

DISSERTATION

HYDRAULIC FRACTURING AND THE CORPORATE COLONIZATION OF THE SUBSURFACE

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ABSTRACT

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The United States presidential election of 2000 played a prominent role in determining the trajectory of the country for the next quarter of a century. The new millennium ushered in a new era with the George W. Bush administration chosen by the courts and the electoral college, the proliferation of hydraulic fracturing, *Citizens United* which flooded politics with money, restrictions in democracy, and persistent global climate crises. This dissertation will explore the role of the state in facilitating the corporate colonization of the subsurface. Drawing upon the ideas within Ralph Miliband's *The State in Capitalist Society*, this dissertation will critically analyze American pluralism and the state to reveal the many ways in which American democracy by the people has become democracy by the corporations. Analysis will be conducted using power structure research wherein key governmental positions held by the gas and oil elite will be identified, while using the overall framework of Miliband's state apparatus, including the five areas of the executive, the administrative, the coercive, the judicial, and the sub-state. The primary argument maintained throughout this dissertation is that the gas and oil industry elite have commandeered American democracy and policies to provide for their own benefit, at the expense of the American people and the health of the environment. The conclusion will include the work of Michael Lowy to argue for an eco-socialist leaning future wherein the gas and oil and subsurface are reclaimed as property of the state to be held in preservation.

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But I would never have gotten to that point, had it not been for my sole spark of motivation to be a professor and focus on what makes a great teacher, Dr. Paul Cutlip at St. Petersburg College. I knew from the first week at SPC in your Earth Science class that I wanted to be a professor. I also knew I had a long way to go if I wanted that dream to come true, and I made it that distance. Although I did not take

the direction of earth science or geology as I originally aimed for, the depth of the science knowledge that I learned in your classes allowed me to thoroughly understand earth and space processes in a way that has benefitted my overall education in so many ways. Not only was I fully prepared to study scientific studies on hydraulic fracturing, but also the overall geologic, meteorologic, astronomical, and oceanographic knowledge to venture into environmental studies.

The spark had already been lit by the time I got to Western to attend my very first class as an undergraduate. As I nervously sat in my Introduction to Environmental Studies waiting for class to begin, that anxiety disappeared as I was academically blown away with environmental and climate statistics from Dr. John Hausdoerffer. The spark ignited into a blazing fire. I am so thankful for the education that I received in the environmental studies program at Western. It has been useful in every aspect of my academic and personal life on a daily basis. Not only do I live what I learned, but I teach what I learned as well. My students are receiving a glimpse of the full ENVS program, and I could not be more proud of the depth of knowledge each student leaves my class with, the education that I received at Western. Thank you, Dr. John, for all that you have taught me. Both you and Karen Hausdoerffer provided me with opportunities that helped fabricate the student, teacher, and person I am today. Thank you, Karen, for providing me with my first teaching assistant experience and the knowledge that helped me formulate this dissertation and to become the writer I am today.

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DEDICATION

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Introduction

‘Too close to call’ were the words across every American news channel the morning after election day in 2000. As the citizens of the United States and the rest of the world waited through recounts, hanging chads, and court cases to determine the winner of the presidential election; the fate of the country’s ecosystems, clean air and water, and wildlife was hanging in the balance as well. Meanwhile, the future of the country was in the hands of nine justices to decide whether Al Gore or George W. Bush was to become the nation’s next president and commander-in-chief. Of course, over two decades later we know that in a 5-4 decision, by default, the US Supreme Court chose Bush to become the 43rd president of the United States in *Bush v. Gore*. What will remain unknown, though, is the how the United States could have been a global leader in alternative energy production and installation, had Al Gore won the fifth vote in the Supreme Court to gain the majority, as he had already won in the popular vote.

At such an important turning point in history, the millennium, the United States and the rest of the world could have greatly benefitted from an environmentally focused leader, such as Gore. Little did we know, this would also be the turning of an epoch – from the Holocene in which humans existed for 10,000 years, to the Anthropocene, defined in geological time as the beginning of human being’s “planet-scale impact on climate and every living system.”¹ The potential of the United States’ future as a leader in photovoltaic (PV) cell production faded as Bush became president and the US became entrenched in the War on Terrorism post the tragedy of September 11th, 2001. The following year, in 2002, China embarked on their future as a global PV producer and became a global exporter only two

¹ Margaret Robertson. *Sustainability: Principles and Practice*. 3rd ed. (London: Routledge) 2021: 8.

years later in 2004 with sales of PV cells to Europe.² Today, China dominates the PV export market demand with 80% of the solar panel manufacturing in the world.³

The energy path chosen by the Bush administration was not one of alternative energies, but rather, one that supported the petroleum industry that both President Bush and Vice President Dick Cheney had close ties to. Hydraulic fracturing proliferated during the Bush presidency, and has dominated the United States energy market, policies, and politicians since. This is the story of that proliferation and domination. Throughout the evolution of this dissertation, two primary ideas have maintained significance. The first is that the various pathways for democratic action and the American citizen to voice opposition to hydraulic fracturing have been blocked, seemingly by the gas and oil industry through governmental routes. The second idea is that the writings of Ralph Miliband can assist in mapping those blocked pathways of democracy and can explain how these routes were initially closed. This dissertation, then, will critically analyze the American state to reveal the many ways that American democracy by the people has become a democracy by the corporations. Analysis will be conducted using power structure research wherein key governmental positions held by the gas and oil elite will be identified, while using the overall framework of Miliband's state apparatus.

The primary argument maintained throughout this dissertation is that the gas and oil industry elite have commandeered American democracy and policies to provide for their own benefit, at the expense of the American people and the health of the environment. For nearly a quarter of a century, policies have been shaped to assist in the proliferation of hydraulic fracturing, while the pluralism of voices in democracy have shifted from the citizens to that of corporate lobbyists and super PAC

² Huizhong Tan. "Solar Energy in China: The Past, Present, and Future." *China Focus* (University of California San Diego, February 16, 2021). <https://chinafocus.ucsd.edu/2021/02/16/solar-energy-in-china-the-past-present-and-future/>.

³ IEA. "Executive Summary: China Currently Dominates Global Solar PV Supply Chains." *International Energy Agency* (July 2022): 7.

donations. This has led to oilmen and other gas and oil elite walking in and out of the revolving door of politics to ensure policies are enacted in their favor. For instance, the federal environmental laws exempted from regulation of hydraulic fracturing for the proliferation's entirety. While many propose ways to work within the present system to 'fix' the corporate domination of energy policy in the United States, this dissertation argues that more drastic measures must be taken in order to fix capitalism, and specifically, to make American government more democratic without the corporate influences that exist today.

As a critical power elite political theorist, Ralph Miliband is key to this analysis of hydraulic fracturing in the United States. Highly critical of pluralism, Miliband recognizes the usurpation of the people's power by the corporate entities who have paid their way into the chambers of City Hall and Capitol Hill in order to win over the wallets of the decisionmakers as well as their parties. Further, Miliband recognizes the power that these individuals gain in facilitating their goals into policies. Miliband's *The State in Capitalist Society* presents a framework of five apparatuses within the state, which provides a template for investigating hydraulic fracturing in American capitalist politics and society. Likewise, Miliband's *Socialism for a Sceptical Society* is drawn upon in the conclusion to assist in illuminating a path for the future. Although Miliband's writing is from an earlier time, his insights from that era can inform the thinkers of today.

Chapter 1 will explore the field of hydraulic fracturing to lay the foundational information necessary to fully understand the analysis presented in this work. The chapter will begin with the explanation of the process of hydraulic fracturing. This dissertation will use a holistic definition of hydraulic fracturing wherein the process includes all aspects from exploration through production, as opposed to the literal process of fracking the well once discovered and drilled. After the process is fully explained, Chapter 1 will review the environmental, health, and social concerns associated with the unconventional drilling practice of fracking. The environmental threat to water supplies is a primary

concern, as there are many routes possible for contamination, from well casing failure to accidental spills above the subsurface. Air pollution is another area of concern, as flaring and other emissions associated with hydraulic fracturing not only contribute to overall greenhouse gas emissions in the atmosphere, but also these emissions pose a threat to the communities in and around the gas and oil fields where the fracking is conducted. Chapter 1 will also introduce the Energy Policy Act (EPAct) of 2005. This piece of legislation was carefully crafted to exempt hydraulic fracturing from all federal environmental regulations while it also devolved all regulatory authority away from the federal government to the individual states. This has caused much debate within the academic community on how hydraulic fracturing ought to be regulated within the current paradigm. The chapter ends with a literature review exploring the various arguments for state regulation, federal regulation, and other hybrid approaches such as cooperative federalism. This is where the argument against the current pluralist paradigm within capitalist society begins. Chapter 2 builds this argument with a review of the critiques of pluralism from such thinkers as Clyde W. Barrow, John F. Manley, Bob Jessop, Jens Bartelson, and Ralph Miliband. The chapter then introduces and explains Miliband's theory of the state in capitalist society and why it is relevant in today's society as well as this dissertation. While exploring the critiques of pluralism, Chapter 2 will begin to explain the corporate domination that exists within American government so that the following case study on hydraulic fracturing can be effectively framed.

