is probably based on a misunderstanding of one of Biden’s campaign promises, which was to discontinue issuing permits for fracking *on federal lands* – a promise the candidate did not even end up keeping.[12]

Obviously, these findings don’t come from a representative sample, so I am limited in my ability to draw inferences on how politically polarized the issues of climate change and renewable energy were in southwestern Pennsylvania at the time, or how widespread the perception was that support for policy action on climate change and renewable energy fell along partisan lines. But the things I heard from residents are consistent with what research says about the political polarization of attitudes on climate change and renewable energy at the national level.[13] Even Kyle’s intention to vote Republican based on his perception of the parties’ positions on fossil fuel energy is consistent with anecdotal evidence found by Barbaro on the

importance of fracking for the 2020 election cycle and with statistical evidence provided by Egli, Schmid, and Schmidt that counties with larger declines in coal jobs tended vote more Republican, at a rate of about three times as large as the number of jobs lost.[14] Taken together, this constitutes strong contextual evidence that Kathryn and Gracie's status as Democrats contributed to how embattled their anti-fracking stance was.

The political polarization of the issues of climate change and renewable energy wasn't the only reason for this. It seems likely that their status as outsiders politically (and as relative newcomers to the township – though, to be clear, newcomers is a relative term: Gracie was originally from Johnstown and Kathryn's father ran the local Veterans of Foreign Wars post) sharpened the nature of the accusations that they suffered from their fellow community members. One accusation that they brought up particularly often was that the pair did not "know what hard work is" or that they had everything handed to them:

> GRACIE (jokingly): Your dad just gave you...
> KATHRYN: I paid for this property!
> GRACIE: That's what they say about us – that, like, her dad is the moneybags who just started handing out pieces of property –
> KATHRYN: He just gave it to all of us.
> GRACIE: Including me, who's not even his kid, right?
> KATHRYN: He gave us all of our money, he built all of our houses, he gave us our property.

Hard work, according to political linguist George Lakoff, who wrote the authoritative book on conservative and liberal metaphorical thinking, is a core conservative value. It is one of the components of "strict father morality," which structures most of conservative thought.[15] Roger, Ned, Kyle, Al, and Bonnie, my one undecided voter (but who had tended to vote Republican since the 9/11 terrorist attacks) all brought up hard work as a value that was important to them. At one point, Roger even uses the phrase "hard-working Americans" to connote "people who agree with me," which to me illustrates how close the association between

hard work and conservatism really is. All of this suggests that their neighbors' accusations of freeloading may partly have been a foil for their hostility toward the pair's party affiliation.

Class differences also played a part in sharpening the conflict between Kathryn and Gracie and many of their neighbors: Gracie worked for Microsoft; Kathryn's husband was an engineer who designed self-driving cars. Ironically, it is when they defend themselves as hard-working that their white-collar status emerges the most clearly:

> KATHRYN: What time did my husband get home? Let's see. What time did he get home? Like 6... like my husband doesn't work 12-hour days. He's going out of town this week. He's working Thursday, Friday, Saturday in Virginia.
> GRACIE: Oh my Gosh, everyone is traveling again.
> HL: So what does your husband do?
> KATHRYN: He works for Argo. They make self-driving cars.
> HL: Right, you mentioned.
> KATHRYN: Ugh – I don't know what he does. Hell, he's brilliant though. He's brilliant and – works really hard. (…) I – I did, you know, my career took a backseat so that he could really you know succeed in his and I would be taking care of the kids. So it's just really offensive to me that... I only work three days a week, you know maybe 24 hours a week and I've spent a lot of time doing volunteer work and I coach softball and stuff like that. Raise money for charities. So like 'hat's why I always say that he's working to keep us in a good place on Earth and I'm working to get us in a good place in Heaven.

In the meantime, the neighbors they describe as hostile to them appear to be blue-collar. The following exchange gives the most detailed illustration of these social divisions:

> GRACIE: They put us in a bucket. They put us in a bucket where it's like, like we could make two columns: Old Cecil and New Cecil. Old Cecil: Works hard, farmers, been here for 20 plus years, you know, right wing. And then there's the right-hand side which are, you know, the new Cecil.
> KATHRYN: Housing plans.
> GRACIE: Housing plans, tree cutter downers, uh, yuppies or whatever word they want to use, living in McMansions. Like, you know, uh just not caring about any of the things of old. Running, entitled –
> KATHRYN: Driving in their streets with like Mercedes…
> GRACIE: Mercedes and Land Rovers and and speeding past their houses and cutting down tI' tree' and all that kind of... It's, it's ludicrous.

From the women's account, it appears clear that all these factors have led to a general breakdown in civility between them and their neighbors. Kathryn recounts being called the C-word and a twat online and both recollect how they were jokingly considering making T-shirts

with the words “Vote for Kathryn Sullyc- A.K.A Twat.” printed on them when she was considering running for district supervisor. Understandably, this conflict often cuts deep: Both women mention feelings of hurt and anger. Both women also offer insight into the damage that can happen when these feelings become chronic. In the following story, Kathryn recounts the pain of being conflated with her angry persona:

> KATHRYN: I had one supervisor say to me... So I campaigned for Cindy Fisher, for the local supervisor – the one that I'm friends with. I campaigned for her all day last year when she was rerunning. And I campaigned there with one of the other supervisors who is currently sitting on the board. And he kept saying – to me over and over again all day – because all the people that would come in, I knew everybody, because I campaigned for the poll place right around here. And I, it was all my neighbors, people in Windsor Woods, and I used to live down there, like that neighborhood. So I knew so many people, and my friends and family, like, just everybody. And he kept saying to me, he must have said three or four times, um, "Why do you, why do you have this big smile on your face? You always, why do you have this big smile on your face? Big phony smile?" I'm like, "Why do you think my smile is phony? There's nothing phony about my smile." He's like, "You're never this happy." I'm like: "I'm a super positive person. Super happy, positive person."
> GRACIE: Yeah, you see me one hour a month when I'm here –
> KATHRYN: – and I’m usually pissed off. (…)
> GRACIE: I've been fighting this fight for how long?
> KATHRYN: Yeah, and I'm like, everybody else that knows me knows that you're gonna get a hug and a kiss – maybe not now because of COVID, but at the time, a hug and a kiss and like you know, a "Nice to see you” Oh, I'm so happy. how are the kids?" Like, that's, that's who I am. You see the mama bear coming out because I'm trying to protect my kids from the garbage you're trying to put in my backyard. He must have said 10 times like "You are not – I feel like you have this whole fake persona."

Understandably, both women also complain of burnout:

> KATHRYN: Everybody cares –
> GRACIE: – but it's really freaking exhausting. And nobody can continue to care about it when you have to deal with it all the time.

In this section, we have seen how pre-existing social divisions were widened by the fracking boom and how political polarization and the coding of opposition to the fossil fuel industry as “liberal” isolated Kathryn and Gracie in their resistance and contributed to feelings of burnout. Of course, there is a limit to how much the experience of two women can speak to the wider social realities southwestern Pennsylvania, but their narrative of community backlash is

consistent with the work of other authors who have examined the experiences of people who engaged in micromobilization against the fossil fuel industry in Appalachia[16] and southwestern Pennsylvania in particular.[17] The inferences I draw in the next section are therefore not based entirely on Kathryn and Gracie's experience, but on the findings of these authors as well.

Before I move on to the final section, however, I want to make clear that the two women's feelings of burnout are linked not only to their embattled position in the community, but also to the process of fighting the natural gas industry in their township. As Chapter 2 has already illustrated, the task of taking on the fossil fuel industry as a private individual in southwestern Pennsylvania is exhausting and discouraging by design. The following exchange between Kathryn and Gracie, where Gracie explains what it took to get the board of supervisors to incorporate some of her feedback, illustrates how exhausting this process really is and how limited even victories are:

> GRACIE: Yeah, it's a lot. It's a lot of meetings. How many meetings did we have on Mondays? Four or five, this last..'? Yesterday was the first Monday I wasn't at the township building, I want to say in six weeks.
> KATHRYN: Yeah, well that was you, because I couldn't go to the last meeting because I was at a softball game, so...
> GRACIE: Yeah, it was a lot of meetings. There was a well pad conditional use hearing. There was a oil and gas ordinance revision meeting. There was the regular monthly meeting. And then there was the previous supervisor meeting and the previous conditional use hearing so there was like five meetings and every single one of them has to be prepared for. Like, if they're gonna hear our point of view, we have to prepare. This is hours and hours and hours and hours of our time and energy spent trying to do this for like literally no – [laughs]
> KATHRYN: Exactly.
> GRACIE: Literally no return. I mean, except, what I think, it was finally – and I was like so emotional after that supervisor's meeting. I think I made one of the supervisors feel uncomfortable because I was like, "I've been coming here" (like I even get like teary-eyed thinking about it) "I've been coming here for five years. Trying to talk (she's been coming way longer) trying to get you people to listen to me. And finally, finally, somebody heard what I said." And literally, that piece of paper, they took that. And that's what they put in the conditions. Like what we said, they did it. They're making them do third party independent sound monitoring, third party independent air quality monitoring. They're making them reapply' if they don't do anything in a year. They're making them drill within two years.
> KATHRYN: All the things that we complained about.
> GRACIE: All the things that are why this is so unfair. They're doing them now. And that was huge.

In closing, one might argue that the political process in place for imposing restrictions on the local fossil fuel industry constitutes an additional kind of aggression to the one the pair experienced from their fellow community members: a kind of war of attrition waged by the nexus of local fossil fuel companies, the local government, and the agencies purportedly in charge of protecting the environment in southwestern Pennsylvania against any private individual who would dare to impose restrictions on local fossil fuel activity.

The restrictions imposed on language by resisting alone

The way Kathryn and Gracie summarize their experience dealing with the local government during their conditional use hearing and before that when they were battling the local compressor station is that "nobody listened to us." As Gracie explains, you had to become extremely knowledgeable about the whole process before you had any hope of putting a dent into it, and the slightest wrong move could neutralize all the hard work you had put in:

> GRACIE: Obviously, we just word vomited a ridiculous amount of like, like, detail, right? You think you understand, like, when you start dealing with this, you think you understand' But you got to peel back the onion. There's like 47,000 layers to this thing and you think you understand right out of the gate and you want to 'e – because I was like that too: Like you've already been dealing with it for a while and then you get real excited and you're like "Oh, I'm gonna – I'm gonna be a warrior for this and I'm gonna fight this and do this and I have all these great ideas!" And then it's like, but yeah, everybody already tried that. Everybody tried that. We've already done that. Like, it's very nuanced, is my point. Like you have to really understand the politics at play. You have to really understand the different vested interests, the different parties involved in it, and the whole thing is extremely political. It's extremely political. And if you say or do the wrong thing, or say or act the wrong way, or present the wrong evidence, or you know, whatever, you're gonna lose credibility. And if you lose credibility, you're done.

As a result, the women had to become extremely savvy about how they employed evidence to make their case. In contrast, the opposing side could essentially phone in its arguments an' usually carry the day:

> KATHRYN: And it's very frustrating too, because, you know, we're trying to – Cecil Township is trying to rewrite their oil and gas ordinance. And, you know, Gracie and I did immense amount of research. And I mean, just ridiculous amounts of research going into these public meetings, you know, with suggestions that other townships have done that would better protect the township, you know, on a... with distances, with insurances, with all kinds of things. And, you know, the other side just comes in and says, "Oh, everything's fine. You don't need to change anything." So it's like there's no –
> GRACIE [mocking]: "That's what the DEP is here for. That's what the permitting process is here for."
> KATHRYN: We're here saying: "Fine, if they're gonna come and we don't have a choice in the matter, then at least do this, this and this. Like, let's make a compromise – meet somewhere in the middle." And their argument is: "Nah. We don't have to."

Interestingly, Gracie relates their struggle to have their evidence heard to the national debate over "fake news":

> GRACIE: So I have a complete theory that actually what's going on on the national stage with I whole Trump, you know, fake news, all that... The, the, the oil and gas, specifically the unconventional gas drilling is a microcosm of what's going on the national stage. Same thing. People were like, they don't like the science that they hear coming out of a legit, like – Carnegie Mellon does a scientific study about air quality or something. Fake news. Fake news. It was funded by the such-and-such environmental tree hugger organization, so it doesn't count. It's not actual science. And then they go get their studies that are from the "drill baby drill'" organizations that say: "We did a study and it's completely safe. Fracking is completely safe and you can drink the water and you can stick your head right inside the well and you'll be fine." It's the same thing. No one trusts either side.

This situation, she continues, had repercussions for the way they chose to present themselves to the local government bodies they were making their case to: "That's why we have not really aligned ourselves with any environmental organizations up to this point."