The hydraulic fracturing case study is covered in Chapters 3 through 5, as each apparatus of Ralph Miliband's state is explored – the executive, administrative, coercive, judicial, and the sub-central state apparatuses. Chapter 3 begins with the explanation of the split estate. This concept is crucial to understanding how a land- and/or home- owner can be alienated from the ground and the minerals underneath their property. Further, it explains the legality behind forced surface access to the subsurface and minerals below someone's home as well as court cases involving trespass and the rule of capture, as found in Chapter 4. Under the surface of the landscape is where the colonization of the

subsurface is taking place. Chapter 3 then turns to the first of Miliband's apparatuses, the executive, to explain in detail the history behind the leaders of the George W. Bush administration, and the tactics that were taken to ensure that hydraulic fracturing regulations would remain devolved to the sub-central states without the pesky oversight of federal environmental regulations. Former Vice President Dick Cheney and his role in passing the EPOA will be discussed in detail, which will inform the reasoning for the lack of the executive's role in hydraulic fracturing. A review of the various presidential attempts since 2000 to regulate or further de-regulate fracking will then be reviewed. This self-alienation has also reached into the second of Miliband's apparatuses, the administrative apparatus. The EPOA effectively cut the bureaucracy out of any oversight into the process, permitting, or from environmentally regulating hydraulically fractured wells. Although, there are a few commissions made of the individual states and other institutional governance entities, such as the State Review of Oil and Natural Gas Regulations (STRONGER) nonprofit, who heavily involve the industry in the shaping of policy. Chapter 3 also covers the third realm within the Miliband's state, the coercive apparatus. This apparatus generally contains the military, police, and other governmental arms of coercive power. Within the coercive apparatus, in the case of fracking, there are a growing number of 'underground' militarized groups consisting of off-duty coercive apparatus members who work to reinforce the status quo of hydraulic fracturing through the threat of force or imprisonment, on behalf of the gas and oil industry. Further, this section reviews various policies which make it more difficult for the citizens to practice their First Amendment rights to free speech and assembly, with the enactment of such laws as the Critical Infrastructures Protection Act of 2001.

With the exemptions from federal oversight and limited paths for direct opposition to fracking by interested parties, there are few routes of recourse that remain. One direct path that those directly affected by fracking can take is through the judicial system. Chapter 4 reviews the judicial apparatus and the blocked pathways to democracy that exist within this arm of the state. Although judges are

perceived as being immune to the interests and pressures of American society, this chapter will show that this is far from the case. Although federal regulation has been exempted from fracking, there have been a few federal cases involving hydraulic fracturing. However, most of these cases have worked to further deregulate fracking and further devolve authority from the federal government to the states. The state courts have not proven to be friendly to citizens either. In desperation for recourse of ills caused by fracking, tort law has been the only hope for homeowners to find justice. However, nearly all cases have been settled out of court and involve nondisclosure agreements, if the cases are heard at all. If the courts choose to hear the case, they generally show biased tendencies toward the propertied interest with more capital. While the industry wants those harmed to remain quiet about their experiences through nondisclosure, the people are demanding more disclosure from the fracking companies regarding trade secrets and the chemicals used in the fracking process. Redacted public information and cases protecting the secrecy of the gas and oil industry are found within this area of the judicial apparatus. The most severe threat to democracy comes from the preemption cases in the state supreme courts, however. Challenges to Dillon's Rule and home rule provisions have created a tension between the local counties and municipalities who oppose fracking in their communities and the state's interest in economically developing and expanding the extraction of natural gas. Various state supreme court cases will be explored to show how the courts allow for the preemption of corporate dominance despite democratic action.

In the final chapter of the case study, Chapter 5, the locus of devolved power will be explored in the sub-central state apparatus. After a review of the academic debate over where the locus of power for hydraulic fracturing ought to be, the chapter explains how voters in Colorado have democratically chosen to limit their own democracy in the state. This change can be attributed to industry groups that portray themselves as benign community groups, pushing for an idyllic reality with more democracy when in fact, the referendum passed by the citizens restricted their own democracy. The individual

states are the only arenas for the people to participate in politics involving hydraulic fracturing, as this is the location of the periphery – Miliband’s term for the people. After a review of democratic limitations to participation, the chapter covers the types of regulatory tools that are available to the states before taking a closer look in the states of Texas, Pennsylvania, Colorado, and North Dakota. Particular policies will be explained and compared amongst these four shale states to show that each state takes a different route to regulation, and thereby, different strengths of regulation as well. This will bring us to a discussion of policy diffusion and the races to the top or bottom of environmental regulations that are argued to occur amongst the states. Chapter 5 closes with an argument that the solution cannot be found in more deregulation, more devolution, more collaboration, or more public participation as they all exist within the current capitalist paradigm.

The conclusion attempts to rectify this situation of trying to ‘fix’ the current capitalist paradigm to become more democratic with less corporate influence. Like in Miliband’s *Socialism for a Sceptical Age*, Chapter 6 argues for a fundamental change in the way American government functions. However, unlike Miliband, this dissertation argues for a change that goes beyond Miliband. Namely, the need for an ecosocialist reality wherein the state reclaims the subsurface lands and the gas and oil therein for preservation, and not for capitalist consumption. With the evidence of a growing corporatist American government in conjunction with the pressures of global warming, changes must be made. The conclusion does not provide the path to reach this seemingly utopian end; however, it does argue that the ecosocialists of today have much to learn from the socialists of yesterday. Pathways to ecosocialism do not have to originate from a blank slate; these routes to an egalitarian and democratic society have already been suggested in the past. Today’s ecosocialists should not repudiate the socialists in history due to their productivist mindset, there are many suggestions that can be adapted for ecosocialism. This dissertation builds that bridge between Ralph Miliband and today’s ecosocialism.

Chapter 1

Hydraulic Fracturing, The State, and the Elite Capture of Governmental Power

We now live in a reality wherein children come home from school each day to complain about being fatigued, their eyes and skin burning, having daily headaches, and experiencing difficulties breathing – all attributed to hydraulic fracturing operations taking place at the edge of their schoolyard.⁴ Meanwhile, the nearby livestock cattle that are exposed “either accidentally or incidentally” to the emissions in water and/or the air, have been known to experience various neurological, reproductive and acute gastrointestinal problems.⁵ From 2005 through 2013, the extraction process and production of hydraulic fracturing in the United States released 450,000 tons of polluting emissions,⁶ while in Utah, one production field basin was documented as emitting over 60 tons of methane gas in one day.⁷ Consequently, these pollutant releases continue without centralized oversight, as fracking activities have mostly been exempted from federal regulations. To slow or stop the threat to health, the environment, and quality of life; rural and urban citizens in shale plays have raised their voices in concern and have formed citizen coalitions to oppose the extraction technique in their local communities. Much to the

⁴ Ruth McDermott-Levy, Nina Kaktins, and Barbara Sattler. “Fracking, the Environment, and Health: New Energy Practices May Threaten Public Health.” *American Journal of Nursing*. 113, No. 6 (2013): 6.

⁵ Elizabeth Royte. “Fracking Our Food Supply.” *The Nation*. December 17 (2012).

⁶ Elizabeth Ridlington and John Rumpler. “Fracking by the Numbers: Key Impacts of Dirty Drilling at the State and National Levels.” *Environment America*. Environment Maryland, October (2013).

⁷ Anna Karion, Colm Sweeney, Gabrielle Petron, Gregory Frost, Michael Hardesty, Jonathan Kofler, Ben R. Miller, Tim Newberger, Sonja Wolter, Robert Banta, Alan Brewer, Ed Dlugokencky, Patricia Lang, Stephen A. Montzka, Russell Schnell, Pieter Tans, Michael Trainer, Robert Zamora, and Stephen Conley. “Methane Emissions Estimate from Airborne Measurements over a Western United States Natural Gas Field.” *Geophysical Research Letters*. 40 (2013): 4393.

citizens' dismay, the industry utilizes large sums of money to discredit these concerned groups through dis- or mis- information campaigns. As will be detailed in upcoming chapters, some effected community members have taken their tortious claims to local courts while others have had the opportunity to democratically decide on fracking bans and moratoria. However, a large portion of the lawsuits have either been dismissed or settled privately, and most of the bans and moratoria have since been overturned by state courts.

The definition of hydraulic fracturing varies based on the organization or the writer's intent to involve either an exclusionary or inclusionary theme. For purposes of this dissertation, I will allude to an inclusionary definition wherein hydraulic fracturing is not just the specific act of fracking the well, but it relates to the entire process from permitting to drilling to production to well abandonment and capping. This is similar to the definition chosen by Michael Burger, wherein fracking "refers not just to the moment when an operator literally fractures an unconventional formation, but also to the exploration and production process of which that is part."⁸ This chapter will explain all aspects of hydraulic fracturing. First, the process of hydraulic fracturing will be discussed in detail including an overview of the shale plays in the United States, site selection and well development, the technicalities of the drilling and fracking process, the waste produced with well completion before production commences, and the production of natural gas. The chapter will then go into detail of the issues associated with hydraulic fracturing beginning with the environmental concerns over the pollution of water, air, public health, and the social ills that are correlated with fracking activities across the United States. The review of the hydraulic fracturing literature will delineate the role of the state in fracking with a discussion of those who wish to maintain the locus of regulation with the individual states, those who argue for federal regulations, and those who suggest a hybrid form of regulation known as cooperative federalism.

⁸ Michael Burger. "The (Re)Federalization of Fracking Regulation." *Michigan State Law Review*. 1483 (2013b): 1492.

Finally, the chapter will conclude with a discussion of interest group capture at the various levels of government.

The Process of Hydraulic Fracturing

Although there are many unknown quantities and ingredients associated with hydraulic fracturing, the process of extracting unconventional natural gas from shale rock has become familiar within academic and shale communities. Of the 26 shale plays throughout the United States, there are only 7 basins which are primary producers of natural gas.⁹ The most prolific and renowned shale gas play in the United States is the Marcellus Shale, found under the Appalachian Basin states of New York, Pennsylvania, Ohio, West Virginia, Virginia, Kentucky, and Tennessee.¹⁰ This play has the largest known recoverable natural gas resources trapped within the 95,000 square miles of the shale rock located under the surface. The United States Energy Information Administration (EIA) estimated these reserves in 2015 to be 77.2 trillion cubic feet (Tcf) of natural gas.¹¹ Other large and prolific plays in the western US are the Barnett, Eagle Ford, Bakken, and Niobrara Shale plays under Texas, North Dakota, and Colorado. The collective of domestic American shale plays have increased the total proven reserves of natural gas annually, with 2018 breaking the US record for total reserves with 504.5 Tcf, and a 9% increase over the prior year.¹² 2020 was projected to be no exception to the growth, until the unexpected arrival of the Covid-19 pandemic. Updated projections have forecasted a 7% decrease in 2020 due to less demand

⁹ Hsue-Peng Loh and Nancy Loh. "Hydraulic Fracturing and Shale Gas: Environmental and Health Impacts." Chapter 4 in L.K. Wang, C.T. Yang, and M.-H.S. Wang, eds. in *Advances in Water Resources Management*, Handbook of Environmental Engineering, Vol. 16 (Springer International Publishing: Switzerland): 2016, 296.