> GRACIE: We're fighting our ow–fight because we know if we go forth with like – no offense, Center for Coalfield Justice or the Environmental Health Project up to this point, we will get people to just automatically discount everything that we say because they believe anything on that far left side is fake news. They don't believe, they refuse to believe the science, the studies, or any of the information.
> KATHRYN: It's true, it's very very true. And you know when I was very involved in all this for a long time and when Gracie started getting really involved, she's like, you know "I talked to somebody at the Center for Coalfield Justice and I said "Look, I'm not telling you – you do what

> you want to do. You're an adult, this is your fight too... you do whatever you want to do. I'm telling you that the second you go up there and say you got this research from them, the entire Board of Supervisors are gonna fall asleep and they're not gonna listen, because it's like –
> GRACIE: We have to fight our own fight. We can't even, like, lean on – Believe you me, we do like. We get our information from other sources, but we have to put our own spin on it. We have to put our own face on it. We have to present it as our own findings and our own information. Not like we're just plagiarizing their work or anything, but we have to go draw from a bunch of different places to come up with –
> KATHRYN: And put it together, yeah.
> GRACIE: And put it together ourselves –
> KATHRYN: Right.
> GRACIE: Because if I just, like – and this is what happened at a couple of the meetings, like people from Windsor Woods down there, they get in touch with someone from the Environmental Health Project. Environmental Health Project gives them a printout. They go up to the front and read this, this like information that's been fed to them. It's like, just read it.
> KATHRYN: Literally, supervisors will fall asleep. (…)
> GRACIE: If we align too tightly to that –
> KATHRYN: – with an organization. Right. We have, it has to be, you know, it's, it's unfortunate because it's, you know, we'll be seen as the tree huggers rather than logical, rational people.

This is what is called, in rhetoric, an "argument by association": an argument form that transfers the perceived attributes of one group or person to another on the basis of a perceived association between the two.[18] Here we see some of the effects of the political polarization of climate change and energy policy that I documented earlier in this chapter on their position.

This is not the only way that I believe the women's isolation in their struggle affects the arguments they feel able to make. One particular argument that showed up very frequently in the women's conversation with me is what I'll call the "zoning argument." All told, the women make reference to this argument on four different occasions. Here is an excerpt of the first time this argument showed up:

> GRACIE: This all goes back to zoning at the end of the day. I mean, we can talk about health concerns and noise issues and all these other things. We can talk about all those. But at the end of the day, the whole purpose of zoning is to put like uses of things together, right? So like, if you buy a house in a 'residential district, you're really hoping that they're not gonna build an adult bookstore next door because it's supposed to be houses. There's supposed to be houses where houses are. Like if you go to other states who don't have zoning regulations in place, you'll see that. It'll be like real random, like a house in the middle of two buildings or, you know, like just random stuff like that.

Basically, the women argue, they have nothing against the oil and gas industry. They just shouldn't be drilling in people's backyards:

> KATHRYN: You just don't belong '00 feet...
> GRACIE: Don't in a residential area. That's the point. If you want to do it, we didn't stand up and fight the Schultz-Bernard well pad because we knew that it was on a big enough plot of land, it was going to be far enough 'way from people [01:06:00] driving on roads that weren't going to cause major traffic issues or the noise wasn't gonna bother a lot of people. We didn't fight that one.

The women have good reasons for their choice of argument: As Chapter 2 covers in more detail, with the passage of Act 13 in 2012 (it has since been overturned), fracking in Pennsylvania became a "permitted land use," meaning that under the act, townships had no authority to regulate the zoning of oil and gas activity at all. In Kathryn's words, "Act 13 basically (…) said, we don't care what you think about zoning. We're just going to say, zoning, everybody has to do zoning, except oil and gas can just do whatever they want." According to Gracie, "all it would mean is there would be no hearings, nothing. They would send in an application. They would get approval through the zoning board that they (…) were coming. And then that would be it."[19]

At two different points, the women tie the argument they make about zoning to frameworks with more general appeal: For instance, Gracie connects the zoning argument to Kathryn's point about how the Pennsylvania Constitution guarantees the right to enjoyment of one's property only up until the point when it starts infringing on one's neighbor property, bringing to mind the earlier discussion of the values that motivated the mid-20th century struggle against strip-mining and Logan and Molotch's core point about the conflict between use and exchange values. And Kathryn makes a point I heard from many of the conservatives disgruntled

with the local fossil fuel industry, that the industry should be held to the same rules as everyone else:

> KATHRYN: And it's always been, and I've always said the same thing, it's not that I'm against the industry, it's just that the industry needs to follow the same set of guidelines that every other industry is required to follow. And you wouldn't be able to, you can't even build a house so many feet off of a property line. But you can put a compressor – you can put a –
> GRACIE: – industrial use...
> KATHRYN: – An industrial use thing on somebody's property in the middle of an R1. It's just there – it belongs in certain places and it doesn't belong in other places.

At the same time, however, the women's language was much heavier on jargon and references to technical knowledge than it was on popular appeals against the fracking industry: There is frequent mention of the Pennsylvania Municipal Planning Code, and the women frequently interjected technical terminology for land use zones and talked extensively about setback distances and laws.

This finding was not unique to Kathryn and Gracie: The other resisters I spoke to also tended to use language that was much more technical to refer to the political, legal, and bureaucratic processes that the fossil fuel industry has ensconced itself in, simply because, to have a chance of fighting these processes, they had to become experts in them. But in the case of Kathryn and Gracie, this phenomenon was perhaps particularly pronounced (and the presence of broader popular appeals particularly thin) because of the hostility they had received from their community for their stance.

It is also worth wondering whether their explicit stance on fracking (that they had nothing against the practice, but disapproved of it in residential areas), which to a great extent flowed from the argument on zoning that they had built their resistance around, really corresponded to how they felt about the practice in their hearts. The evidence I had at my disposal did not seem to suggest that these women were lukewarm liberals: one detail I noticed was that Kathryn had a

little finger puppet of Ruth Bader Ginsburg on her fridge. And both of the women told me that they disliked Biden because of his stance on fracking.

I also couldn't help but feel like the women's clear outrage against the fracking industry was a little corseted by the technical language that they felt compelled to adopt in order to attempt to meet their own ends. It seems likely to me that it's in part because they felt backed into a corner that they had drawn their battle lines as narrowly as they had. See, for instance, this longer exchange where Kathryn and Gracie describe how they intend to continue their fight now that Range Resource's permit for the well pad in their backyard has been approved:

> KATHRYN: I also feel like that's their first mistake, because now, you know, they decided to do this behind a group of people who are not only... you know, not only did we fight it as hard and as long as we could (and we still lost), but now we're measuring everything. We're measuring the air, we have air quality monitors, we're getting noise monitors... Everything that they try to prove, they go to court and say, "Oh, you know, the sound isn't that bad, it'' this many decibels, and then it exceeds this many decibels, we'll come out and see if it's a problem." An' then they come out and like "Oh, – came out, and see, it wasn't a problem.' We're here to prove –
> GRACIE: It's a problem.
> KATHRYN: – it's a problem. And we're gonna prove that it's a problem.
> GRACIE: And I keep saying this over and over again. It's about having the empirical evidence – like data. Data, fact-based information, from people who are trained in such matters with science behind it.
> KATHRYN: Right. We don't have our cell phones out there measuring the ambient noise.
> ′GRACIE: We tried that. We tried that, but it didn't work. So we're going to get real, professional sound monitors put in by our houses, so that when the fracking is going on in the middle of the night and they're telling 'e that it's not exceeding the, what? 65 decibels or whatever it's allowed, I can go out and look at the monitor or I can pull it up on the computer' look at 'he monitor and say, you want to bet? Here it is. Here's what it's exceeding for this long. An' then they can get fined and fined and fined until finally they're shut down. So they're messing with the wrong people.'
> HL: Okay.
> GRACIE: Now, now it's a –
> KATHR'N: **Seriously, it's war.**
> GR'CIE: **Yeah, it its war.**
> KATHRYN: It's war.
> GRACIE: And they d'n't know who they're freaking dealing with over here because we're not gonna give up.
> KATHRYN: So you wanna keep doing it? I dare you to have any little piece of any single chemical, smell, you know, droplet, anything, piece of dirt –
> GRACIE: Eye irritation.
> KATHRYN: **Anything cross over my property line and it's on.**
> GRACIE: **We will shut it down.**

Here, we feel viscerally the violation experienced by the women by Range Resources' defiling of the land that they live on. It seems like this is closer to the ferment that gave rise to the Appalachian resistance against strip mining and inspired acts of civil disobedience and industrial sabotage.[20] Yet I believe these women gave voice to these feelings in my interview with them because they felt they were speaking to someone sympathetic to their cause. In the world of conditional use and oil and gas ordinance revision hearings and of on- and offline sniping with pro-fracking community members, these feelings had no place. To score even minor victories in the local political arena, they had to strip themselves of their emotions and adopt the rational language, not of economic theory, but of technocratic expertise.

Leah Sprain and Lydia Reinig, writing about the role of expertise discourse in environmental forums, find that while they may be necessary to inform public deliberation, they also tended to cut short discussions by presenting information as an evident solution and create hierarchies that foreclosed participation.[21] The participation of lay people in land use hearings seems not to be the only thing that technocratic discourses of expertise foreclosed, however. Feelings of violation of personal sovereignty, of care and worry for the health of the environment and of their children, are undeniably politically potent. And yet, in the world of local land use hearings, they seemed completely neutralized.

I will close by returning to the question motivating Chapters 3 and 4 of this dissertation: How does the ideological framework that local fenceline community members draw on strengthen the fossil fuel industry's "social license to operate"? What Chapter 4 illustrates is that this social license is conferred not only through commission – through cultural instructions about what to believe – but also through omission – by sapping the legitimacy of competing cultural

values and narratives, like the narrative created through the tension between individual and corporate property rights, or Kathryn and Gracie's desire for personal sovereignty.

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[1] Anna Lowenhaupt Tsing, *Friction: An Ethnography of Global Connection* (Princeton University Press, 2005), 9, 8.
[2] Jerolmack and Walker, "Please in My Backyard."
[3] Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (University of North Carolina Press, 2003).
[4] Jerolmack and Walker, "Please in My Backyard"; Jerolmack, *Up to Heaven and Down to Hell.*
[5] Jamie Peck, *Constructions of Neoliberal Reason* (OUP Oxford, 2010).
[6] Montrie, *To Save the Land and People.*
[7] Michael Barbaro (Host), "The Swing Issue that Could Win a Swing State: Will Fracking Determine Who Wins Pennsylvania in the Presidential Election?", *The Daily,* January 24, 2020. https://www.nytimes.com/2020/01/24/podcasts/the-daily/fracking-2020-presidential-race.html; Rose Tennent, "If Fracking is Banned, What Happens to Jobs in Western Pa? | Opinion," *The Philadelphia Inquirer,* September 17, 2019, https://www.inquirer.com/opinion/commentary/fracking-pennsylvania-elizabeth-warren-trump-rose-tennent-20190917.html.
[8] Jerolmack and Walker, "Please in My Backyard"; Jerolmack, *Up to Heaven and Down to Hell.*
[9] The absence of Biden signs was so conspicuous that once, my former partner, who had made the trip to southwestern Pennsylvania with me, suggested I step out of the car the first time we spotted one in order to take a picture, only to cause the owners of the sign to come sprinting out of their house in a panic in order to prevent us from stealing it (we learned, while speaking briefly with them, that they were also members of the Mountain Watershed Association).
[10] Martin Belam and agencies, "Make America Rake Again: Finland Baffled by Trump's Forest Fire Raking Claim," *The Guardian,* November 19, 2018, https://www.theguardian.com/us-news/2018/nov/19/make-america-rake-again-finland-trump-forest-fire; Harm Venhuizen, "Wildfires in Maui Are Among the Deadliest in US History. These are the Other Fires Atop the List," *Associated Press,* August 14, 2023, https://apnews.com/article/maui-deadliest-fires-us-history-507273968474a03bec332f42d10a018b.
[11] Interestingly, Roger, when pressed on whether Range Resources, the natural gas company that he had leased to, was for or against renewable energy, notes that "[a]ny industry is going to show face that they would donate and contribute to organizations that are pro-renewable energy, simply because of the fact that they want to do good PR." The literature on the topic confirms that this is an accurate perception. See for example Schneider et al.'s work on coal rhetoric or ClientEarth's *The Greenwashing Files* report on the greenwashing efforts of multinational Oil & Gas companies such as Chevron and Exxon Mobil. Schneider et al., *Under Pressure.* ClientEarth, *The Greenwashing Files,* https://www.clientearth.org/projects/the-greenwashing-files/.
[12] Jon Greenberg, "Joe Biden Breaks Promise to Ban New Fracking on Federal Lands," *PolitiFact,* April 22, 2022, https://www.politifact.com/truth-o-meter/promises/biden-promise-tracker/promise/1546/block-new-fracking-federal-lands-not-ban-all-frack/#:~:text=Joe%20Biden%20takes%20first%20step,and%20gas%20extraction%20to%20continue.
[13] Funk and Hefferon, "U.S. Public Views on Climate and Energy"; McCright and Dunlap, "The Politicization of Climate Change and Polarization in the American Public's View of Global Warming, 2001-2010."
[14] Barbaro, "The Swing Issue that Could Win a Swing State"; Florian Egli, Nicolas Schmid, and Tobias S. Schmidt, "Backlash to fossil fuel phase-outs: the case of coal mining in US presidential elections," *Environmental Research Letters* 17, no. 9 (2022).
[15] George Lakoff, *Moral Politics: How Liberals and Conservatives Think* (University of Chicago Press, 2010).
[16] Shannon Elizabeth Bell, *Fighting King Coal: The Challenges to Micromobilization in Central Appalachia* (MIT Press: 2016).
[17] Griswold, *Amity and Prosperity.*
[18] Dima Mohammed, "Argument by Association: On the Transmissibility of Commitment in Public Political Arguments," *Topoi* 42, no. 2 (2023).

[19] As we recall, the well pad being built in their backyard was the result of the first *conditional* (as opposed to permitted) use hearing in Cecil Township. Kathryn suspected (and I am inclined to believe she might be right) that Range Resources had deliberately targeted them first in an attempt to show that if they could get their permit approved in the backyards of these two activists, they could get them approved anywhere. The decision still went in favor of the natural gas company, but both women still felt that the current system was preferable.
[20] Montrie, *To Save the Land and People*
[21] Leah Sprain and Lydia Reinig, "Citizens Speaking as Experts: Expertise Discourse in Deliberative Forums," *Environmental Communication* 12, no. 3 (2018): 357-369.

CONCLUSION: MOVING TOWARD SOLUTIONS

Since 2019, I have spent three years cumulatively researching and five months writing about the way ideology structures resistance to the fossil fuel industry in southwestern Pennsylvania. Chapter 2 describes the situation I discovered through my conversations with fenceline community members who were actively fighting against encroaching fossil fuel development and my fieldwork at grassroots environmental organizations. The reality I discovered is that private individuals who choose to take action to protect their health and rights or their communities against an encroaching fossil fuel development inevitably get pulled into a convoluted web of government and industry interests colluding to clear the path for large-scale fossil fuel infrastructural buildout. Chapter 3 synthesizes my findings from my interviews with fenceline community members about the ideological priors that they subscribe to in their assessment of the local coal and natural gas industries. The chapter describes, based on an in-depth textual analysis of interviews with residents, how collective buy-in to the *growth ethic* and to mainstream ideas about capitalism and the economy obscures the path to collective resistance against the fossil fuel industry. And Chapter 4 goes into some of the possible reasons why no successful counternarratives to the growth ethic have managed to emerge, by focusing on the case of Cecil Township in Washington County, where conflicts in the community over private property presented an additional obstacle to the emergence of collective resistance against the industry. But while I now understand the problem I was studying much better, I am not much closer to knowing what can be done about it.

It has always been one of my frustrations with social science research, even among the works I really admire and that have strongly shaped my own approach, that solutions to the problems being explored are too often tacked on to the end as an afterthought. As I near the end of my own writing process, I am beginning to understand why that might be. Careful research aimed at identifying the causes of an important socioeconomic problem is necessary but time consuming, difficult, and costly in several meanings of this word. It often reveals causal relationships that are complex intersections of a variety of factors. And even the best research seldom provides definitive evidence that points clearly to specific, actionable solutions. In short, identifying meaningful solutions to complex problems is a research project in and of itself. This is, in brief, what happened to me, and so I find myself compelled to stop here, at least for now, and to find a way to continue with my work in a different form later on. Nevertheless, the research I have been able to conduct allows me to make at least educated guesses as to which solutions might work, and so it is with some degree of confidence that I can propose several general directions where solutions may lie.

Like any self-respecting Communication scholar, I must of course begin by highlighting the implications of this study for how climate change should be covered in the United States. Next, based on my in-depth interviews, I draw some tentative inferences about the types of information campaigns that might actually be effective at reducing support for fossil fuel infrastructural buildout and increasing support for renewable energy projects and highlight one type of information campaign that is likely to backfire: one focused primarily on misinformation about climate change. Then, I discuss the light my research throws on how policy interventions to facilitate an energy transition in the area should be structured and framed to have a chance of

success before discussing the slower work of culture change that I believe would need to occur to enable the emergence of politically effective popular support for the energy transition. I close by discussing the strengths and limitations of my research and suggesting future directions for research and intervention.

Strategy 1: Shifting the emphasis from the impacts to the causes of climate change in the media and supporting local journalism

Unlike the next three solutions, which derive from the research I have conducted, this one is informed in great part by the original intuition that led to the selection of my research topic: If we want any chance of doing anything about climate change, we need to begin by understanding its societal underpinnings.

Climate change coverage in the media has tended toward having a bias toward sensationalist stories about climate change disaster.[1] Hart and Feldman, in their study of U.S. network television news stories about climate change, find that more broadcasts focused on the threats posed by climate change than on actions taken against it (59.3% vs 42.7%), that broadcasts rarely discussed threats and actions taken against climate change together, and that "climate change impacts were framed primarily in terms of changes in ecosystems and the environment, whereas actions to address climate change were typically framed in terms of conflict and competition between policy makers and other stakeholders."[2] The dominance of this environmental frame is a problem, as recent research has suggested that the public health frame may be more effective at cutting through the partisan divide in beliefs about anthropogenic

climate change.[3] And, as our own Cappella and Jamieson have shown, news coverage that emphasizes the conflict between competing elites can increase public cynicism toward policy-making processes.[4]

The news media's bias toward apocalyptic representations of climate change has the potential to reinforce existing penchants for undemocratic governance and entrench existing inequalities, as my old colleague Hanna Morris has argued in her dissertation,[5] but it can also be harmful by omission. As the latest IPCC report reminds, the burning of fossil fuels is the most important cause of global warming, so I would argue that the lowest bar to clear for solution-oriented journalism about the climate crisis would be to consistently draw attention to that fact. Yet, in my own review of the last six months of climate change coverage in the national print media in the week before beginning writing on my conclusion (for my analysis I chose to focus on *The New York Times* and the *Los Angeles Times*), less than forty percent of all articles met that standard – for comparison, that figure is almost one quarter for articles focused on natural disasters.

In addition, there is another angle into the climate crisis that I believe would be effective, based on the findings I lay out in Chapter 2, and that the media has grossly underexplored, and that is the experiences of fenceline communities affected by the fossil fuel buildout, as well as the democratic and human rights violations inherent in that process. Among the sixty articles that I reviewed that were written about the fossil fuel industry, not a single one focuses on this topic. That number goes up to four if I include the sixty articles on climate change and the renewable energy industry in the *Los Angeles Times*, but in all four cases, the experiences of communities exposed to fossil fuel development is only briefly mentioned in passing and not examined at

length. In contrast, I did not find a single article that touches on this topic in my review of *The New York Times* (see Appendix G for a description of my analysis).

Even more importantly, the task of drawing attention to the democratic and human rights violations of the fossil fuel infrastructural buildout cannot rest primarily on the shoulders of our national media. A strong, independent local media is crucial to bringing these issues to light. Yet, as my discussion of the local media in Chapter 2 has shown, local news outlets in southwestern Pennsylvania are both few and far between and too compromised by their dependence on fossil fuel advertising dollars to deliver the kind of sweeping and in-depth critique of the system that the region so badly needs. Communication scholar Victor Pickard, in his book on the impact of the American journalism crisis on our democracy, proposes several ways to loosen the dependence of local newsrooms on advertisement revenue, including establishing robust public options, implementing "public interest protections and public service obligations, such as ascertainment of society's information needs," and community involvement in the governance of local newsrooms.[6]

Unfortunately, there is no reason I am aware of to believe that a sweeping reform of our entire media system is just around the corner, and in any case, a discussion of the likelihood of such a reform and of the actionable levers for bringing it about fall firmly outside the scope of this dissertation. That is not to say that the fieldwork I conducted did not suggest a partial fix to this problem. In my interviews with residents connected to the Mountain Watershed Association, for example, most mentioned that they depended on the organization as the most reliable source of news about the fossil fuel development affecting them, and I know from following both the Mountain Watershed and the Center for Coalfield Justice that both maintain a regular blog on

their website with updates on the risky energy development sites relevant to the communities they serve.

There are a few additional reasons to think of grassroots environmental groups as suitable institutions to fill the gap that local newsrooms have left open: As we have seen, groups like the Mountain Watershed and the Center for Coalfield Justice have already done the hard work of gaining the trust of the communities they serve, from giving residents the opportunity to become educated about the risks from neighboring fossil fuel developments to enabling community enjoyment of the surrounding nature through activities like trail maintenance and stocking rivers and ponds with fish, which, though perhaps not entirely kosher from a traditional environmentalist point of view, was described as crucial to drawing in otherwise uninvolved community members by several of the staff members I spoke to. In fact, the Mountain Watershed's trail maintenance project was cited by both Al and Ned as the reason they first became involved with the organization. In addition, the Mountain Watershed had also done extensive work in the area with grants it received from foundations and the government to clean up abandoned mine drainage in Indian Creek, a tributary to the Youghiogheny River.[10] This last contribution was cited by Ned (who asked that I donate the gift card I provided to him for participating in my research to the Mountain Watershed instead of taking it himself) as a major reason for his loyalty to the organization. In his own words: "without having them publish the information, going after people who are illegally discharging waste, reworking with DEP, and working with the runoff from the coal mines to clean that up, that has made a tremendous improvement in the water quality in this area.(…) For its size and its budget, we get a heck of a bang for our dollar." Which perhaps partially explains why (as we will discuss further in Section

3), while he was generally wary of government intervention to protect the environment, he endorsed the idea of having the Mountain Watershed serve as a watchdog to document industry abuses.

Strategy 2: Correcting disinformation about fossil fuels and renewables (but not climate change)[11]

When asked about their belief in anthropogenic climate change, my participants responded in ways that perfectly reflected the broader partisan divide found in the literature on climate change misinformation. The liberals I interviewed on the topic all said they believed that climate change was happening and that it was caused by humans. In contrast, almost all of the conservative residents I interviewed either denied the existence of climate change, attributed it to natural causes, or, in the case of Ned, who did not fully deny the possibility of anthropogenic climate change, primarily to natural causes:

> Climate change, I waffle on that a lot. Climate change is very important but the reasons for climate change, the information varies widely for who, why, what, and where. One major volcanic eruption can out-pollute all the pollution that humans do in 10 years. I think the United States, in particular, Canada, and Western Europe has worked very hard to improve carbon emissions and to try and curb climate change. It's something that's going to take a long time and a lot more effort put into it with a lot more research.

Ned's response is consistent with what the literature on climate change denialism has to say about how the climate change counter-movement sows doubt about the level of consensus that exists in the field of climate science on the issue of climate change.[12] Interestingly, the two

exceptions to this pattern came from the conservative natural gas workers I spoke with. Both of them acknowledged the existence of man-made climate change as a matter of fact.

The topic of partisan divisions in beliefs about renewable energy has received less academic attention, but the patterns I found among my participants were strikingly similar to what the research has to say about beliefs in anthropogenic climate change. The sentiment that "the research is not in yet" was prevalent among the conservatives I interviewed. All of them except for Tina expressed a variation of this idea. Recall for example Roger's statement in Chapter 3 that the insufficient research and development of renewable energy were the reasons that it had failed to attract as much investment as natural gas. And see also Craig's statement below:

> Renewables, it's fine. It just depends on what the consequences are. How much studying have they done on it? They don't really know. You start putting hundreds of millions of these solar panels, you don't know what them things are going to do. You start putting thousands and thousands of these big turbines in the air, you don't know what that's going to do, it generates a vibration in the atmosphere. Nobody knows.

In addition, all my conservative participants beside Roger cast doubt on the relative safety and environmental friendliness of renewable energy versus fossil fuel energy or expressed the belief that fossil fuels can be clean with proper regulation or use of technology. Craig, for example, told me that the pollution from coal ash could be taken care of by "run[ning] that stuff through washers." And Tina, when asked about whether she would support a transition to renewable energy, expressed the belief that the waste from solar energy was even worse than that from fracking, and returned several times to the idea that disposing of the waste from fracking safely was just a matter of there being a will if there's a way: "[I]f you have a natural resource, it

shouldn't have to cause toxic poisons to harm somebody else's body and not able to use it – utilize it. Do you know what I mean?"

The similarity between these arguments and the ones documented by the climate change denial literature points to the possibility that my participants' beliefs were at least in part influenced by the "Big Tobacco playbook" (cf. Oreskes & Conway). If it did turn out that climate denial strategies were being recycled to sow doubt about the effectiveness of a potential energy transition in southwestern Pennsylvania, it seems likely that the local fossil fuel industry had a major hand in it. For one, it does not lack in mouthpieces, from in-house "government representatives" like Jocelyn Ebert, who zoomed in to the Cecil Township meeting of the board of supervisors at which I met Kathryn and Gracie, to avowedly independent trade associations like the Marcellus Shale Coalition – and I am sure there are many more that additional research would reveal. Nor does it lack the means or the willingness to disseminate ideas consistent with its interests, as we have seen in Chapter 3. I think it is also rather revealing that every single argument in favor of the fossil fuel industry or against renewables that I heard from residents was also made by one or both of the natural gas workers I interviewed.

I also some found evidence that the federal agenda on fracking may also have found its way into residents' beliefs: For example, both Anabelle and Roger expressed to me the belief that gas burns cleaner than coal, echoing Obama's argument about natural gas as a "bridge fuel" between "dirtier" fossil fuels and renewable energy that was discussed in Chapter 1. And Craig on more than one occasion argued that it was necessary to make use of every available energy source in a way that was reminiscent of Obama's call for an "all of the above" argument about energy policy: "You have to have coal, you have to have natural gas, you have to have oil, you

have to have everything. (…) Whatever it is on this planet, it's for your use. You need to use it. That's what it's here for."[13]

In summary, misconceptions about both climate change and renewable energy tended to be concentrated among my conservative participants, and the nature of these misconceptions (e.g. "climate change is the result of natural cycles in the Earth's climate"; "the science is not in on renewable energy") seemed consistent with the use of the Big Tobacco playbook by elite stakeholders. In the rest of this section, I will attempt to draw some inferences about whether targeted information campaigns might or might not be effective at countering this playbook. In attempting to answer this question, I will focus primarily on whether I think, based on the evidence available to me, that residents would be open to revising their beliefs based on scientific evidence or whether their views are too ideologically entrenched for them to be open to conflicting information. Please keep in mind while you read that none of the data I collected is of the type that would allow me to draw any of these inferences with confidence, so everything that follows should be interpreted as educated guesses that could be used to inform further research.