¹⁰ William J. Brady and James P. Crannell. "Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations." *Vermont Journal of Environmental Law*. 14 (2012): 40.

¹¹ Olga Popova. "Marcellus Shale Play: Geology Review." *U.S. Energy Information Administration*. January (2017): 1.

¹² "U.S. Crude Oil and Natural Gas Proved Reserves, Year-end 2018." *EIA*. December 13, 2019, <https://www.eia.gov/naturalgas/crudeoilreserves/>.

and travel restrictions along with an overall downturn in liquefied natural gas (LNG) pricing globally.¹³

However, this decline in usage is expected to allow for the largest supply of stored natural gas inventory in the United States in history, with nearly 4.2 Tcf.¹⁴

The process of extracting natural gas from unconventional sources has become standardized, with some nuances that vary by company. However, these differences in production are restricted from public knowledge by trade secret protections afforded to companies through nondisclosure of proprietary information which could be used without authorization by competitor companies to extract natural gas. Trade secret protections will be further discussed in Chapter 5 when reviewing the landscape of the sub-central state government, as proprietary protections are regulated by the individual states. The process begins locally, through site selection and obtaining the required mineral rights and permits to drill. Once this has been completed, the well pad is constructed, the initial well borehole is drilled, and the well casing is secured with cement. The conductor casing is set to a depth of around 40 feet deep and is 26 inches in diameter.¹⁵ After the conductor casing is set to secure the top of the wellbore, the next borehole is drilled 2000 feet vertically for the surface casing - the length of which is also secured with cement.¹⁶ Once the cement is cured and the surface casing is secured, the natural gas wellbore is drilled another 5000-7000 feet for the intermediate casing.¹⁷ A directional drill is then used to drill horizontally through the shale rock, and can reach further than a mile from the kickoff point.¹⁸ A perforation gun is then injected into the wellbore to puncture the walls of the shale layer to liberate trapped natural gas previously unrecoverable from the gas pockets within the tight shale rock.

¹³ "Short-Term Energy Outlook." *U.S. Energy Information Administration*. May 12, 2020, <https://www.eia.gov/outlooks/steo/report/natgas.php>.

¹⁴ "Short-Term Energy Outlook (May 12, 2020).

¹⁵ Loh and Loh (2016): 297.

¹⁶ Loh and Loh (2016): 297.

¹⁷ Loh and Loh (2016): 297.

¹⁸ Marc Lallanilla. "Facts About Fracking." *Live Science*. Future US, Inc., February 10, 2018, <https://www.livescience.com/34464-what-is-fracking.html>.

To fracture this rock, the perforation requires tons of pressure. It has been reported to take about 15,000 pounds per square inch to break the rock.¹⁹

The well is then fully prepared for hydraulic fracturing to commence. Each frack technique performed on a well is expected to use between 2 and 20 million gallons of water to mix with chemicals and proppants for the hydraulic fracturing fluid.²⁰ Depending on the geographical location of the well, its surrounding environment, and the infrastructure that may exist in the area, well operators must take different tactics to obtain water for the fracking fluid. For most locations, trucks delivering water and supplies are required, as, typically, there is no readily available water on site. It is estimated that on the average, each frack treatment requires about 2300 truck trips to the well.²¹ Although the amount of water used in each well and frack treatment varies, the fracking fluid concentration of additives remains remotely the same. The slickwater used to frack consists of 98-99.5% water, with 0.5% chemical additives, and the remaining 2% are proppants. According to Joshua P. Dennis, even at the smallest measurement of water needed for a frack treatment (i.e., 2 million gallons) the 2% of chemical additives would equate to 40,000 gallons of chemical additives.²²

There are over 1000 known chemicals used in the fracking process, including 27 known carcinogens such as benzene and acrylamide, as well as the BTEX volatile organic compounds (VOCs) of benzene, toluene, ethylbenzene, and xylene.²³ These trade secret protected compounds are a mixture of

¹⁹ Karen Charman. "Trashing the Planet for Natural Gas: Shale Gas Development Threatens Freshwater Sources, Likely Escalates Climate Destabilization." *Capitalism Nature Socialism*. 21, No. 4 (2010): 76.

²⁰ Robert B. Jackson, Avner Vengosh, J. William Carey, Richard J. Davies, Thomas H. Darrah, Francis O'Sullivan, and Gabrielle Petron. "The Environmental Costs and Benefits of Fracking." *Annual Review of Environment and Resources*. 39 (2014): 334.; Qingmin Meng. "The Impacts of Fracking on the Environment: A Total Environmental Study Paradigm." *Science of the Total Environment*. 580 (2017): 955.

²¹ Minhong Xu and Yilan Xu. "Fraccidents: The Impact of Fracking on Road Traffic Deaths." *Journal of Environmental Economics and Management*. 101 (2020): 3.

²² Joshua P. Dennis. "The Emergence of Natural Gas and the Need for Cooperative Federalism to Address a Big "Fracking" Problem." *San Diego Journal of Climate & Energy Law*. 4 (2012-2013): 258.

²³ Ellen Webb, Sheila Bushkin-Bedient, Amanda Cheng, Christopher D. Kassotis, Victoria Balise, and Susan C. Nagel. "Developmental and Reproductive Effects of Chemicals Associated with Unconventional Oil and Natural Gas Operations." *Review of Environmental Health*. 29, No. 4 (2014): 307-308.; Luisa Torres, Om Prakash Yadav, and

acids, breakers, microbicides, and corrosion inhibitors used to decrease the viscosity of the fracturing fluid, dissolve rock to free trapped gas, kill any previously existing microorganisms in the fracturing fluid, and chemicals to prevent the corrosion of the casings of the well, respectively.²⁴ This chemical soup is then pumped repeatedly at high pressures, 24 hours per day, over the course of 3 days.²⁵ When the fracturing process ceases and the pressure is relieved in the well, the used fracking fluid then discharges from the earth as produced flowback water. Estimates for the resurfacing of flowback vary greatly but range from 15-80% in surface returns.²⁶

The produced flowback water must be disposed of, or recycled, as it not only contains the original concoction of fracturing fluids but the additional naturally occurring contaminants found in the ground, such as suspended solids and iron,²⁷ naturally occurring radioactivity as found in the Marcellus Shale,²⁸ and metals like sodium.²⁹ Despite the fact that the produced water contains many contaminants, a variety of disposal options are available due to the classification of fracking wastewater as non-hazardous. Potential routes of disposal or reuse for flowback water are through dumping into Class II injection wells, open collection pits, evaporation ponds, cleaning and recycling for reuse, and disposal through Publicly Owned Treatment Works (POTW).

Eakalak Khan. "A Review on Risk Assessment Techniques for Hydraulic Fracturing Water and Produced Water Management Implemented in Onshore Unconventional Oil and Gas Production." *Science of the Total Environment*. 539 (2016): 478-493.

²⁴ Webb et al. (2014): 307-308.

²⁵ Xu and Xu (2020): 3.

²⁶ Kerri L. Hickenbottom, Nathan T. Hancock, Nathan R. Hutchings, Eric W. Appleton, Edward G. Beaudry, Pei Xu, Tzahi Y. Cath. "Forward Osmosis Treatment of Drilling Mud and Fracturing Wastewater from Oil and Gas Operations." *Desalination*. (2012).

²⁷ Yaal Lester, Imma Ferrer, E. Michael Thurman, Kurban A. Sitterley, Julie A. Korak, George Aiken, and Karl G. Linden. "Characterization of Hydraulic Fracturing Flowback Water in Colorado: Implication for Water Treatment." *Science of the Total Environment*. 512-513 (2015): 637.

²⁸ Daniel J. Rozell and Sheldon J. Reaven. "Water Pollution Risk Associated with Natural Gas Extraction from the Marcellus Shale." *Risk Analysis*. 32, No. 8 (2012): 1382-1393.

²⁹ Lester et al. (2015): 637.

Environmental, Health, and Social Concerns

Not only does it take a large quantity of water to hydraulically fracture each well, which thereby leads to the need for disposal as explained above; but the process also increases the need to address the issues of supply, accessibility, and quality of water throughout the shale plays in the United States. The Earth is known for its abundance of water. It has been known as the water planet as we are surrounded by large, vast oceans. However, only 3% of the planet's water is freshwater, and far less is accessible and available.³⁰ Due to the directionally drilled and far-reaching character of the frack wells, it is "more likely" that "aquifers, lakes, streams, springs, and rivers" will be drilled underneath their beds.³¹ Importantly, not all of this freshwater is evenly distributed around the land masses of the Earth. For instance, in the Bakken Shale play of North Dakota, much of the fracking freshwater is sourced locally from the headwaters of the Missouri River.³² However, due to water rights of the Missouri River, fracking operators will find groundwater to source from, "where access to the river is restricted", or when waters of the river are otherwise unavailable.³³ Likewise, in the Marcellus Shale play of Pennsylvania, water is sourced from the Susquehanna and Delaware Rivers.³⁴ Oil and gas operators have progressively shifted to utilizing recycling technologies to reuse contaminated flowback water since 2012, thereby decreasing some use of freshwater sources.³⁵ But not all produced water is recyclable, nor is recycling the preferred disposal method in some situations. Fracking waste disposal has become an issue and a point of concern with the various issues of disposal wells, illegal dumping, open pit evaporation, and produced water repurposing.

³⁰ Charman (2010): 74.

³¹ Charman (2010): 76.

³² Torres et al. (2016): 480.

³³ Torres et al. (2016): 480.

³⁴ Torres et al. (2016): 480.

³⁵ Torres et al. (2016): 480.