On the question of anthropogenic climate change, I speculate that it may be too late for information campaigns on the validity of climate science to have a positive effect. Judging by the literature on climate change misinformation, it appears like climate change denial, more than any other stance on the environment, has become the nub where rhetorical efforts of the American Right and the fossil fuel industry have coalesced (see McCright et al. for an expansion of this argument[14]).

My conservative participants' responses when I questioned them about their stance on climate change bear out this impression: The speed with which they were able to respond to my question suggests that they were aware of the idea of man-made climate change (Roger even anticipated I would ask him about climate change, quipping "Alright, I knew you'd get to that" once the question came up) and the consistency with which they resorted to the counterargument that climate change was due to natural fluctuations in the Earth's climate suggests that they had already been inoculated against it. Staff at environmental organizations who I asked about this also consistently told me that they treated the question of climate change with the utmost caution when talking to residents, only broaching it with their most longstanding members, if at all. Based on this evidence, it appears that it might be very difficult to run an information campaign to correct misconceptions about climate change in southwestern Pennsylvania without priming residents' partisan identities and reinforcing the types of dynamics described in Chapter 4.

In contrast, I believe there are several misconceptions about renewable energy that might be successfully cleared up through targeted information campaigns. These include:

- The assumption that natural gas necessarily burns cleaner than coal
- Gaps in knowledge about the effectiveness and viability of current renewable energy solutions in southwestern Pennsylvania
- Claims made by the local industry that fracking doesn't cause any environmental or health damage whatsoever.

In the case of this last example, I believe that a campaign focused on the narratives of community members affected by the coal and fracking industries could be particularly effective.

I can think of a few reasons that information campaigns focused on renewable energy might have a better chance of success than ones focused on climate change: To begin with, the pro-fossil fuel coalition has had much longer to construct what McCright and Dunlap (2003) call the "non-problematicity" of climate change, meaning that there probably is a better chance of changing minds on the effectiveness of renewable energy than on the reality of climate change. In addition, as we have seen in Chapter 3, residents of fenceline communities in southwestern Pennsylvania are intent enough on attracting jobs to their communities that, in my mind, an information campaign on renewable energy paired with a viable (and effectively framed) policy initiative to bring renewable energy jobs to southwestern Pennsylvania has a good chance of succeeding.

However, the window of opportunity for conducting a successful information campaign on renewable energy may be narrowing. Based on a large-scale computational content analysis of climate change counter-claims by influential conservative think tanks and blogs, Coan et al. (2021) have found that the proportion of claims undermining climate science has been getting smaller since 2000 (the year their analysis begins), while discourses undermining effectiveness of climate change solutions have been on the rise. Meaning that we probably have to act fast if we don't want to continue playing catchup with the climate change countermovement. Of course, care needs to be taken with this strategy, since it taps into the same *growth ethic* narrative that this research identifies as problematic in the context of fossil fuel development. Because a swift transition to renewable energy is so critical, it is important to employ arguments that we know will be effective. At the same time, this needs to be done in a way that does not undermine a

longer-term rhetorical strategy to differentiate community investment from capitalist land development.

Strategy 3: Developing a culturally sensitive approach to policy change

The assumption is common both in liberal circles and in the academic literature that conservatives are opposed to government regulations in general. Lakoff (2016), who wrote the authoritative work of cognitive linguistics on American political ideology, makes the rather sweeping generalization that conservatives conceptualize government regulation as interference. Hochschild cites "great pollution and great resistance to regulating polluters" as one of the premises for her ethnography of Tea Party members in the Louisiana Bayou.[15]

What I found in my conversations with conservatives in southwestern Pennsylvania was in many ways consistent with this assumption, but also more nuanced. On the one hand, distrust of the federal government ran deep among many of my conservative respondents, and quite a few of my liberal respondents as well, and this often inspired knee-jerk negative responses to the idea of environmental regulations, as with Ned's response to the prospect of widespread government action in the context of the Green New Deal in Chapter 3. But on the other hand, this still left room for quite a large gray area where regulations were surprisingly welcome, as long as they weren't perceived as centralized and heavy-handed. As Roger put it: "I believe that there's certainly regulations needed for one's health. I'm not necessarily for strong-arm regulations from the federal government." And many also expressed the sentiment that the government and

regulators should be doing their jobs. If we recall, Tina's main complaint about the DEP was that the agency was forcing her to do its job. A few of the conservatives I spoke to even spontaneously suggested regulations in order to hold the fossil fuel industry accountable. For example, Craig talked about imposing fines on bad actors in the industry. And Ned suggested opening an escrow account that coal operators could pay into in order to fund cleanup efforts in case the operator went bankrupt.

On the whole, then, I found, at least among conservatives informed about the potential harms associated with fossil fuel development, that support for environmental regulations could be cultivated as long as one was careful about how such regulations were designed and described. Beside de-emphasizing the role of government in any suggested policy intervention, there are also two types of appeals that I believe might work especially well based on the responses I received from the people I interviewed: An appeal to fairness and an appeal to personal responsibility.

The idea of the appeal to fairness is relatively straightforward. Among the people I interviewed, it showed up most frequently as the idea that the fossil fuel industry should be held to the same standards as anybody else. As Kathryn puts it: "I've always said the same thing, it's not that I'm against the industry, it's just that the industry needs to follow the same set of guidelines that every other industry is required to follow." Roger expresses almost the same sentiment here:

> Gas industry is no different than anyone else. If you run a red light and a police officer stops you, he has two options. He can first warn you, or he can write you a ticket immediately. You and I would prefer that he first warn us. I feel the same way with the DEP, with the gas industry. I feel that a warning is, depending on the severity of it, but I feel that a warning is definitely adequate.

> But if it's repeated, if that driver goes down the street three blocks and his police officer still hasn't been sighted and he runs another red light, then you throw the book at him.

The evidence I have for the potential effectiveness of an appeal to personal responsibility is more complex. According to Lakoff, personal responsibility is a core conservative value. Whereas liberals think about personal responsibility mostly in the context of their personal relationships, for conservatives the value of personal responsibility fundamentally structures their understanding of politics.[16] In my interviews, this was probably most clearly exemplified by Kyle's argument that coronavirus deaths in the United States could not be curbed the way they were in China because the President could not "make you wear a mask." In other words, because our laws are structured around the primacy of personal responsibility, when people choose to be irresponsible, there is no legal recourse.

The conservative emphasis on personal responsibility has many ramifications, not all of them desirable from a liberal standpoint. Among the ones highlighted by Lakoff is a preference for a justice system structured around reward and punishment, which has taken its share of flack. On the bright side, this also means that the value of personal responsibility can likely be appealed to in order to generate support for punishing environmental violators, as Tina is advocating for in the following exchange:

> HL: What are you hoping is going to come from all this?
>
> TINA: They get criminal charges filed against them and have to clean it up and quit putting it in our environment and in our air. And quit harming people that did not give them any permission to do so. Listen, if I wanted to harm myself, there's plenty of ways that I could do it myself. I don't need help from anybody else. And to do it to people who don't even realize that they're there.

Note that the role of personal responsibility in informing Tina's answer is twofold here. There is her championing of punishment for industry violators, but also the freedom to make decisions about one's own health, even bad decisions (echoing the argument Kyle makes about coronavirus deaths).

The conservative emphasis on personal responsibility is also associated with a dislike for impersonal policy-making processes. Among my respondents, this translated into a preference for a more decentralized, small-scale policymaking process. At its worst, this preference could be exploited to advocate for industry self-regulation, as Kyle did on two different occasions. But it could also translate into an affinity for certain types of policy solutions to the energy crisis. For example, Ned, who expressed alarm at the prospect of the "widespread government action" required by the Green New Deal, seems much more partial to the plan's proposal to retrofit energy inefficient buildings. And Kyle suggests creating miniature energy networks as a way to solve the problem of excessive energy consumption: "[I]f we put everybody into small micro hubs, you're going to find out real fast if you're over overloading your circuit, so you would start to live within (…) your means."

Appeals to fairness and personal responsibility in Josh Shapiro's Grand Jury Investigation

Recall in Chapter 1, in my section on the fracking boom in Pennsylvania, I quoted extensively from Josh Shapiro's Grand Jury Investigation. It turns out the four "resisters" I spoke to who had been affected by the fracking industry were quite familiar with the investigation and the resulting document (I owe a debt of gratitude to Gracie in particular for recommending that I

familiarize myself with it) and all four, regardless of whether they were liberal or conservative, expressed a deep appreciation for Josh Shapiro's work on the investigation. Tina mentioned she even voted for Shapiro, even though she describes herself as a lifelong Republican.

This is in keeping with what I wrote about conservatives being less opposed to regulations in general than liberal common sense and some social theory make them out to be. But perhaps there is also something inherent about Shapiro's Investigation that appealed to conservative sensibilities. After all, it was a *criminal* investigation into the impacts of the Pennsylvania fracking industry, something that is alluded to by both Roger and Tina. Roger, for example, talks about government agencies being "basically very nonchalant and casual with the gas industry and allow[ing] a lot of activity that was either borderline not within the guidelines of the law or was not in the guidelines of the law." And Tina, referring to MAX's use of a fake address, states: "[T]he Attorney General is going to deal with that. Because they're criminals." It is also easy to view Shapiro's Grand Jury Investigation through the lens of fairness, as Tina does in the following excerpt from our interview:

> [Shapiro] said the Grand Jury made recommendations about these permits. Governor Wolf gives out these permits, and the DEP gives out all these permits, but nobody follows up with these permits. Nobody keeps track of these permits. They keep writing these permits out, their permits, their permits. But then there's nobody to follow through with them. So it'd be like you getting a permit to haul toxic waste in your vehicle or truck or whatever and then never have to renew it or nobody paying any attention to it. Run rampant with that, people would.

If I didn't know better, I might even describe Josh Shapiro's Grand Jury Investigation as a carefully crafted act of bipartisan political rhetoric, but this seems belied by the campaign he ran for governor in 2022 (and ultimately won), where he positioned himself to run against MAGA Republican Doug Mastriano and then bombarded my mailbox with emails with subject

lines like “we have just thirteen more days to stop extremism in its tracks” - rhetoric that is unlikely to have had much currency with people like Tina or Roger. Perhaps bipartisanship in electoral politics is truly dead.

Grassroots environmental organizations as policy instruments

In many ways, small grassroots groups like the Mountain Watershed or the Center for Coalfield Justice make for unlikely candidates to enlist in the process of environmental policy creation and implementation. But they also have one key advantage that more traditional government bodies do not: their community’s trust. Of course, it is also important not to overstate the extent of this trust. As Kathryn and Gracie’s experience teaches us, environmental organizations can often earn the automatic distrust of community members in southwestern Pennsylvania for their stance on the fossil fuel industry. At the same time, as I learned through the research I conducted at and through the Mountain Watershed, small grassroots environmental groups like them also have the capacity to build up extensive social capital through their interactions with the community.

During our interview, Tina told me that she had initially not trusted any organization with the information she was gathering about MAX: “[Ashley Funk] will tell you, (…) I’m very closed, I’m very standoffish when it comes to this stuff because you say one thing, think somebody’s trying to help you, and then they turn around and tell MAX. And listen, if somebody needs a new roof on their house, they'll stab you in the back with that. MAX comes in and says, here's $5,000, you know what I mean? So it's very challenging with that.” The Mountain

Watershed Association became the exception for her, perhaps because staff at the organization were willing to let her priorities drive their engagement with MAX Environmental and patiently accompanied her through multiple stages of her struggle with the facility, from the EPA public meeting I mentioned at the beginning of the chapter, to the NPDES meeting she had to attend because of MAX's violation of its permit for one of its discharge pipes, to going with her to hazardous mitigation workshops to respond to her concern that her community had no escape plan in the case of an industrial accident at the facility.

While painstaking and time-consuming, the Mountain Watershed's approach to building community relationships is also effective. It's telling, for example, that of the seven members of the Watershed that I interviewed for this research, only Al expressed dissatisfaction with the organization – which is probably inevitable, as it is doubtful whether a group like the Mountain Watershed would benefit from courting the approval of someone with as rigid an ideological commitment to growth as Al had. Trust and personal relationships are important in any community, but, as I just argued, they may be especially important in rural, conservative communities when attempting to effect policy change. This goes some way toward explaining why Ned supports the Mountain Watershed's role as watchdog over the industry.

This social capital that grassroots environmental groups accrue through the work they do in their communities makes them worthwhile to consider at least as partners in increasing community support for planned policy interventions. But as we have seen in Chapter 2 in the discussion of the Mountain Watershed's role in the settlement it won against LCT, they may also be effective in enforcing environmental rules. And I feel confident that further research and policy partnerships will only reveal more ways that small grassroots environmental groups like

the Mountain Watershed could become one piece in a larger strategy of designing and implementing policies to help southwestern Pennsylvania transition from being a fossil fuel economy.