Water sourcing for hydraulic fracturing operations varies depending on state, water availability, water rights, and climate. In the eastern United States, where riparian water is abundant, many fracking operations source their waters from the local rivers that flow lazily across the land. Other sources can be freshwater wells, municipal water supplies, and lakes.³⁶ These water sources may be adjacent to the fracking operations, piped in, or delivered by truckload. As previously mentioned, each well takes 2-20 gallons of freshwater to hydraulically fracture a well.³⁷ The amount varies due to the “shale gas play, the operator, well depth, number of fracking stages, and length of laterals.”³⁸ In other words, some of the shale rock is more permeable than others, wells are drilled at different depths and lengths which requires more water to fill the borehole, also, many wells are fracked more than once thereby contributing to more water usage for each fracking stage. Geology and climate tend to be the primary factors affecting the amount of water required to frack a well, as shown through the exponentially higher amounts of water usage required for the Barnett Shale play in Texas, compared to the other shale plays throughout the United States. According to Chen and Carter, the water usage in Texas from 2008 through 2014 was 457.42 Mm³.³⁹ The water usage in other states during that same time frame paled in compared usage, with the second highest user being Pennsylvania with 108.67 Mm³.⁴⁰

Water availability varies per state and climate, which requires different sourcing of freshwater supplies for the various shale plays in the United States. As already stated, in the eastern United States water supplies are prevalent in the region, and much of the freshwater is sourced from rivers and groundwater. On the other hand, the western United States, where the environment is more arid and

³⁶ Christopher G. Struchtemeyer, Micheal Morrison, and Mostafa S. Elshahed. “A Critical Assessment of the Efficacy of Biocides used during the Hydraulic Fracturing Process in Shale Natural Gas Wells.” *International Biodeterioration & Biodegradation*. 71 (2012): 15.

³⁷ Jackson et al. (2014): 955.

³⁸ Jean-Phillippe Nicot and Bridget R. Scanlon. “Water Use for Shale-Gas Production in Texas, US.” *Environmental Science & Technology*. 46 (2012): 3580.

³⁹ Huan Chen and Kimberly E. Carter. “Water Usage for Natural Gas Production Through Hydraulic Fracturing in the United States from 2008 to 2014.” *Journal of Environmental Management*. 170 (2016): 154.

⁴⁰ Chen and Carter (2016): 154.

freshwater is less available, operators must get creative with water sourcing. In Texas, for example, most of the water available is either owned by the state or landowners.⁴¹ For gas and oil operations to obtain surface water in Texas, operators must receive a water-right permit that allows for diversions from the state.⁴² A permit is not required for groundwater withdrawals, however, most of this source is owned by landowners.⁴³ Texas water law provides rights for landowners to unlimited water withdrawals from groundwater under owned property. The rule of capture was established under Texas water law in 1904, stating that landowners may “pump as much water as they choose, without liability to surrounding landowners who might claim that the pumping has depleted their wells.”⁴⁴ Negotiations with landowners ensure that operators will obtain enough groundwater sources to frack in the Eagle Ford Shale play in Texas, as 90% of the new wells fracked use groundwater for freshwater sourcing.⁴⁵ Tensions are growing over water use, and have the potential to further intensify in the Dallas-Ft. Worth area of the Barnett Shale, as the urban area sees more increases in growth.⁴⁶

Water contamination is another water issue associated with hydraulic fracturing. There are many routes for contamination possible throughout the entire process of hydraulic fracturing. Hydraulic fracturing fluid is concocted with a mixture of chemicals, water, and proppants, or sand. The late endocrinologist Theo Colborn, along with the Committee on Energy and Commerce have identified 2,500 different products used in hydraulic fracturing which contain 750 chemicals and components.⁴⁷ The various chemicals used in hydraulic fracturing are additives which include “lubricants, biocides, scale and rust inhibitors, solvents, foaming and defoaming agents, emulsifiers and de-emulsifiers, stabilizers,

⁴¹ Nicot and Scanlon (2012): 3581.

⁴² Nicot and Scanlon (2012): 3581.

⁴³ Nicot and Scanlon, (2012): 3581.

⁴⁴ “Texas Water Law,” *Texas A&M University*. 2014, <https://texaswater.tamu.edu/water-law>.

⁴⁵ Torres et al., 2016: 480.

⁴⁶ Matthew Fry, David J. Hoeinghaus, Alexandra G. Ponette-Gonzalez, Ruthanne Thompson, and Thomas W. La Point. “Fracking vs. Faucets: Balancing Energy Needs and Water Sustainability at Urban Frontiers.” *Environmental Science & Technology*. 46 (2012): 7444-7445.

⁴⁷ Loh and Loh (2016): 304-305.

and breakers.”⁴⁸ Of these chemicals identified within the fracking fluids, 75% are known to cause ailments of the “skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems.”⁴⁹ Additionally, 40-50% of the chemicals have been known to affect the “nervous system, immune and cardiovascular system and kidneys”,⁵⁰ while “37% of the total chemicals are known to affect the endocrine system and 25% can cause cancer.”⁵¹ These are volatile organic compounds (VOCs), which are carcinogenic and include such chemicals as butane, toluene, ethylbenzene, and xylene, but also other suspected cancer causing chemicals, such as acrylamide.⁵² The carcinogenic VOCs are also familiarly known as BTEX compounds.

Although the wellbore and the cement casings are initially constructed to seal off fracking fluids and methane gas from the ground around it, it is still possible for casings to fail, allowing contaminants to spill into the ground and waterways around the well. The risk and potential for contamination is always present. The risk is elevated or decreased based on the geology of the surrounding rock, vertical faults in the rock, and the depth of the source rock.⁵³ The possible pathways of contamination through methane and fracking fluid migration into water sources include: the “leakage of pressurized gas through uncompleted casing to a shallow fracture system,” migration of gas from the well, possibly “enhanced by fracturing,” and poor well integrity caused through improperly poured and/or sealed cement casings, failures in the well casings, and failures caused through well abandonment.⁵⁴ Abandonment is the stage after the well is depleted, wherein the well is plugged with a concrete barrier at various depths.⁵⁵

⁴⁸ Royte (2012).

⁴⁹ Torres et al. (2016): 488.

⁵⁰ Torres et al. (2016): 488-489.

⁵¹ Torres et al. (2016): 489.

⁵² Webb et al. (2014): 308.

⁵³ Loh and Loh (2016): 319.

⁵⁴ Loh and Loh (2016): 319-320.

⁵⁵ American Water Works Association. “Water and Hydraulic Fracturing: A White Paper from the American Water Works Association.” *American Water Works Association*. (2013).

It is important to note that the gas and oil industry claims there has never been a proven case of water contamination from a frack well. In 2010, the chairman and CEO of Exxon/Mobil, Rex Tillerson, testified to Congress that “There have been over a million wells hydraulically fractured in the history of the industry, and there is not one – not one – reported case of a freshwater aquifer having ever been contaminated.”⁵⁶ Yet, it is increasingly common to find homes around fracking and drilling operations that experience methane laden tap water in which they are able to light on fire.⁵⁷ Osborn et al. found that homes in the Marcellus Shale had 17 times higher methane concentrations in water wells, most likely caused by faulty casing and cement.⁵⁸ One reason that it can be claimed there has not been a proven case of groundwater contamination is due to a discrepancy with the investigations of the US Environmental Protection Agency (EPA). The EPA found toluene, 2-butoxyethanol, and benzene at “50 times safe levels” in Pavillion, Wyoming groundwater. However, the lack of pre-drilling data on the groundwater makes the source liability of the contamination difficult to pinpoint.⁵⁹ Because fracking is not regulated under federal environmental protections, such as the Resource Conservation and Recovery Act (RCRA) and the Safe Drinking Water Act (SDWA), it is highly recommended that independent data ought to be collected prior to drilling in order to establish baseline water quality data in particular locations.⁶⁰ In some states, collection of pre-drilling water samples is required, as any contamination post-drilling is at the operator’s liability.⁶¹ This and other discrepancies which prevent there from being a documented case of water contamination caused by hydraulic fracturing will be discussed in further detail in Chapter 4.

⁵⁶ Loh and Loh (2016): 312-313.

⁵⁷ Charman (2010): 78.

⁵⁸ Jackson et al. (2014): 308.

⁵⁹ Jackson et al. (2014): 342.

⁶⁰ Stephen G. Osborn, Avner Vengosh, Nathaniel R. Warner, and Robert B. Jackson. “Methane Contamination of Drinking Water Accompanying Gas-Well Drilling and Hydraulic Fracturing.” *PNAS*. 108, No. 20 (2011): 8176.

⁶¹ American Water Works Association (2013).

The stage of fracking after the pressure has ceased creates two forms of waste: flowback and produced water. Flowback is the remaining fracking fluid that arises from the wellbore “during and after the completion of hydraulic fracturing.”⁶² Flowback rates vary per well and shale play, but it is common for only 20-40% of the initial fracking fluids to return to the surface.⁶³ Produced water is the “naturally occurring” water that will surface for the life of the well, generally contains high amounts of total dissolved solids (TDS), and can include naturally occurring minerals found in the shale rock including barium, calcium, iron, and magnesium as well as dissolved hydrocarbons such as methane, ethane, propane, and radioactive radium isotopes.⁶⁴ Flowback potentially contains carcinogens, such as propylene oxide, formaldehyde, diesel, and lead.⁶⁵ Despite the low return rates of flowback, with the proliferation of hydraulic fracturing, waste disposal has become an issue in some shale plays.

There are various ways to dispose of or reuse the flowback water that returns to the surface during and after hydraulic fracturing. Underground injection wells are commonly sought out for disposal of flowback waste, but the availability of this type of well is limited, especially in the eastern United States.⁶⁶ Underground injection of flowback is regulated by the federal Underground Injection Control (UIC) program, which is reviewed in each state by the Ground Water Protection Council (GWPC).⁶⁷ In the last decade, deep underground injection has been the favored method with about 95% of all wastewater from fracking sites disposed of in these wells.⁶⁸ These Class II deep injection wells are more prevalent in states like Texas, California, Oklahoma, Kansas, North Dakota, and Ohio, due to the geology

⁶² Ric Termine. “What is Flowback, and how does it differ from Produced Water?” *Termine Group*. October 30, 2018, <https://termine.com/archives/494>.

⁶³ Termine (2018).

⁶⁴ Termine (2018).

⁶⁵ Loh and Loh (2016): 306.