Strategy 4: Displacing the growth ethic with a politics of care

So far, I have discussed the types of informational and policy interventions that I believe might be effective based on the research I have conducted so far. However, at its heart, my research is not about policy or about the role of the media or the pro-fossil fuel coalition in spreading climate and energy disinformation. Rather, it is about the role played by core capitalist narratives and ideologies in buttressing our current energy regime. I now turn to the types of interventions that I believe might support the slower and more fundamental work of culture change, turning members of fenceline communities in southwestern Pennsylvania from passive beneficiaries or victims of the current fossil fuel regime to active participants in and even architects of the energy transition.

Achieving such an outcome is of course very difficult, because of how embedded the coal and fracking industries are in the social and economic fabric of southwestern Pennsylvania, and because of how inevitable the fossil fuel industry presence feels to many of its residents. Think back for instance Meg's comment that the "Western World is dependent on fossil fuels." As we recall, Meg was a staunch opponent of the local coal industry, who had campaigned for years against local development projects and refused to sell her coal rights to the company operating the neighboring Rustic Ridge mine. That is why, in my mind, her comment is so illustrative of

the sentiment that I encountered over and over in my interviews and in my fieldwork: that the industry was fundamental to the region's economy and to the very fabric of the modern world. As Kyle pointed out over and over, almost everything that makes modern life possible is made out of hydrocarbons, including renewable energy sources. Or, as Gracie recalls being repeatedly told by hostile community members: "Well, if you don't like natural gas so much, then maybe you should turn off your gas."

That said, the place of fossil fuels and of these mindsets in southwestern Pennsylvania is far from inevitable. Below, I highlight two ideological interventions that my findings suggest might be effective: rehabilitating and democratizing politics and centering marginalized discourses.

Putting the demos back in democracy

When the concept of politics came up during my interviews, it was always in a negative light. For example, Brian, the Range Resources employee repeatedly used the word "political" almost synonymously with dishonest or manipulative. Kyle, the other natural gas worker I spoke with, blamed his struggle to get promoted when he was working as an emergency medical technician and as a fireman on his unwillingness to "play politics." And Tom, when asked about where he stood on the Green New Deal, voiced his support, but predicted that the "comedy and the sarcasm" in Congress would prevent the proposal from ever making it into policy.

Another complaint I frequently heard about electoral and administrative politics was that it was out of touch or too complex or convoluted to effectively respond to residents' needs. Take

for instance this statement by Tom, in response to my question about what he would want to do to change the system:

> Well, it seems the system is very political, very political. I do think the system we're into right now is all political. [Laughs] (…) What you're asking is a very unique and good question. I'm kind of struggling to come back and answer that. We've been in touch with a lot of the people that do work with the mines. They're very conscientious people, the department of mines are very, very conscientious people, and that's part of the DEP. We found them very, very straightforward and honest. However, they can only pass the information onto their superiors, and where it goes from there, we don't know. I wish more people would get involved in what's going on, and unfortunately that's part of life in the United States right now. It's: "It doesn't affect me, so why should I care?"

Or, as Gracie, who has even more experience than Tom navigating local politics, puts it:

> [Y]ou got to peel back the onion. There's like 47,000 layers to this thing (…) Like you have to really understand the politics at play. You have to really understand the different vested interests, the different parties involved in it, and the whole thing is extremely political. It's extremely political. And if you say or do the wrong thing, or say or act the wrong way, or present the wrong evidence, or you know, whatever, you're gonna lose credibility. And if you lose credibility, you're done.

Both Craig and Ned, for their part, equate this "out-of-touchness" of politics with corruption or conflicts of interest. Craig, speaking about his representative, Democrat Conor Lamb (whom he makes no secret of disliking), complains that he does not receive true representation because "[t]hat guy that they voted for this place, he's not even from around here, he's way over in Mount Lebanon somewhere." According to him, before the state redistricted, South Greensburg's representative was from Greensburg, and was a fireman who worked with his dad. Now, Lamb is "not going to do anything here that needs done," like trimming the trees growing into the nearby telephone line.

A final meaning that I found fenceline community members attached to the word "political" was inaccessible or "out of our hands," as when Meg reported to me that it felt pointless going door-to-door to talk to neighbors about the proposed Rustic Ridge mine, because they assumed the mine would go in since it was "political." Given all this, it is not altogether surprising that both Craig and Tina justified their support for Donald Trump by saying that he was "not a politician."

One throughline through many of these views is the perception that politics is something apart from the people, something that fenceline community members could only be passive bystanders to instead of being active participants in it. Even among the people I interviewed who were active participants in politics, like Kathryn and Gracie, there was still a sense that the business of politics could not be conducted without being largely divorced from the language in which they expressed their everyday concerns and emotions.

The perception of politics as an impersonal process is probably even more alienating in a rural conservative context, given the conservative emphasis on personal responsibility and how it translates into a yearning for a simpler and more personal form of politics. To bring the local understanding of politics closer to the notion of collective decision-making would be one way to encourage more public scrutiny of the fossil fuel siting process and its impact on the environment and on health. Fostering the sense of personal agency that fenceline communities in southwestern Pennsylvania feel over their life circumstances could also help alleviate their sense of political disaffection, which, as I touched on briefly in the introduction, can have profound political consequences, as it is likely it had in the 2016 presidential election, in which the Pennsylvania electoral vote had a disproportionate weight in the outcome of the election. It could

be an important first step in defusing the adversarial politics that many of the people I spoke to felt they were in the grip of and in paving the way toward a more cooperative environmental politics. One way this could be achieved is by centering discourses already circulating in the community, but which currently lack the legitimacy and dominance of the *growth ethic* narrative. I discuss this further in the next section.

Centering women's perspectives

The previous chapter showed how the value of private property as residents understood it presented a challenge to the *growth ethic*, but also went into the reasons why it was unlikely to galvanize a collective resistance against the industry. The question then remains: What other values, narratives, or ideologies might have the potential to do that? While they were not the primary focus of this research and thus were not elicited as consistently in my interviews, discourses that might present a challenge to the dominant growth narrative were not completely absent from the stories and insights that my participants shared with me, though they were a less consistent throughline. Prominent among a few of my female participants were the values of care for their communities, and in the case of Anabelle, of communion with nature. One could potentially even argue that submersed within all the mechanistic discourse and extolment of economic growth, the old controlling metaphor of "nature-as-organism" that Merchant wrote about was not completely dead, just dormant and delegitimized.

Take for example my phone interview with Cecilia (one of my liberal participants), whose statements (somewhat ironically) I paraphrase here, because her voice was too faint to

make out on my recording, due to a combination of problems with my recording app and to her voice being really quiet on the call. The part of our interview that stood out the most to me was the moment she mentioned that she used to work as an administrative assistant at the same hospital where Stacey Haney worked as a nurse during the events chronicled in Eliza Griswold's book *Amity and Prosperity.*[17] She recalled being heartbroken that her colleague's struggles (whom she didn't know personally) were not called to her attention and says that if they had, she feels convinced her community would have found a way to rally around her.

The values of connection and care showed up repeatedly throughout our interview. For instance, when asked about her attitude toward fracking, she told me that she wished it were banned, but also expressed concern for the people employed by the industry, saying that if the industry weren't replaced by something else, she was concerned there would be people sleeping in the streets. Asked to compare the contributions of fracking with those of her profession to the community (a question I asked in some form to all my participants), she replied that nursing was categorically better because she didn't trust fracking, because nursing was safer and brought in good money, and because it was rewarding to provide care for others and fostered pride in one's work. However, toward the end of our interview, where I usually ask my participants to make policy pronouncements, her answers started getting very short, more often than not becoming reduced to no more than an "I don't know."

This brings to mind the contrast drawn by Carol Gilligan between what she calls an "ethic of care" and "the logic of the justice approach"[18] in her book *In a Different Voice,* and what she says about how women's perspectives get delegitimized and depoliticized, ultimately leading them to lose faith in the way they make sense of the world. Gilligan opens her second

chapter on female conceptions of relationships by setting up a contrast between an eleven-year-old girl and boy (who she calls Amy and Jake) who had been interviewed for a study on moral development. The children are asked to weigh in on a moral dilemma where a fictional man named Heinz has to choose between stealing a drug he cannot afford from a pharmacist or letting his wife die. Jake immediately answers that Heinz should steal the drug. In contrast, Amy suggests that Heinz could find a way to borrow the money for the drug or negotiate with the pharmacist to lower the price, leading the interviewer to categorize her as stunted according to contemporary theories of moral development. Over the course of follow-up questions where the interviewer attempts to elicit the judgment from Amy that Heinz should steal the drug, her replies become increasingly constrained and unsure, reminding me of the frequent "I don't knows" I got from Cecilia toward the end of our interview.

Of course, unlike the interviewer in her example, Gilligan does not interpret Amy's responses as evidence of stuntedness, but instead to a lack of understanding and an undervaluing of her moral universe. Unlike Jake, whose "judgments reflect the logic of the justice approach," Amy's world "is a world of relationships and psychological truths where an awareness of the connection between people gives rise to a recognition of responsibility for one another, a perception of the need for response."[19]

It is not a coincidence that, like Amy, Cecilia might feel hesitant to express policy opinions based on her worldview: The values and feelings that she expressed to me, of care and connectedness, much like Kathryn and Gracie's feelings of outrage about having their agency stripped from them, do not have much currency in the political and economic arena of southwestern Pennsylvania and the capitalist system in general Added to that is the fact that, as

Merchant argues, women's perspectives on matters of public interest are already delegitimized simply by virtue of their being women, through their closer association with nature than with culture.[20] All these dynamics are only further entrenched in a place like southwestern Pennsylvania where a male-dominated extractive economy has for so long been the norm.[21]

All of this suggests that the work of centering women's voices in the policy discourse of southwestern Pennsylvania is not distinct from the work of dismantling the local fossil fuel economy. If we are to grant Merchant's thesis of women's historical association with nature in the popular imaginary and Gilligan's of women's socialization into a world of responsibility, care, and connectedness instead of one of logic, abstract relationships, and rational self-interest, then these efforts should be self-reinforcing, as centering women's voices affirming the political legitimacy of traditionally female-coded values like care for one's community would serve to strengthen and knit together discourses critical of the growth ethic that *were* present in the community but failed to achieve the same level of dominance or internal consistency that the growth ethic narrative had.

For instance, an argument that reoccurred relatively frequently throughout my interviews was the idea that people's health should not be sacrificed in the name of profit. Recall for instance Tina's remark in Chapter 4 that it wasn't right for her life to be sacrificed to create jobs at MAX. I was also somewhat surprised to find that Roger considered a "healthy environment" to be one of the fundamental prerequisites of a good job. For her part, Anabelle defends her stance that there should be no coal mining or fracking at all by pointing to the deleterious effects of coal mining and fracking both on human health and the environment: "I mean, the way they go in and get the coal. The the dust that they emit – it's going into those guys' lungs and

everything. Um, and then, the way they leave it, when they're done, just to basically collapse in, you know. And it's not needed. We've got too much other stuff we can get into – that, no. Same thing with fracking. Putting all that contaminated water back into the soil and everything..."

Concern for the environment also came up relatively frequently among the people I interviewed, with Tom and Tina bringing up how chemical discharges into waterways affected fish populations, and Anabelle and Kyle lamenting the effects of climate change on local biodiversity and on the seasons:

> KYLE: I haven't seen snow on the ground during hunting season in probably 15 years. I have not seen the bass in the lakes grow to the size they were when I was a kid. I haven't seen the bait fish. A lot of the larger sport fish that we used to catch in the rivers, they're gone. Yeah, a lot of things have disappeared as far as that goes. Plus, the seasons are changing. I mean, I've – I'm very much a winter person. I love winter. And I don't think I've seen a good winter in probably 10 years.

> ANABELLE: Yeah. It's changing our insect world. Uh, we have more ticks that survive the winters. More insects, you know, stink bugs. Oy. Because they're milder. It changes.

It is no surprise that concern for the environment should coexist with a strong embrace of capitalist values and the *growth ethic* among people living in rural areas. While on the one hand, their relative conservatism makes them susceptible to the latter, they also tend to have a more intimate relationship with nature that makes them more intuitively aware of the interconnections between humans and the environment. My participants' religiosity and conservatism tended to inform a more instrumental orientation to nature (one where natural resources were put on this Earth to be used by man), but I suspect that, if buttressed by a stronger ethic of care for the environment, this orientation could easily be restored to a robust understanding of our role as stewards of the natural world that would impose strong ethical restraints on fossil fuel activity.

Highlighting the interconnections between humans and nature can also serve to highlight the flipside of the logic that (in Ned's words) "industrial processing is the backbone of the economy": That human activity depends fundamentally on the existence of a functional ecosystem, and if the health of that ecosystem becomes excessively compromised, then this endangers our way of life. As Ned himself put it: "[T]he focus on clean water means more jobs, more industry, more population because, without clean water, it's hard to do anything." One might hope that by fostering this awareness that industry depends on nature, some might arrive at the logical conclusion that if industry leads to the destruction of nature, then its perpetuation in its current form is unsustainable.

Concluding thoughts

Much more research would need to be done in order to develop a truly evidence-based strategy to increasing support for a transition to renewable energy in southwestern Pennsylvania and in rural white communities in general. At this point, most of the strategies I suggest, including leaving the issue of climate change out of any campaign to increase support for renewable energy in the region and elevating the voices of local women, are only thinly supported by the data I have collected and would require additional research to substantiate. Full-fledged research projects would need to be conducted, for example, to develop a rhetorical strategy for talking about policy change to a rural white conservative audience or a blueprint for

involving grassroots environmental groups in the policy process that was truly supported by the data.

The research reported in the body of this dissertation also suffers from limitations. Foremost among them are probably the limitations of the sample of people I selected to interview, which I discuss in detail at the end of Chapter 1. In addition, for Chapter 2, I wish I had had the time and means to conduct more comprehensive research on the southwestern Pennsylvania fossil fuel growth coalition and more in-depth participation of the fossil fuel permitting process. Added to this is the fact that, because the evidence I collected ended up being used to answer a slightly different question than the one I had initially set out to answer, the data I have on the reasons why competing narratives and values to the *growth ethic* paradigm have failed to challenge the status quo is much thinner than I would like it to be. Finally, I also have not had the time or means to systematically collect data on the information environment that the people I interviewed inhabit – by which I mean the rhetoric on the local fossil fuel industry put out by the media, industry trade groups, and the industry itself. Such research would be necessary to accurately trace the origins of fenceline community members' beliefs about the industry and identify potential entry points for an effective intervention.

On the other hand, this research also has significant strengths: As I discussed in the first section of the conclusion, the social reality of communities living next to fossil fuel developments has received vastly insufficient public attention, considering the importance of the issue to the success of the energy transition and the management of the climate crisis. Furthermore, the selection of my case also serves to maximize the importance of the implications that can be drawn from my research. The environmental justice literature is generally in

agreement that risky development projects are disproportionately sited in minority neighborhoods.[22] But unlike minority communities, rural white communities are a politically influential voting bloc, making them the ideal group to study if we want to understand how ideology plays into the fossil fuel industry's ability to maintain a "good business climate." Southwestern Pennsylvania also occupies a strategic position, both in electoral politics and in the federal energy policy agenda, meaning that the insights from my research are important regardless of their generalizability.

In our collective response against the climate crisis, all the advantages – money, resources, political influence – belong to the side that wants to continue burning and extracting fossil fuels out of the ground. One area where we still may have a chance to prevail is in the stories we tell ourselves. Media coverage about the climate crisis is dominated by reports of coastal flooding and wildfires and by doomsday predictions. Much less attention is being devoted to the roots of the crisis or to what we can do about it.

In an article for *Jacobin,* the late sociologist Erik Olin Wright outlined the concept of what he calls a "real utopia." The word utopia was coined by the philosopher Thomas More to signify "the good place that exists in no place." The expression "real utopia" is meant to capture the tension between the real and the utopian that needs to be navigated in order to "sustain our deepest aspirations for a just and humane world that does not exist while also engaging in the practical task of building real-world alternatives that can be constructed in the world as it is that also prefigure the world as it could be and which help move us in that direction."[23] In my mind, there are few sites more worthy of such an intervention than the current process for siting energy projects in the United States. Political pressure to reform this process alone has the potential to

be an effective tool in the struggle against the climate crisis, and one that could bring a constituency on board that has historically been leery of the environmentalist agenda. It would also focus much-needed attention on a political process rife with egregious human and democratic rights violations. In this way, it could point the way to a more humane path through the crisis, one more in line with our democratic ideals. This research represents only one small step in generating that attention. I hope there will be many more to follow.

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[1] M. Jimmie Killingsworth and Jacqueline Palmer, "Millennial ecology: The apocalyptic narrative from Silent Spring to global warming," *Green culture: Environmental rhetoric in contemporary America* 21 (1996); Christina R. Foust and William O'Shannon Murphy, "Revealing and reframing apocalyptic tragedy in global warming discourse," *Environmental Communication* 3, no. 2 (2009).
[2] P. Sol Hart and Lauren Feldman, "Threat without efficacy? Climate change on US network news," *Science Communication* 36, no. 3 (2014), 339.
[3] Edward W. Maibach et al., "Reframing Climate Change as a Public Health Issue: An Exploratory Study of Public Reactions," *BMC public health* 10, no. 1 (2010); Edward W. Maibach, Connie Roser-Renouf, and Anthony Leiserowitz, "Communication and Marketing as Climate Change–Intervention Assets: A Public Health Perspective," *American Journal of Preventive Medicine* 35, no. 5 (2008); Matthew C. Nisbet, Edward Maibach, and Anthony Leiserowitz, "Framing Peak Petroleum as a Public Health Problem: Audience Research and Participatory Engagement in the United States," *American Journal of Public Health* 101, no. 9 (2011).
[4] Joseph N. Cappella and Kathleen Hall Jamieson, *Spiral of Cynicism: The Press and the Public Good* (Oxford University Press, 1997).
[5] Hanna E. Morris, "Apocalyptic Authoritarianism in the United States: Power, Media, and Climate Crisis." (PhD diss., University of Pennsylvania, 2021).
[6] Pickard, *Democracy Without Journalism?,* p. 168.
[10] "Remediation," *Mountain Watershed Association,* https://mtwatershed.com/remediation/.
[11] This section is based on the answers to a battery of questions at the end of my interview schedule that I asked almost all my participants to gauge their belief in anthropogenic climate change and their openness to the energy transition.
[12] See Gelbspan, *The Heat is On;* McCright and Dunlap, "Defeating Kyoto"; Oreskes and Conway, *Merchants of Doubt;* Peter J. Jacques, Riley E. Dunlap, and Mark Freeman, "The Organization of Denial: Conservative Think Tanks and Environmental Scepticism," *Environmental politics* 17, no. 3 (2008), among others.
[13] As I will discuss in my last section on culture change, the sentiment expressed here is also consistent with a conception of nature as serving human needs.
[14] Aaron M. McCright et al., "Ideology, Capitalism, and Climate: Explaining Public Views About Climate Change in the United States," *Energy Research & Social Science* 21 (2016).
[15] Hochschild, *Strangers in Their Own Land,* 21.
[16] Lakoff, *Moral Politics.*
[17] The book follows Haney through her struggles against the unconventional gas well she had leased her land to after her children and animals began falling mysteriously ill.
[18] Carol Gilligan, *In a Different Voice: Psychological Theory and Women's Development* (Cambridge, Mass.: Harvard University Press, 2003), 30.
[19] Gilligan, *In a Different Voice,* 30. I will admit to having very little familiarity with the gender studies literature, so I had to turn to the field's foundational texts in order to ground this discussion. I am sure many theories have been

proposed that complicate Gilligan's (1982) original theory and warrant mention here. I apologize to any gender studies scholar who might come across my work for my ignorance.

[20] Merchant, *The Death of Nature.*

[21] See Sally Ward Maggard, "From Farm to Coal Camp to Back Office and McDonald's: Living in the Midst of Appalachia's Latest Transformation," *Journal of the Appalachian Studies Association* 6 (1994): 14-38; Miewald and McCann. "Gender struggle, scale, and the production of place in the Appalachian coalfields"; Scott, *Removing Mountains.*

[22] See Bullard, *Dumping in Dixie*; Bullard, "Environmental Justice in the 21st Century."

[23] Erik Olin Wright, "How to Be an Anticapitalist Today," *Jacobin,* December 02, 2015, https://jacobin.com/2015/12/erik-olin-wright-real-utopias-anticapitalism-democracy.

APPENDIX A – MAIN INTERVIEW SCHEDULE

Theme 1: Personal values

Can you start by telling me a little bit about yourself?

- How long have you lived here?
- What are some of the things you really love about [name of place]? (listen for: relationship to nature in the area)
- What are the biggest challenges that are facing [name of place]?
    - follow-up: What are the main things that are needed in [name of place]?)
- Could you tell me a little bit about the work that you do?
    - follow-up: What are the ways you believe your work contributes to your community?
    - From what you've told me so far, I know that you value [principle[s]] a lot. Could you tell me more about what you understand under [principle]? Could you list some other values that you follow in your life?
    - How do you apply these values outside your work?

Theme 2: Attitudes toward coal and gas

Could you tell me your experience with [local coal ash deposit/natural gas development]?

- You mention [experiences mentioned by participant]. Are there any other experiences besides these that you can think of?

- probe: family/friends/community experiences with the industry;
- probe, if experiences mentioned are overwhelmingly positive/negative: Is there anything bad/good that came from [local coal ash deposit/natural gas development] that you can think of?)

- Could you tell me about anything you've heard about the [coal/natural gas] industry in the area? Where did you hear it from? Where do you usually go for information about these things? About anything else?

- You mention [coal mining/fracking] jobs. Do you or anybody you know work in these industries? (Follow up: list...)
  - Could you tell me more about your/their experiences with these jobs?
  - **In your opinion, do you think these are good or bad jobs?**
  - Could you tell me more about what makes you think that? (probe: goals/personal stake? Short- or long-term stake?)
  - In your opinion, do you think the community benefits from these jobs? Could you tell me more about what makes you think that?
  - What other jobs are there in the community? In your opinion, are these jobs better or worse than [coal mining/fracking] jobs? Could you tell me more about what makes you think that?
  - How do you think that the community benefits from these non-fossil fuel industry jobs?

- You mention [examples of environmental damage from site mentioned by participant]. Could you tell me more about these effects that the [site] has been having **OR**

Some people in your community have complained that [site] has caused [examples of environmental damage]. Have you experienced any of these?

We've talked a little about your personal experience and the experience that other people in your community have had with the coal and natural gas industries. Now I want to ask you what role you think the [coal mining/natural gas industry] play in western PA.

- How about in the United States/the rest of the world? (probe: participant's sources)
- *Guy Reschenthaler, who represents the 14th district that you are a part of, supports natural gas, because he says natural gas production in PA will allow the US to be an energy exporter, and being an energy exporter will "help our allies and weaken our enemies [e.g. Venezuela, Iran] abroad."* What are your thoughts about that? (listen for: "Coal keeps the lights on"; "Gas burns cleaner"; reduced energy costs; it's essential to enabling modern life)

Theme 3: Openness to renewable energy

If you think about all the good and the bad effects that you tell me [coal mining/natural gas] have had on your community, would you say that the trade-off is worth it? Why/why not?

- Is there any kind of damage that the [coal/natural gas industry] could have that would make you think the tradeoff not worth it anymore? (Follow up: How likely do you think it is that this damage will occur?) **OR**
- Are there some steps the [coal/natural gas industry] could mitigate the damage that they are causing that would make you feel that this is a worthwhile tradeoff? (Follow up: How likely do you think it is that they will take these steps and hold themselves to them?)
- Are there any different kinds of jobs that you think could replace coal mining/natural gas jobs in this area? Why/why not?

How about renewable energy? Do you think that renewable energy could replace coal mining/natural gas jobs in this area? Why/why not? (probe: competing with/supplementing fossil fuels; association of renewables with democratic platform)

- Could you tell me some of the arguments you've heard in favor of renewable energy? Where have you heard them? What do you think of them? (listen for: political affiliation of sources; global warming/climate change; probe: participant's sources of information; participant's political affiliation)
- Some people in Congress have wanted to move the country toward zero emissions. What do you think about that?
- [Begin by summarizing participant's concerns] *I don't know if you are aware, but there is a House Resolution that passed last February to achieve net zero greenhouse gas emissions that addresses many of the concerns that you raise.* [List concerns

here] If you felt that renewable energy legislation could be passed that would address your concerns, do you think you might be willing to support it?

Fact Sheet

The GND

- The GND ties net-zero greenhouse gas emissions to the creation of good, high-wage jobs, including in infrastructure and industry. This includes jobs in renewable energy, construction (e.g. retrofitting buildings; fixing roads), and manufacturing (e.g. renewable energy manufacturing; zero-emission vehicle manufacturing).
- It engages itself to make high-quality education and training opportunities available to everyone so everyone has equal access to these jobs.
- It engages itself to work hand-in-hand with communities who would be most affected by a transition to renewable energy to make sure that this transition is democratic

- It engages itself to ensure that the public shares equitably in the wealth created by the energy transition (e.g. through community grants and public banks)
- It attempts to make the United States the "international leader on climate action" (rebuttal to Reschenthaler); renewable energy the "way of the future" - perhaps pull some stats about Germany, China etc.

APPENDIX B – ANALYSIS OF INTERVIEW DATA

My analysis of my interviews with fenceline community members provided the theoretical linchpin for my research. The process ended up being much more time-consuming than I had initially envisioned, because I was only able to clearly grasp the theoretical significance of my interview data after coding through my entire corpus a few times.

My first iteration of coding was guided by the initial research question motivating this project: What are the reasons that people in communities negatively affected by coal and natural gas extraction are often supportive of the industries? The blueprint for my analysis was largely provided by my interview schedule: I coded for attitudes toward the coal and natural gas industries and for the potential causal pathways in people's attitudes and belief systems that might explain these attitudes. Things I paid particular attention to included the values expressed by my respondents and the way they thought about fossil fuel and other work. I also coded for potential barriers to and opportunities for accelerating the energy transition embedded in their knowledge, attitudes, and beliefs.