⁶⁶ Loh and Loh (2016): 307.

⁶⁷ Gianna Cricco-Lizza. “Hydraulic Fracturing and Cooperative Federalism: Injecting Reality into Policy Formation.” *Seton Hall Law Review*. 42 (2012): 716.

⁶⁸ Jackson et al. (2014): 341.

in these areas.⁶⁹ Class II injection wells can sometimes be found on site, but are normally located in areas where flowback and produced water must be delivered by trucks to be held in large storage tanks before being injected into the deep wells.⁷⁰ The additional issue found with using deep well injection for fracking waste has been the induced seismicity associated with the subsurface dumping of the waste. Earthquakes near a magnitude of 5.7 have been felt in such locations as Oklahoma, Colorado, Texas, and Arkansas.⁷¹ This unfortunate side effect of waste disposal in deep injection wells has been well documented since the 1960s, where many earthquakes were found to be associated with “fluid injection to deep geological formations.”⁷²

Another form of disposal is through surface discharges to waterways. Permitted waste disposal generally does not allow for the direct disposal of flowback into surface water due to the high concentration of TDS and other contaminants found in hydraulically fracked wastewater. National Pollutant Discharge Elimination System (NPDES) permits are issued by state agencies, which create standards for pollutants found in the waters before disposal into surface waters can take place. Many times, these wastewaters are required to be trucked to publicly owned treatment works (POTWs) which must abide by EPA national discharge standards through effluent limitations guidelines.⁷³ This method of disposal is especially common in the Marcellus Shale play of Pennsylvania where Class II deep underground injection wells are rare. Flowback from these wells must be trucked to the POTW site, stored, and then properly treated before the water can be discharged into surface waters.⁷⁴ Voluntary reporting in 2011 informed the public that 44% of the wastewater produced in the Marcellus Shale was treated in POTWs, while 56% of the flowback and produced waters were recycled.⁷⁵ Recycling, rather

⁶⁹ Jackson et al. (2014): 341.

⁷⁰ Loh and Loh (2016): 309.

⁷¹ Jackson et al. (2014): 345.

⁷² Loh and Loh (2016): 326.

⁷³ Loh and Loh (2016): 309.

⁷⁴ Loh and Loh (2016): 310.

⁷⁵ Jackson et al. (2014): 141.

than discharging, wastewater has become a preferred method in order to reduce the amount of waste while consecutively reducing the sourcing and cost of obtaining freshwater for fracking operations thereby reducing the potential scarcity of water driven through fracking operations. In fact, from 2008 through 2014, it was found that around half of the water used for fracking operations annually was recycled wastewater.⁷⁶ Recycling capability and rates tend to vary per producer, as does the geology of the shale plays, and the availability of water in the local areas.⁷⁷ An amendment to a statute in Pennsylvania has helped to make recycling a requirement wherein any oil and gas wastewater not exceeding 30,000 mg/L of TDS must be recycled rather than discharged.⁷⁸

More common in the semi-arid western United States, evaporation ponds are an alternative way to dispose of the wastewater from fracking operations. Evaporation of wastewaters tends to create the byproduct of soluble salts and barium after treatment.⁷⁹ Most evaporation pits are plastic lined, but are known to puncture easily, creating spills and contamination into local waterways and seepage into the ground. Additionally, these ponds have been known to overflow into the surrounding areas during periods of heavy precipitation.⁸⁰ State officials in New Mexico have documented over 800 cases of water contamination stemming from issues with evaporation pits.⁸¹ Likewise, in Pennsylvania, damage to a lined evaporation pit contaminated a local pond, spring, and eliminated the surrounding vegetation. Due to the contaminated pond, 16 cattle tested in the area were found to have high amounts of strontium in their systems.⁸² Cattle and other livestock have a high potential to enter our food supply as contaminated meats. Farmers and ranchers near fracking operations are not required to provide proof

⁷⁶ Chen and Carter (2016): 152.

⁷⁷ American Water Works Association (2013).

⁷⁸ Loh and Loh (2016): 310.

⁷⁹ Emma Garrison, Lee Ann Hill, and Noah Mark. "Frack Attack: How Hydraulic Fracturing for Natural Gas Threatens Human Health." *Proceedings of the National Conference on Undergraduate Research*. March 31- April 2 (2011), 673-682.

⁸⁰ Charman (2010): 78.

⁸¹ Charman (2010): 78.

⁸² Garrison et al. (2011): 679.

to middle markets that their livestock are fracking contaminant free.⁸³ Some exposed livestock do not live long enough to enter our food supply. After wastewater breached an impoundment pit in Pennsylvania, it flowed into a nearby pasture utilized as a nursery for pregnant cattle, which resulted in the exposure of 140 cattle, and the deaths of 73, including calves.⁸⁴

Although water seems abundant around the world, freshwater supplies are limited. There have been many advancements to ensure that water scarcity is addressed globally, but little has been done to address the potential water pollution caused by hydraulic fracturing operations in the United States. Water substitutes have been experimented with successfully for fracking, such as nitrogen gas or nitrogen-based foams, carbon dioxide, and liquified petroleum gas (LPG).⁸⁵ Not only do these alternatives replace the water used in fracking operations, but they also decrease the amount of chemicals necessary to treat the water based fracking fluids that are commonly used. LPG holds the most potential in replacement of water-based fluids in that usage would decrease water pollution and water pollution potential through on-site spills, LPG has a high recovery rate after production as it turns to gas when pressurized underground, and the byproduct (i.e., kerosene), can be extracted from the methane (i.e., natural gas) to become a sellable product.⁸⁶ The advancement of greener technologies has not proven to be a lucrative arena for business, as some of these companies have permanently closed due to bankruptcy,⁸⁷ while other green fracking pioneers are finding themselves embattled in courts with Halliburton over alleged patent violations.⁸⁸

⁸³ Royte (2012).

⁸⁴ Royte (2012).

⁸⁵ Rozell and Reaven (2011): 1391.

⁸⁶ Rozell and Reaven (2011): 1391.

⁸⁷ Darren Barbee, "Bankrupt High-Tech Fracking Company Sells Assets," *Hartenergy.com*. Hart Energy, March 4, 2015. <https://www.hartenergy.com/exclusives/bankrupt-high-tech-fracking-company-sells-assets-26469>.

⁸⁸ Blake Brittain, "Halliburton Says Patent Ruling Derails U.S. Well Lawsuit over Fracking Technology," *Reuters.com*. Reuters, January 19, 2023. <https://www.reuters.com/legal/litigation/halliburton-says-patent-ruling-derails-us-well-lawsuit-over-fracking-technology-2023-01-19/>.

Air emissions from hydraulic fracturing sites pose another risk to the health of human, animal, and plant life around well pads and pipelines. Methane gas is released into the atmosphere during all stages of fracking – throughout drilling, during processing, while transporting, and when burning the gas.⁸⁹ Air pollution from exploration is also an issue, as large seismic trucks, vehicle traffic, and emissions from diesel pumps adds to ozone (O₃) pollution. In fact, a measurement of 124 parts per billion of ozone pollution was recorded in 2011 in Pinedale, Wyoming.⁹⁰ This measurement is 66% higher than the EPA’s daily allowable limit of pollution. Methane is the emission to be concerned with, however, as “methane is a greenhouse gas over 80 times more damaging than CO₂ during the first 20 years it remains in the atmosphere.”⁹¹ It has been argued that if natural gas leaks exceed 3.2% during the transmission from extraction to power plant, the immediate impacts would be more devastating than the emissions from a coal-fired power plant.⁹² Measurements have estimated that around 3.6-7.9% of the methane from shale gas wells will be released into the air over the lifetime of a well.⁹³ A study by Robert Howarth argues that the methane releases into the atmosphere from natural gas are 20-100% higher than that of coal, on a 20 year timeline.⁹⁴

The initial air pollution created at a hydraulic fracturing well site is caused through the placement of production infrastructure. This includes releases from the equipment necessary to lay “pipeline networks, compressor stations, and processing facilities.”⁹⁵ Particulate matter (PM), carbon dioxide (CO₂), and nitrogen oxide (NO_x) can be found around a well site during the infrastructure

⁸⁹ Charman (2010): 81.

⁹⁰ Charles Davis. “The Politics of “Fracking”: Regulating Natural Gas Drilling Practices in Colorado and Texas. *Review of Policy Research*. 29, No. 2 (2012): 181.

⁹¹ Thomas N. Russo. “Rethinking US Natural Gas Exports and Climate-Change Benefits.” *Natural Gas Electricity*. July (2019): 22.

⁹² Karion et al. (2013): 4393.

⁹³ M.L. Finkel, and J. Hays. “The Implications of Unconventional Drilling for Natural Gas: A Global Public Health Concern.” *Public Health*. 127 (2013): 890.

⁹⁴ Loh and Loh 2016: 325.

⁹⁵ Jackson et al. (2014): 346.

preparation, which consists of the building of “access roads, clearing a 3- to 5-acre well pad, and drilling.”⁹⁶ During the production and processing stage, methane leakage is possible through casing imperfections and venting of the well, wastewater storage tanks and ponds, and the intentional flaring at particular sites.⁹⁷ It has been found that the highest amount of hydrocarbon emissions were found from open tank and open ponds that store produced water and flowback at well sites, including “aromatics and higher mass alkanes.”⁹⁸ In the Denver-Julesburg region, the highest emissions of VOCs occurred through the venting of condensate storage tanks, totaling 70% of the entire emissions in the region.⁹⁹ The risks posed to the people and environment around the construction of the well pad and the production of natural gas are initially extended to the workers that are employed in the construction and production. It has been shown that the workers on the well pad are exposed to silica dust that exceed the National Institute for Occupational Safety and Health limits to exposure by 10 times.¹⁰⁰

A major route to air pollution from the fracking process is through flaring. Flaring has been a global issue in oil production for decades, but with the proliferation of hydraulic fracturing, flaring has been extended to some natural gas operations as well. Flaring can be defined as “the burning of natural gas or associated gases at the wellhead of an oil well during the process of extracting oil.”¹⁰¹ Gas and oil operators choose to flare natural gas to dispose of, or burn off, excess gas when the wells have outpaced the construction of the infrastructure capable of capturing and then transmitting the gas to processing plants.¹⁰² Further, producers may decide that the market for natural gas is unfavorable, and

⁹⁶ Jackson et al. (2014): 346.