Early attempts at analyzing my interview data followed a more descriptive approach: I grouped the different participants in my sample according to their social location (resister, bystander, fossil fuel worker) and attempted to tease out their commonalities and differences, similarly to the approach employed by Arlie Russell Hochschild in *Strangers in their Own Land.* The results, however, felt theoretically thin and analytically unsatisfying, and failed to get at certain patterns in my participants' responses that were begging for an explanation. I am

referring in particular to the beliefs of the group of "resisters" I interviewed that appeared to play into the fossil fuel industry's playbook (which I highlight at the beginning of Chapter 3).

The approach I needed to employ to make sense of my interview data only started to become clear when I took a step back from the more emic, bottom-up approach I had taken to coding up to that point and started searching for a theoretical framework to make sense of the patterns I was seeing. The framework that ended up being the most fruitful was the one provided by Daniel Aldana Cohen's environmental sociology course that I mentioned in my introduction, which made sense of modern environmental destruction as a fundamental outcropping of capitalism as an economic and social system.

Within this overarching framework, the specific theory I was introduced to that ended up serving my needs the most effectively was Logan and Molotch's concept of the "growth machine."[1] While I was initially hesitant to apply their theory to my case, because it had been used to make sense of an urban context, it ended up being the most powerful framework to make sense of my findings, because it provided me with an entry point for understanding how ideology can obfuscate the destructive nature of fossil fuel resource extraction even to the people impacted. Other frameworks I drew on as well in my final analysis were Timothy Mitchell's and Immanuel Wallerstein's theorization of the "economy" as a reified object and Patel and Moore's nature/society dichotomy.[2]

These theories were used to design an improved coding scheme that I employed to code through my entire corpus one last time. Beside being designed to find evidence for the theories mentioned above, this final coding schemes was also meant to map out the political ontology of

my participants, their view of the relationship between nature and society, and the presence of any discourse challenging the *growth ethic* in their statements. I also kept track of my participants' values, their experiences with their neighboring fossil fuel development, the arguments they made about the industry, and of all the topics that featured prominently in their responses.

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[1] Logan and Molotch, *Urban Fortunes.*
[2] Mitchell, *Carbon Democracy*; Wallerstein, *Historical Capitalism*; Patel and Moore, *The History of the World in Seven Cheap Things.*

APPENDIX C – DESCRIPTION OF FIELDWORK

The fieldwork for this project was conducted over two short time periods: There was the preliminary fieldwork I conducted over the course of ten days in the summer of 2019 to familiarize myself with my field site and then my main fieldwork period that stretched over two months in the fall of 2020 leading up to the election of President Biden in November 2020. As most of us will recall, the fall of 2020 was still the thick of the pandemic, so I was forced to pivot more heavily toward interviews and archival research than I had initially planned. However, I did manage to do some participant observation at two different grassroots environmental organizations: the Center for Coalfield Justice and the Mountain Watershed Association.

During my first fieldtrip in 2019, I was able to document the Center for Coalfield Justice's 13th DRYerson festival, an event that the environmental group holds every summer in Greene County's Ryerson Park since the park's artificial Duke Lake had to be drained because of activity by the coal company Consol in its giant Bailey mine.[1] During the second leg of my fieldwork, I turned to documenting the work of both groups online. Among the activities I documented were one online community meeting hosted by the Center for Coalfield Justice and one staff meeting ("Advocacy Team Check-in) between the community organizer, the staff lawyer and the staff scientist at the Mountain Watershed Association.

I also managed to attend a meeting of the Board of Supervisors in Cecil Township in Washington Township, as well as an online EPA hearing on MAX Environmental, which both gave me some insight into the fossil fuel permitting process. I also made the most of my drives to interview participants and of my nature walks, by documenting the signs of the fossil fuel

industry presence and the industry's self-presentation through notes and photographs. Among other things, these walks yielded my interview with Craig from South Greensburg and helped me get a firsthand feel for how ubiquitous fossil fuel activity in the area really is and for the rhetorical strategies that the fossil fuel industry embeds in the landscape to make its presence more palatable (e.g. by labeling a vat of frack waste as "brine" or advertising its sponsorship of the Greene River Trail (see Figure 6, p.109)

As I already brought up, I was forced because of the COVID pandemic to pivot toward other methods beside participant observation to conduct my research. The limited insight I was able to garner from participant observation about the work of grassroots environmental groups and the fossil fuel permitting process was supplemented mainly by interviews with staff members at both organizations I shadowed. My interview with the Mountain Watershed's attorney proved particularly useful at illuminating the fossil fuel permitting process for me.

[1] Alex Downing, "The 16th Annual Dryerson Festival Hinted at Ryerson's Bright Future," June 30, 2022, The 16th Annual DRYerson Festival Hinted at Ryerson's Bright Future - Center for Coalfield Justice; Pennsylvania Department of Environmental Protection California District Office, *Ryerson Station State Park Ryerson Station Dam Damage Claim Number SA1736 Interim Report,* February 16, 2010, https://files.dep.state.pa.us/mining/District%20Mining/DistrictMinePortalFiles/California/Ryerson_Station_Dam_Damage_Claim_Report_revised_2-12.pdf.

APPENDIX D – SELECTION AND ANALYSIS OF PRIMARY SOURCES

Government documents did a tremendous amount of work in my research, not only by supplementing my fieldwork and interview data, but also by revealing the extent of government involvement and interest in the Pennsylvania shale gas boom. Facets of my research that they helped illuminate include the cozy relationship between government and industry in their pursuit of shale gas development, the experience of fracking fenceline communities in Pennsylvania, and the complex and sometimes contradictory nature of government involvement in the fracking boom.

The two main primary documents I drew on are the 2011 Governor's Marcellus Shale Advisory Commission Report and the 2020 Attorney General's Grand Jury Investigation into the Pennsylvania fracking industry. The Governor's Marcellus Shale Advisory Commission Report (or MSAC moving forward) is a 137-page report put together by a twenty-nine-member commission appointed by former Republican Governor Tom Corbett to craft recommendations for the development of the hydraulic fracturing industry in Pennsylvania. Aspects of the industry discussed in the report include the Marcellus Shale natural gas resource, the hydraulic fracturing process, and the fracking regulatory framework. The document ends with a section on the recommendations of the Commission and another summarizing the public comment and the Commission's response.

When I initially approached the document, I was attempting to obtain both substantive background on the geologic properties of the Marcellus Shale formation and on the hydraulic fracturing process and to draw inferences from the rhetoric in the report. The sections of the report I focused on specifically were the MSAC's executive summary and the description of the Commission, as well as the Marcellus' geology and the technology of fracking. The main questions I was attempting to shed light on through my analysis of the document were the way

the Commission conceived of the State's UOGD resources, the rhetoric it used to justify fracking, and the vested interests of the Commission members. I also used the document as a source of substantive information on the fracking process and Pennsylvania's natural gas boom.

The report yielded useful information on all these questions. Specifically, my analysis of the document's rhetoric also yielded compelling evidence on the magnitude of the stakes that the Pennsylvania State government placed in the development of its unconventional gas reserves. Evidence for how vital the Pennsylvania government believed its interest was in the mineral resource includes the choices the MSAC made in framing the tradeoff between the risks and benefits of fracking, specifically the way it weighed environmental risks against potential economic gains. In addition, the list of Commission members shed some important light on the cozy relationship between state and industry actors in the process of developing these reserves. Further evidence on the alignment between state and industry interests on the issue of fracking could be found in the narrative of technological progress that the Commission spun about fracking and on the significant overlap between the language used by the MSAC and the industry to talk about unconventional oil and gas development.

The case built by the MSAC about the magnitude of government stakes in UOGD development and the overlap between government and industry interests was supplemented by additional sources throughout the dissertation, including Pennsylvania's Act 13, the Pennsylvania Department of Environmental Protection's 2022 Oil and Gas Annual Report, a blog post by Range Resources about the DEP's 2015 Oil and Gas Annual Report, and President Obama's 2014 State of the Union address. Particularly important to illustrating the bipartisan support for fracking at the federal level and the way it evolved over time was the contrast between President Obama's and candidate Biden's stances toward the industry in 2014 and 2020 respectively.

The other document I drew on heavily for my research is the Grand Jury Investigation Report (GJI). Spanning 243 pages, the Report provides an in-depth account of the experiences of

Pennsylvanians affected by the fracking industry and of the DEP's and DOH's role in covering up the industry's negative effects. The document is fascinating both for the first-hand evidence it provides of the collusion between government and industry on the issue of fracking and for the fact that it is itself a government document. The GJI played a crucial role in my research in providing context for my interview data and for the fieldwork I conducted on the permitting process. Rhetorically, it was also an important document for me to employ because of its nature as a government document. There are quite a few environmental organizations that provide information of excellent quality on the health and environmental hazards of fracking, but to have that information echoed by a government source lent it authority that it otherwise would not have had. The use of the GJI also had the effect of adding some fascinating layers to my understanding of the government's involvement with the fracking boom, by showing just how multifaceted and often contradictory it actually was.

APPENDIX E – RECRUITMENT OF PARTICIPANTS

Participants were recruited in three phases. The first phase occurred in the summer of 2019 during my preliminary round of fieldwork. I spent ten days doing participant observation at two different grassroots environmental organizations: The Center for Coalfield Justice in Washington County and the Mountain Watershed Association in Fayette County. During my time with the Mountain Watershed, then-community organizer (now executive director) Ashley Funk put me in touch with a couple affected by the mining at Rustic Ridge. I also took the initiative to reach out to two men who were attempting to fight a fossil fuel development in their backyard who I had been put in touch with by an attorney who had filed a suit against the development on behalf of a local environmental group. This second interview marked the beginning of my interest in the experience of "resisters," even though it didn't make it into the final dissertation because the men I spoke to retracted their statements over concerns about how it might affect pending litigation.

During my main round of fieldwork, I interviewed eleven more participants. I was put in touch with five of the eleven through the Mountain Watershed Association. Four of the five were residents affect by the Rustic Ridge Mine. The fifth was Tina, the woman fighting MAX Environmental. Tina then introduced me to her neighbor, Bonnie, who I also interviewed. Kathryn and Gracie I met early on in my fieldwork, through my attendance of a meeting of the Board of Supervisors of Cecil Township to discuss the drafting of the township's new oil and gas ordinance. I met Craig while taking a walk along a trail in Westmoreland County. Brian, the Range Resources employee I interviewed, responded to a LinkedIn message I sent him

requesting an interview. As for Kyle, the wireline worker, I was asked not to reveal who facilitated my connection to him.

I conducted three more interviews once the fieldwork had concluded: One right after, with Roger. I was introduced to Roger through a local journalist who Kathryn and Gracie recommended I reach out to and whose beat was the local oil and gas industry. Finally, in September 2023, I conducted two additional interviews because I was missing the perspectives of local democrats who were relatively uninvolved in the fight against the fossil fuel industry. These last two connections were facilitated by Lisa De Paoli of the Center for Coalfield Justice.

APPENDIX F – PORTRAIT OF NON-RESISTER PARTICIPANTS

Fenceline community members

Tom and Brenda

My first interview is with Tom and Brenda during the first leg of my fieldwork in the summer of 2019. They are two of the seven participants I get put in touch with by Ashley Funk from the Mountain Watershed Association. The interview takes place in their spacious log house in the Laurel Highlands, which Tom built himself. They are warm and welcoming, very eager to help a young woman with her research, something I note about almost everyone I interview during my research in southwestern Pennsylvania.

Tom and Brenda are both retired engineers, which makes them among the most educated and accredited people I interview. They are also both liberal, with Tom probably the most ideologically consistent Democrat of all the people I talk to (in 2020, for example, I ask him a few follow-up questions on the phone, and he is the only one who expresses support for the Black Lives Matter movement). They were both born in Latrobe, not far from where they now live. Tom has ancient roots in southwestern Pennsylvania. He mentions proudly that some of his ancestors gained a reputation as rabble rousers during the Whiskey Rebellion shortly after the American Revolutionary War. Brenda is of more recent immigrant stock, with grandparents who came from Italy and Poland to go work in the mines and the steel mills.

Tom tells me the place where their log house was built is the place where they both fell in love. They wanted to build their retirement home here, but they have run into problems with the opening of the Rustic Ridge Mine in Acme. The couple mention that LCT Energy has mined under their house, leading to issues with subsidence and a devaluation of their property.

Ned

I meet Ned at his home in Melcroft, less than two miles away from the footprint of the Rustic Ridge mine. He brings out a chair for me and we conduct the interview outside, courtesy of COVID. I pause the interview once or twice when a bug lands in my folder. Otherwise, it's pretty smooth sailing. Ned is heavy-set, of about average height, but still imposing with his grizzled beard and his air of calm authority. It is clear he prides himself on the informal education he has managed to acquire over the course of his lifetime. He is very thoughtful and circumspect his answers. On the topic of the Green New Deal, for example, he prefers to withhold comment initially because he feels he does not have enough information to pronounce himself. He returns a few times in his comments to the value of bipartisanship and of research to solve social problems.

Ned is blue-collar, but managed to earn a respectable living working in the industrial sector, first as a machinist for twenty-seven years at Westinghouse Electric in East Pittsburgh and as a quality control inspector for Elliott in Jeannette, PA, a company manufacturing steam turbines and compressors among other things, before retiring to Melcroft. He has three children, one of whom also currently works in industry. Originally from Pittsburgh, he moved to the country in 1995 to raise his children and to take advantage of the better climate, the natural beauty, and the recreational opportunities.