⁹⁷ Jackson et al. (2014): 347.

⁹⁸ Jackson et al. (2014): 347.

⁹⁹ Jackson et al. (2014): 348.

¹⁰⁰ Jackson et al. (2014): 351.

¹⁰¹ Erin Thomas. “Capping the Flame: Solving North Dakota’s Natural Gas Flaring Problem Through Cap and Trade.” *George Washington Journal of Energy & Environmental Law*. 8, No. 2 (2017): 138.

¹⁰² Christopher D. Elvidge, Daniel Ziskin, Kimberly E. Baugh, Benjamin T. Tuttle, Tilottama Ghosh, Dee W. Pack, Edward H. Erwin, and Mikhail Zhizhin. “A Fifteen Year Record of Global Natural Gas Flaring Derived from Satellite Data.” *Energies*. 2 (2009): 595-622.

will flare or vent the gas until “domestic or international energy market” pricing becomes more favorable.¹⁰³ Not only does flaring emit harmful pollution into the air, but it contributes to the heat, light, and noise pollution at well sites, which are already consistent issues for surrounding neighbors to the wells.¹⁰⁴

The exponential and rapid growth of fracking in North Dakota was accompanied by high volumes of natural gas flaring in the Bakken Shale. The Bakken Shale play exists underneath the states of North Dakota, South Dakota, and Wyoming, and the Canadian Provinces of Manitoba and Saskatchewan. It is the largest shale play in North America spanning across nearly 15,000 square miles.¹⁰⁵ In the early 2010s, North Dakota natural gas production grew exponentially, and it was reported that “at least 30%” of the gas recovered in the state’s Bakken Shale was flared.¹⁰⁶ According to Ceres, an environmental advocacy group, North Dakota flaring burns off enough energy from natural gas that if captured, would be enough to heat 500,000 homes each day.¹⁰⁷ When Bakken Shale producers began flaring in 2012, more than \$1 billion worth of natural gas was released into the atmosphere, equating to around 4.5 metric tons of CO₂.¹⁰⁸ Globally, it is estimated that 281 billion metric tons of CO₂ is flared annually.¹⁰⁹

Not only does the gas and oil industry lose money through flaring, but this creates a drastic increase in carbon monoxide (CO), carbon dioxide (CO₂), nitric oxide (NO), and nitrogen dioxide (NO₂)

¹⁰³ Franz Gerner, Bent Svensson, and Sascha Djumena. “Gas Flaring and Venting: A Regulatory Framework and Incentives for Gas Utilization.” *Public Policy Journal*. 279 (2004): 3.

¹⁰⁴ Thomas (2017): 138.

¹⁰⁵ Thomas (2017): 139.

¹⁰⁶ Jack Peckham. “‘Green’ Investors Pressure Fracking Companies to Stop Natural-Gas Flaring.” *Diesel Fuel News*. 17, No. 3 (2013): 3.

¹⁰⁷ Peckham (2013): 4.

¹⁰⁸ Thomas (2017): 139.

¹⁰⁹ M. Davoudi, M.R. Rahimpour, S.M. Jokar, F. Nikbakht, and H. Abbasfard. “The Major Sources of Gas Flaring and Air Contamination in the Natural Gas Processing Plants.” *Journal of Natural Gas Science and Engineering*. 13 (2013): 7.

emissions.¹¹⁰ Additionally, flaring has been known to release particulate soot, VOCs, and unburned fuel.¹¹¹ Sour gases can also be flared, as a disposal method, which is a common method in the Bakken Shale. When sour gas is released and flared, sulfur dioxide (SO₂) is released into the atmosphere, in addition to the CO, CO₂, NO, and NO₂.¹¹² Gas and oil producers in the Bakken Shale have been warned that “flaring poses financial, operational, and reputational risks”, and the act thereof could potentially threaten operator’s licenses to operate.¹¹³ Not only does flaring pose risks for operators, but there are environmental and public health concerns as well. In addition to the GHGs, VOCs, and noxious gases emitted into the atmosphere, are the “effects such as respiratory, skin, and vision problems” associated with gas flaring pollution.¹¹⁴ Quality of life issues that are correlated with natural gas flaring are odors and light emitted from the flares.¹¹⁵ Ultimately, flaring is seen as a “multibillion dollar waste and a local environmental catastrophe.”¹¹⁶

As the proliferation of fracking for natural gas has spread across the United States shale plays, these operations are not restricted to non-populated areas. It has been estimated that around “eighteen million people live within a mile of an active oil or gas well, and half of these wells have been drilled since 2000 in the United States.”¹¹⁷ The residents in shale play areas have expressed many concerns over the fracking operations that are in their local communities. In most communities, there have been complaints of human and animal sicknesses, animal defects, fear of or harm caused through drinking or bathing in water from wells near fracking operations, concerns over the hazards of exponentially

¹¹⁰ G.E. Umukoro, and O.S. Ismail. “Modelling Emissions from Natural Gas Flaring.” *Journal of King Saud University – Engineering Sciences*. 29 (2017): 182.

¹¹¹ Davoudi et al. (2013): 7.

¹¹² Umukoro and Ismail (2017): 182.

¹¹³ Peckham (2013): 4.

¹¹⁴ Thomas (2017): 139.

¹¹⁵ Thomas (2017): 139.

¹¹⁶ Umukoro and Ismail (2015): 178.

¹¹⁷ Jane A. McElroy, Christopher D. Kassotis, and Susan C. Nagel. “In Our Backyard: Perceptions About Fracking, Science, and Health by Community Members.” *New Solutions: A Journal of Environmental and Occupational Health Policy*. 30, No. 1 (2020): 42.

increased large truck traffic traveling to and from wells, the boom-and-bust cycles felt in towns and cities, and imbalances in power amongst government, industry, and the people – all associated with the spread of hydraulic fracturing.

There are many health dangers correlated with hydraulic fracturing operations. The various emissions into the water and air contain cancer-causing pollutants which are harmful to human and animal life. As mentioned previously, Theo Colborn has identified many of the chemicals used in hydraulic fracturing. She argues that more than 75% of these chemicals “could affect sensory organs and respiratory and gastrointestinal systems; 40 to 50 percent have potential impacts on the kidneys and on the nervous, immune, and cardiovascular systems; 37 percent act on the hormonal system; and 25 percent are linked with cancer or mutations.”¹¹⁸ Hydraulic fracturing has been directly linked with many developmental and reproductive issues, as “the developing fetus is particularly sensitive to environmental factors.”¹¹⁹

According to Webb et al., there are five primary developmental and reproductive effects connected to local hydraulic fracturing operations. These issues are the quality of semen in both men and animals, irregular menstrual cycles and fecundity in women, miscarriage and stillbirths, preterm births and low birth rates, birth defects, and long term health issues and diseases that originate in the development of fetuses when gestation occurs near fracking operations.¹²⁰ Referring to studies on rubber factory employees, exposure to BTEX chemicals has shown to have negative impacts on sperm count and quality – as do formaldehyde, ethylene glycol, and ambient ozone – all chemicals commonly found near gas well pads, gas and oil fields, and in the atmosphere in these regions.¹²¹ A study on female petrochemical workers in Beijing has shown that exposure to toluene and benzene disrupts normal

¹¹⁸ Royte (2012).

¹¹⁹ Webb et al. (2014): 307.

¹²⁰ Webb et al. (2014): 310-313.

¹²¹ Webb et al. (2014): 310.

menstrual cycles.¹²² Toluene exposure has also been associated with the “difficulty conceiving, the inability to conceive, as well as premature menopause in women.”¹²³ Miscarriage and stillbirths are linked directly to lead exposure in women as well as occupational benzene and toluene exposure. Further, toluene and formaldehyde occupation exposure for fathers has been linked to miscarriage and stillbirth for their partners.¹²⁴ Although premature births are still the leading “global cause of perinatal morbidity and mortality”, fine particulate matter (PM) found in the atmosphere in areas around hydraulic fracturing operations is most commonly connected to preterm birth and low birth weight.¹²⁵ Birth defects and origination of disease in the development of fetuses and children can be brought upon through many outlets. Exposure to “chemicals via inhalation or ingestion of contaminated air, water and foods can adversely affect developing fetuses” and can travel through the mother into the placenta, as well as post-birth through breastmilk.¹²⁶ Environmental exposure to hydraulic fracturing operation emissions by expecting mothers has been positively associated with the development of congenital heart defects (CHDs) in the United States.¹²⁷ According to McKenzie et al., “[a]nimal models demonstrate that CHDs can occur with a single environmental exposure” of pollutants such as BTEX compounds and diesel exhaust found in rural UOG areas, “during early gestation.”¹²⁸ But not only is hydraulic fracturing wreaking havoc on the quality of our environment and the physical health of the human body, but it is also damaging mental wellbeing through the associated social affects that fracking produces in shale communities.

¹²² Webb et al. (2014): 311.

¹²³ Webb et al. (2014): 311.

¹²⁴ Webb et al. (2014): 311.

¹²⁵ Webb et al. (2014): 311-312.

¹²⁶ Webb et al. (2014): 312.

¹²⁷ Lisa M. McKenzie, William Allshouse, and Stephen Daniels. “Congenital Heart Defects and Intensity of Oil and Gas Well Site Activities in Early Pregnancy.” *Environmental International*. 132 (2019): 1-11.

¹²⁸ McKenzie et al. (2019): 2.

The proliferation of fracking and the race to stake claim on shale gas plays across the United States creates a shift in population and growth in previously rural areas. The psychological health, infrastructure, and social bonds in boomtown communities quickly becomes overburdened with the population growth and activity renowned in shale gas communities. In many rural areas, the “inestimable values of the prairie – silence, solitude, serenity”¹²⁹ have been disrupted with population booms, DUI arrests, crime, decreased housing and employment availability, strains on public services and infrastructure, stress on the local government from “inadequate funding”,¹³⁰ traffic and vehicular accidents, violent crimes, and sexual assaults.¹³¹ Many boomtowns are unprepared and ill equipped to manage the drastic and rapid changes they experience.