Anabelle

Upon pulling into Anabelle's driveway, I am greeted by two Great Danes who rush to meet me. Anabelle rises from her lounge chair on her porch and invites me to join her. She is a tall, big-boned woman in advanced middle-age. She is dressed informally when I arrive – sweatpants and no shoes – and seems to have a warm and easygoing nature.

Anabelle's house is right across the road from the Rustic Ridge Mine. The sound of the traffic to and from the mine is significant while I was interviewing her, but she tells me that today is a slow day. Anabelle is starkly opposed to the mine. She has even registered a small public protest against the mine, in the form of a wooden dinosaur provided to her by MWA that she has put up in her driveway and that has the words "Coal Extincts" painted on it. This dinosaur has drawn some backlash: Anabelle tells me it has been shot at, probably by mine workers, and that she has had trash thrown in her yard.

Perhaps because she has never taken a direct role in fighting the mine, she seems unsure of herself at times and generally gives short answers to my questions.

Anabelle is a native of southwestern Pennsylvania. She used to work at Sony making TV boards, then at the photo lab at Sam's club. Her husband is an elevator repairman. They have known each other since they were fourteen and fifteen and have been married for forty years. Anabelle is a self-described democrat. Her husband voted for the first time in his life against Trump. She also tells me she has a great fondness for nature. She has set up feeding stations for the birds so she can observe them. She is concerned about the effect that the mine is having on the wildlife.

Anabelle first became aware of plans for the mine when her friend alerted her to the fact that LCT was drilling core samples for exploration. She became a member of MWA after this and is happy with the way the organization is representing her interests. She says she has experienced significant noise pollution from the coal mine, both from the truck traffic and from

the blasting. She told me while the blasting was going on, she could feel the vibrations in her house, similar to a small earthquake. She is also worried that she might be affected by subsidence or lose her water, which she knows are things that have happened to her neighbors. However, she is not too concerned that she will be undermined, because she believes her property is too low for LCT to get the clearance to mine under them.

Bonnie

Bonnie works as a school bus driver and school bus driver trainer. She moved to Yukon, PA in 2005, about the same time as Tina Curry, the woman fighting the waste treatment plant. The two are neighbors. She moved here because she and her husband wanted "a house with a big yard, something with a swimming pool and a trampoline and stuff in there." The neighborhood next to MAX offered these things at an affordable price.

I meet Bonnie through Tina. The latter convinces her to let me interview her during my second visit. Bonnie seems friendly and easy-going, but also unsure whether she is qualified to answer a lot of my questions. It takes some coaxing to convince her to offer her perspective, and often she leans on the opinions of other people, in particular of her daughter who is going to college in Colorado and whose judgment she seems to really respect.

In spite of living next door to Tina, who has been vocal in her opposition to MAX to anyone who will listen, Bonnie doesn't express many strong opinions about MAX. When asked to comment about her experience living next to the waste treatment plant, she replies first by saying "I really don't have much experience. I just know stories that I've heard from around the neighborhood that it's really dangerous there and things can cause cancer there." She says of the waste treatment plant at the end of the road "I didn't even know about it, honestly, till probably

this summer. I didn't even know that that was a back there. I just thought it was all woods." Tina has done research and has a lot of information about MAX, but she just knows she doesn't like the loud noises and the weird smells she's been smelling lately "that you can't even describe."

Craig

I meet Craig while on a walk along the Five Star Trail, a trail running from Lynch Field Park in Greensburg (the county seat of Westmoreland County) down five miles to Youngwood PA alongside abandoned railroad tracks. The sense I have of the ubiquity of industrial development and environmental hazards seems to apply especially to this stretch: On my walk, I cross a narrow stream that is an opaque iron red, a likely sign of acid mine drainage. Then, in South Greensburg, I light upon an industrial park that included a large ABB plant that I learned later used to produce high voltage breakers but now looked abandoned and a propane dispenser station operated by Ferrellgas. Nestled in very close proximity to these two is a residential neighborhood, a fleet of school buses, South Greensburg Borough's Department of Public Works, and a pub with a large outdoor dining area, illustrating the comfort residents seem to feel with living their lives in the footprint of industrial sites or perhaps their unwillingness to ask too many prying questions about what consequences living like that might have on their health and quality of life.

Curious to gain an insider's perspective about what it means to live in an area like this, I walk a short way into the residential neighborhood that is on the other side of the tracks and run into Craig, who is sitting on a chair outside his home. When I approach, he is talking to a younger man. I also see a woman and a child on a tricycle further up the street (probably the latter's wife and child). I asked a question about the ABB plant across the tracks. The man and

his family looked somewhat diffident and left soon after my arrival. Craig, however, proves to be very open to answering my questions (he is remarkably loquacious and likely a little lonely). I ask if I can return later to interview him formally and he says yes.

Al

Al is in Florida when I reach him over the phone: He splits his time between his home in Champion, PA, within a mile or two of the footprint of the mine, and his retirement home in Cape Coral. Like Ned, he was born in Pittsburgh and moved away from the city to raise his children. First, he moved to Mt Lebanon, a suburb of Pittsburgh, to avoid school busing. Later, he moved to Champion. Al's father owned a chain of TV and appliance stores. He himself is a retired businessman. He worked as a manager for Heinz for his entire career (43 years). He values the independence that the company granted him, saying that he was able "to run my business unit as I saw fit with minimal supervision. I pretty much had full control of my operations."

Over the phone, Al's conversational style strikes me as curt, but at the same time very detail-oriented when he is elaborating on an opinion. He professes a love of nature and is a member of the Western Pennsylvania Conservancy and the National Aviary. He also served on the board of the Mountain Watershed Association for one term. Despite this, he is a vocal proponent of the Rustic Ridge mine and steadfastly rejects the accounts of his neighbors, who I tell him have complained of problems from the mine like subsidence and water loss.

Cecilia

I conduct my last interview with Cecilia in September 2023 to compensate for the absence among the rest of the group I interviewed of liberals without a strong political stance on local coal and natural gas industry activity. She strikes me as a warm and loving person over the phone, with her heart in the right place but a reticence at expressing her opinions too strongly.

Cecilia is the neighbor of my main point person at the Center for Coalfield Justice, the other environmental organization I maintained strong ties with during my fieldwork. She lives in the heart of fracking country. A look at her zip code using the online mapping tool created by the *Fractracker Alliance* reveals an area heavily pockmarked by frack wells and crisscrossed by natural gas pipelines. She grew up in McMurray, a small unincorporated community in Washington County, followed her parents to California after their retirement, before moving back to the town of Washington, PA. She describes the place she is living as not quite rural, but a rural setting (she mentions she can hear the I-79 from her house). Before retirement, she worked as an administrative assistant at the local hospital, which she says she can see from where she lives. This is the same hospital where Stacey Haney, the protagonist of Eliza Griswold's *Amity and Prosperity,* worked during the events described in the book.

She has fond memories of growing up in McMurray as a child, which she recalls being much smaller than it is now. She enjoyed what she calls the "country living" that the community afforded her, which she associates with the freedom of growing up without supervision, playing in the woods, riding horses, and feeling safe. She sees the fracking industry as a threat to this way of life and expresses that they have no respect, but she also mentions that if the industry were to go away, she fears that people would be sleeping in the streets, unless it were replaced by another industry. Her son worked as a drill hand for a few years.

Fossil fuel workers

Kyle

I conduct my interview with Kyle over Zoom. A rugged-looking man in his early fifties, Kyle took a circuitous route to his current job: He worked as a fire fighter, then as a paramedic and served in the first Gulf War before deciding after twenty-three years of working in the healthcare industry that he had had enough and going to work as a drill mechanic in the fracking industry.

> Well, I'd been a mechanic for years, so finally I told my supervisor: I'd like to learn a couple new skills. I'd like to go up on the deck. And he laughed. And he said no. So I quit, and I went to frack and I learned how to do fracking. I was a blender tender and a frack hand and basically learned how to run crane. I learned a lot about iron and pressure control - fluid dynamics. Then somebody introduced me to [the company I now work at], which is what I do now, and I was like, "Oh, you mean to tell me I get to play with explosives all day? Sure! I'll do that!"

Over the last eleven years at his current employer, Kyle worked his way up from a wireline operator to a field level supervisor. His current job consists of implementing new technologies inside the company.

Asked whether he would consider his current job a good job, Kyle answers that “as far as money goes, it’s a great job.” Kyle also likes the career opportunities that this job has offered him: “I thought I was gonna be higher up in EMS and Fire, but I found out the hard way that if you’re not a good politician, you’re not gonna go anywhere. So I always made assistant something. Assistant chief or deputy chief, but never chief.” In contrast, in the oil and gas industry, Kyle feels his superiors gave him the latitude to prove that he could do the job.

He does tell me while discussing the health benefits at his job, which he says have declined since the passage of Obamacare, that he had to undergo treatment for cancer this year, which entailed hefty medical bills. But he does nhe health benefits at his job, which he says have declined since the passage of Obamacare, that he had to undergo treatment for cancer this year, which entailed hefty medical bills. But he does not attribute his current health struggles to his profession.

Brian

I meet up with Brian on a deserted plaza in Pittsburgh, where he is based. It is bitterly cold, so in spite of COVID we duck into a nearby restaurant and order a few sides. There is pounding music the entire time, and with the sneeze guard I have to set up between the two of us, the acoustics are not great, but thankfully they prove to be passable.

Brian is a trim, handsome young man dressed smartly in a dark suit and tie. I have a sense he is trying to impress me, though my primary takeaway from our interview is that he seems singularly uninformed about many of the aspects of the industry he works in, which is probably what explains that he was the only person to have responded to my message on LinkedIn. In his mid-twenties, has taken a direct path to his current career: He landed his current job directly after graduating from Penn State with a B.S. in "Energy, Business and Finance," a program that blended elements of business and engineering (Penn State is notorious for being in the pocket of the fracking industry. See for instance the NPR story discussed in Chapter 2. In addition, at least two of the academic sources cited by the Marcellus Shale Advisory Commission Report are authored by academics from Penn State.). According to him, his job at Range Resources consists of supplying water to all stages of the fracking process, "from drilling, to actual fracking, to the

production" in the cheapest and most efficient manner possible. This is usually done through trucks, he explains, because building a permanent water line to connect geographically scattered wells in a rural area would not be cost effective.

APPENDIX G – CONTENT ANALYSIS OF NEWSPAPER COVERAGE OF CLIMATE CHANGE AND FOSSIL FUEL INDUSTRY

In order to be able to provide some informed commentary on the nature and shortcomings of the media coverage of climate change and the energy industry in the United States, I chose to conduct a quick content analysis of American newspapers on the topics. Specifically, I chose to focus on the *New York Times* and the *Los Angeles Times*, which are two of the five newspapers catalogued by the *Proquest U.S. Major Dailies* database, the former for being the U.S. "paper of record," and the latter specifically for its coverage of environmental issues. The logic I employed for making this selection is that I was interested, not in a representative sample of media coverage on climate change and the fossil fuel industry, but in an authoritative one. The question I was attempting to answer was not what the average exposure of the American public was to this topic, but what would be the exposure of an educated readership seeking the highest-quality reporting. I initially also considered sampling from the Wall Street Journal in order to include a conservative source, but dropped it when I realized that the publication did not offer any substantive treatment of climate change at all (articles that did mention climate change were either conservative opinion pieces or mentioned it only in passing) and that the vast majority of articles that mentioned fossil fuels were descriptions of the stock market.

Because I came to the realization that coverage of climate change and fossil fuels would probably be sensitive to the news cycle (especially to events like climate disasters or oil spills), I decided to select a systematic random sample of thirty articles about climate change, the fossil fuel industry, and the renewable energy industry respectively from both publications written in the last six months (as far back as Nexis Uni's sample of the *Los Angeles Times* was available at

the University of Pennsylvania), resulting in a total sample of 180 articles. The systematic random sample was selected by ordering the articles by date (oldest to newest) and selecting articles at regular intervals, beginning with a random starting point. Articles that ended up being false positives were replaced by the article immediately following that one on the ordered list, and so on until I ended up with a sample of 180 true positives.

Both the *New York Times* and the *Los Angeles Times* samples were taken from Nexis Uni. The query used for articles about climate change was **"'climate change' OR 'climate crisis'"** The query used for articles about fossil fuels was:

"'fossil fuel*' OR coal OR 'oil and gas' OR 'natural gas' OR frack* OR gasoline AND NOT (coals OR 'canary in the coal mine')"

The search terms "oil" and "energy" simply yielded too many false positives, and so were left out. The query used for articles about renewable energy was:

"'renewable energy' OR 'green energy' OR solar OR 'wind energy' OR 'wind power' OR windmill* OR 'wind power' OR geothermal OR hydrogen AND NOT ('solar system' OR 'solar eclipse' OR 'solar radiation' OR 'hydrogen sulfide' OR 'hydrogen bomb')"

The "group duplicates" option offered by the database was left off.

All 180 articles were categorized according to a few simple criteria. Articles about climate change were coded "yes/no" on whether they mentioned fossil fuels or natural disasters. Articles were also coded "yes/no" on whether they mentioned impacts of the fossil fuel and renewable energy industries and of climate change on fenceline communities. I also kept track of whether, when the issues I was coding for were present, they were one of the main topics of the article or mentioned only in passing. Additional things I kept track of were the article title and

date and the search terms present in each article. I also tried to watch out for search terms I missed in my query.

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