The most renowned case of municipal growing pains due to fracking is in the boomtown of Williston, North Dakota. In 2010, prior to the natural gas boom, Williston had a population of 15,000 people.¹³² By 2017, the population was recorded at more than double that amount – 34,337 people.¹³³ This rural town was unprepared for the infiltration of oilfield workers and was ill-prepared to house everyone. Mobile neighborhoods known as Man Camps, started to fill local fields as people and mobile homes moved in to offset the strain on local housing. Many local families were forced to relocate as oil companies purchased apartment complexes to house the employees, while rents increased to amounts five times what the residents had previously known.¹³⁴ Crime in Williston saw a 30% increase in the first

¹²⁹ Edwin Dobb. “The New Oil Landscape.” *National Geographic*. March (2013): 28-59.

¹³⁰ Garrison et al. (2011): 679.

¹³¹ Timothy Komarek. “Crime and Natural Resource Booms: Evidence from Unconventional Natural Gas Production.” *The Annals of Regional Sciences*. (2014): 1-25. doi:10.1007/s00168-018-0861-x.

¹³² Justin Walton. “The Biggest Oil Towns in North Dakota.” *Investopedia*. November 12, 2019, <https://www.investopedia.com/articles/investing/100715/biggest-oil-towns-north-dakota.asp>.

¹³³ Melissa Krause. “Census Shows Small Population Drop from 2015 to 2016 in Williston.” *Williston Herald Media*. March 25, 2017, https://www.willistonherald.com/news/census-shows-small-population-drop-from-2015-to-2016-in-williston/article_6f51fd68-10f8-11e7-91ea-7ff9e2319986.html.

¹³⁴ Dobb (2011): 54.

year of the oil boom,¹³⁵ much attributed to the influx of “young males earning a high salary with little attachment to the community.”¹³⁶ Additionally, the growth in population causes strains on roads, traffic, and infrastructure in which the rural towns are unequipped to handle.¹³⁷ However, Williston is not an isolated example of the boomtown social costs experienced with the proliferation of hydraulic fracturing. Locations such as Sublette County in Wisconsin experienced population increases of 21%, while crime rates increased by 270%.¹³⁸

Accompanying the growth in population and natural gas development are large increases of commuting vehicles and eventually, road infrastructure damage. Xu and Xu explain that hydraulic fracturing requires an increased amount of truck trips than does conventional gas and oil development, due to the intensive amounts of water needed for fracking fluids, drilling fleets, supplies, and the subsequent disposal of the produced water.¹³⁹ It is estimated that 1,000-2,000 diesel trucks are needed to frack each well.¹⁴⁰ Studies have shown there is a correlation between oilfield drilling and “occupational injuries related to drilling and motor vehicle accidents, explosions, falls, and fires.”¹⁴¹ Moreover, the increase in truck trips has the potential to produce ground level ozone, particulate matter, and carbon dioxide in local areas.¹⁴² The public has voiced their concerns over the increased large vehicle traffic, “decreased road safety, dust, noise, spillage, air quality, habitat degradation, and road damage”, as these are the most cited public concerns associated with hydraulic fracturing.¹⁴³

¹³⁵ Joshua P. Fershee. “North Dakota Expertise: A Chance to Lead in Economically and Environmentally Sustainable Hydraulic Fracturing.” *North Dakota Law Review*. 87 (2011): 485-505.

¹³⁶ Komarek (2014).

¹³⁷ Fershee (2011): 493.

¹³⁸ Garrison et al. (2011): 679.

¹³⁹ Xu and Xu (2020): 2.

¹⁴⁰ McDermott-Levy et al. (2013): 48.

¹⁴¹ McDermott-Levy et al. (2013): 48.

¹⁴² McDermott-Levy et al. (2013): 48.

¹⁴³ Ray C. Duthu and Thomas H. Bradley. “A Road Damage and Life-Cycle Greenhouse Gas Comparison of Trucking and Pipeline Water Delivery Systems for Hydraulically Fractured Oil and Gas Field Development in Colorado.” *PLOS One*. July 7, 2017: 2.

The concern over decreased road safety is legitimate, as found by Xu and Xu, wherein there is a correlation between an increased amount of frack wells and an increased severity of “truck-involved fatal crashes.”¹⁴⁴ It was found that there are more fatal accidents involving trucks in the post-fracking stage when vehicles are hauling produced water to disposal wells and other disposal sites.¹⁴⁵ However, the Centers for Disease Control and Prevention (CDC) has discovered that 27% of all gas and oil worker fatalities are classified as highway related vehicle crashes in the United States.¹⁴⁶ Unlike most semi-trailer operators in the United States, gas and oil extraction companies are exempt from “hours-of-service” regulations as instated by the United States Department of Transportation, potentially leading to driver fatigue and higher accident rates.¹⁴⁷

Regulations and the Role of the State

Federally, the United States government does not play a large role in hydraulic fracturing regulations. The Energy Policy Act (EPA) of 2005 effectively exempted fracking from the major federal environmental statutes, including: the Clean Air Act (CAA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), the Emergency Planning and Community Right to Know Act (EPCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - also popularly known as the Superfund Act, and the National Environmental Policy Act (NEPA).¹⁴⁸ These exemptions have become infamously known as the Halliburton Loophole, after the role that Dick Cheney, former Vice President and Halliburton CEO, played in pushing the EPA through Congress in the first term of the George W. Bush presidency. Investigative reports have since uncovered at least 40 meetings held by the task force with industrial elite representing energy production companies prior to the development

¹⁴⁴ Xu and Xu (2020): 2.

¹⁴⁵ Xu and Xu (2020): 13.

¹⁴⁶ Garrison et al. (2011): 675.

¹⁴⁷ Garrison et al. (2011): 675.

¹⁴⁸ Brady and Crannell (2012): 43.

of the EAct.¹⁴⁹ The lack of transparency in these meetings was deliberate, as Vice President Cheney fought the release of the meeting agenda for the task force all the way to the US Supreme Court. The court decided unanimously that Cheney was not required to release the names of those the task force met with in the development of the Energy Policy Act, after the Sierra Club and Judicial Watch sued Cheney under the 1972 Federal Advisory Committee Act.¹⁵⁰ Since that ruling, a list of meeting attendees was leaked to the media to expose that the majority of the meetings were with energy producing industries. The task force met with elites such as James Rouse, who was the sitting VP of Exxon Mobil and a generous donor to the Bush inauguration; as well as Kenneth Lay from Enron Corp. and industry groups such as the Interstate Natural Gas Association of America and the American Petroleum Institute.¹⁵¹ Of these 40 meetings, only one was reported to be with environmental groups. The EAct holistically classified hydraulic fracturing to fall under the same category as other types of drilling and mining, despite the well depths and usage of water and chemicals under pressure – unlike other types of drilling and mining.¹⁵² This Act further solidified the regulation of fracking to be devolved to the jurisdiction of the states, rather than the federal government.¹⁵³ The exception to this rule is on federal lands within the states, for example, that fall under the Bureau of Land Management’s jurisdiction.¹⁵⁴

There is a strong debate within academic literature over which level of government ought to regulate fracking. While some feel that regulation should be left to the states,¹⁵⁵ others find that the

¹⁴⁹ Michael Burger. “Fracking and Federalism Choice.” *University of Pennsylvania Law Review Online*. 161, No. 150 (2013a): 155.

¹⁵⁰ Tribune News Services. “Court Upholds Secrecy for Cheney’s Energy Task Force.” *Chicago Tribune*. May 11, 2005. <https://www.chicagotribune.com/news/ct-xpm-2005-05-11-0505110246-story.html>.

¹⁵¹ Michael Abramowitz. “Secret List Reveals Big Firms’ Role in Energy Plan/Cheney Task Force Spent Months Working with Industry Giants, Gave Environmental Groups One Meeting, Documents Show.” *SFGate*. July 19, 2007. <https://www.sfgate.com/politics/article/Secret-list-reveals-big-firms-role-in-energy-2580538.php>.

¹⁵² Hannah Coman. “Balancing the Need for Energy and Clean Water: The Case for Applying Strict Liability in Hydraulic Fracturing Lawsuits.” *Environmental Affairs*. 39 (2012): 139.

¹⁵³ Barbara Warner and Jennifer Shapiro. “Fractured, Fragmented Federalism: A Study in Fracking Regulatory Policy.” *Publius: The Journal of Federalism*. 43, No. 3 (2013): 480.

¹⁵⁴ Warner and Shapiro (2013): 480.

¹⁵⁵ Matt Willie. “Hydraulic Fracturing and “Spotty” Regulation: Why the Federal Government Should Let States Control Unconventional Onshore Drilling.” *BYU Law Review*. 5 (2011).; Charles Davis. “Substate Federalism

federal government is the most capable of regulating fracking.¹⁵⁶ Though many feel that a hybrid regulatory structure between local, state, and federal will best satisfy the needs of the people as well as the benefits to government and the gas and oil industry alike.¹⁵⁷ Currently, however, the states have the autonomy to make hydraulic fracturing policy, which has created a patchwork of regulations across the United States. The states have issued a variety of regulations, creating differing stringencies of disclosure laws with various regulatory agencies in the states to oversee fracking.¹⁵⁸ Many have attributed this to the American federalist system in that the “states are often seen as the best places to experiment with policy, theoretically making them ‘laboratories of democracy’.”¹⁵⁹ This experimentation of policies throughout the states, some argue, can lead to “maximum efficiency” in regulations.¹⁶⁰

There are various reasons for why some argue that hydraulic fracturing regulations ought to remain with the states. Some of the primary arguments are that the states have already been tasked with hydraulic fracturing policymaking, they have the entities to regulate already in existence, and the status quo of state regulation ought to be perpetuated.¹⁶¹ Matt Willie strongly advocates for the regulation of fracking to remain with the states, as “federal intervention into state regulation of fracking

and Fracking Policies: Does State Regulatory Authority Trump Local Land Use Autonomy?” *Environmental Science & Technology*. 48 (2014).; Wes Deweese. “Fracking Misconceptions: A History of Effective State Regulation, Groundwater Protection, and the Ill-Conceived FRAC Act.” *Oklahoma Journal of Law and Technology*. 6, No. 1 (2010): 1-32.

¹⁵⁶ Michael Burger. “The (Re)Federalization of Fracking Regulation.” *Michigan State Law Review*. 1483 (2013b); Elizabeth Burleson. “Cooperative Federalism and Hydraulic Fracturing: A Human Right to a Clean Environment.” *Cornell Journal of Law and Public Policy*. 22, No. 2 (2012).; Amanda C. Leiter. “Fracking as a Federalism Case Study.” *University of Colorado Law Review*. 85 (2014).; Diane Rahm. “Regulating Hydraulic Fracturing in Shale Gas Plays: The Case of Texas.” *Energy Policy*. 39 (2011).; Warner and Shapiro (2013).

¹⁵⁷ Emily C. Powers. “Fracking and Federalism: Support for an Adaptive Approach that Avoids the Tragedy of the Regulatory Commons.” *Journal of Law and Policy*. 19, No. 2 (2011); Matthew Castelli. “Fracking and the Rural Poor: Negative Externalities, Failing Remedies, and Federal Legislation.” *Indiana Journal of Law and Social Equity*. 3, No. 2 (2015); Nicholas Hodges. “Multi-Tiered Preemption: Regulating Fracking at the Federal, State, and Local Levels.” *University of California, Davis*. 38, No. 2 (2015); Burleson (2012); Dennis (2012-13); Cricco-Lizza (2012).

¹⁵⁸ Warner and Shapiro (2013): 485.

¹⁵⁹ Warner and Shapiro (2013): 475.

¹⁶⁰ Burger (2013a): 150-163.

¹⁶¹ Davis (2012): 178.

seems unnecessary” due to the idea that “state officials are generally more informed about local and regional production techniques than federal regulators.”¹⁶² It is further argued that federal officials do not have the accountability that state officials do, as the regulations at the federal level are created by the bureaucracy.¹⁶³ Citing a 2008 study as well as the BP Deepwater Horizon oil spill as examples and alluding to the inabilities of the bureaucracy, Willie argues that the Minerals Management Service (MMS) is ill-equipped to handle such regulations and issues, due to the ethical scandals, miscommunication, and misconduct found within the regulatory agency.¹⁶⁴ Another argument to perpetuate the status quo of state regulation is that the states have regulated gas and oil production since the early 20th century and that states have an interest in developing gas and oil supplies while also working to protect their environments.¹⁶⁵ Further, Deweese argues that federal regulation would add “costly regulatory hurdles” that would “inhibit” the development of natural gas reserves throughout the United States.¹⁶⁶ In agreement with these scholars are the gas and oil industry trade groups, such as the American Petroleum Institute (API), many state officials in electable positions, state regulators, “Republican members of Congress”, and industry leaders.¹⁶⁷

Federalists do not agree with the ‘states as laboratories’ argument as states are “highly inconsistent” in regulations, and rather, feel that federal regulation would lead to “a far greater amount of resource pooling, technical and regulatory information sharing, and knowledge generation” which exceeds that of which currently exists at the state level.¹⁶⁸ Federalism choice has been argued to be promoted by those who recognize the environmental and health risks associated with hydraulic

¹⁶² Willie (2014): 1772.

¹⁶³ Willie (2014): 1743.

¹⁶⁴ Willie (2014): 1743.

¹⁶⁵ Deweese (2010): 1-2.

¹⁶⁶ Deweese (2010): 1.

¹⁶⁷ Charles Davis and Katherine Hoffer. “Federalizing Energy? Agenda Change and the Politics of Fracking.” *Policy Sci.* 45 (2012): 221-241.

¹⁶⁸ Burger (2013a): 160.

fracturing, as opposed to those who want to perpetuate private profits and are supportive of state regulations.¹⁶⁹ Federalists also argue that spillover effects from one state to another can be avoided with a federal standard for fracking, which could decrease the potential for pollution events.¹⁷⁰ Amanda Leiter illuminates the fact, however, that the exemptions in the Halliburton Loophole would have to be addressed before spillover effects could be alleviated.¹⁷¹ Michael Burger has argued that the proliferation of hydraulic fracturing in the United States has potentially “outgrown the oil and gas industry’s state regulatory framework”,¹⁷² which elevates the need for federal regulation. Matthew Castelli recognizes that federal fracking legislation could help to internalize the negative externalities associated with extraction, while helping to alleviate the disproportionately burdened citizens in lower socioeconomic classes.¹⁷³ Federal regulations have also been touted as being “sufficiently protective and efficient” in that “direct regulation would remain in the hands of a few – either federal officials tasked with regulating the process or those private individuals or corporations with sufficient economic incentive to participate.”¹⁷⁴

From the federalist standpoint, there are already some privately formed groups in existence at the federal level that have been formed to regulate hydraulic fracturing, such as The Center for Sustainable Shale Development (CSSD), the American Petroleum Institute (API), and the State Review of Oil and Natural Gas Environmental Regulations (STRONGER).¹⁷⁵ Leiter argues that these privately funded groups have the ability to collect and diffuse information to the various shale states.¹⁷⁶ The CSSD is a collaborative effort of industry and environmental representatives that seeks to recommend

¹⁶⁹ Burger (2013b): 1486.

¹⁷⁰ Burger (2013b): 1501.

¹⁷¹ Leiter (2014): 1125.

¹⁷² Burger (2013b): 1501.

¹⁷³ Castelli (2015): 285.

¹⁷⁴ Cricco-Lizza (2012): 730.

¹⁷⁵ Leiter (2014): 1128-1129.

¹⁷⁶ Leiter (2014): 1129.

performance standards for operators.¹⁷⁷ The CSSD is located in Pittsburgh, Pennsylvania, and is focused on shale development in the Appalachian Basin with a goal to not only provide performance standards, but to also certify fracking operators through a third-party certification program.¹⁷⁸ The funding for this organization is provided by “philanthropic foundations and participating energy companies.”¹⁷⁹ The API has also developed best practices for shale gas development in the United States, and is likewise, industry led.¹⁸⁰ The API claims to “maintain and publish statistics and data on all aspects of US industry operations, including supply and demand for various products, imports and exports, drilling activities and costs, and well completions.”¹⁸¹ According to InfluenceMap, however, the API spends \$65 million annually to promote “obstructive climate policy lobbying” and is one of the “best funded and most consistently obstructive lobbying forces for climate policy in the United States,” with much of this funding provided by ExxonMobil and Shell.¹⁸² STRONGER, as discussed in further detail in Chapter 3, is considered as “a collaborative review team of stakeholders from the industry, the environmental community, and state environmental regulatory programs” which works to implement best practices for hydraulic fracturing and “works with states to improve their regulatory regimes.”¹⁸³ Specifically, STRONGER has the potential to address geological differences amongst the states as their guidelines “address the unique geology of areas where drilling will take place by encouraging operators and regulatory agencies to identify ‘potential conduits for fluid migration’.”¹⁸⁴ This aspect is beneficial for the federalism choice in fracking regulations as the variety of geological detail in the states and shale plays is

¹⁷⁷ Leiter (2014): 1128.

¹⁷⁸ The Center for Sustainable Shale Development. “About.” Nd. <https://www.sustainables shale.org/about/>

¹⁷⁹ The Center for Sustainable Shale Development.

¹⁸⁰ Leiter (2014): 1128.

¹⁸¹ American Petroleum Institute. “About API.” (2020). <https://www.api.org/about>

¹⁸² InfluenceMap. “An Investor Inquiry: How Much Big Oil Spends on Obstructive Climate Lobbying.” *InfluenceMap*. March (2016): 2-3.

¹⁸³ Leiter (2014): 1128-1129; Cricco-Lizza (2012): 716

¹⁸⁴ Francis Gradijan. “State Regulations, Litigation, and Hydraulic Fracturing.” *Environmental & Energy Law & Policy Journal*. 7, No. 1 (2012): 81.

a primary argument for state regulation of hydraulic fracturing. However, it is important to note that all these entities work independently from the government and are private associations.

Much of the hydraulic fracturing literature calls for a hybrid form of regulation that includes the federal government, the states, and the local governments. While some argue for a collaborative regulatory scheme between local, state, and the federal government based on the economic idea of the matching principle,¹⁸⁵ others believe that a cooperative federalism is the route to ensure checks and balances exist amongst the different levels of government as well as to ensure that environmental standards are met nationwide.¹⁸⁶ While both the matching principle and cooperative federalism result in the same regulatory scheme, the reasoning for this scheme is different between these two views. The matching principle is an economic theory that believes environmental “externalities distort markets.”¹⁸⁷ Externalities are the hidden costs of production in which operators typically do not bear the cost of, while society does. The idea behind the matching principle is that the externalities be internalized by the industry, and if the “benefit of the next unit of production outweighs its cost, then producing that unit leads to a net gain for society.”¹⁸⁸ By regulating through the matching principle, the level of government closer to the costs and benefits of the activity ought to regulate.¹⁸⁹ Conversely, cooperative federalism is a regulatory scheme in which much of the regulation is still the burden of state and local government, while the federal government has the authority to set minimum environmental baseline standards for the states to follow. Should a state not abide by these minimum standards, through the supremacy clause, the federal government then can supersede state laws to ensure minimum standards are met. However, as long as the Halliburton Loophole remains, hydraulic fracturing will remain exempt from any federal environmental baselines.

¹⁸⁵ Hodges (2015).

¹⁸⁶ Castelli (2015); Dennis (2012-13); Cricco-Lizza (2012); Burleson (2012).

¹⁸⁷ Hodges (2015): 171.

¹⁸⁸ Hodges (2015): 171.

¹⁸⁹ Hodges (2015): 173.

Based on the regulatory economies of scale analysis, Nicholas Hodges argues that hydraulic fracturing ought to be regulated at various levels. Specifically, he finds that air emissions are best regulated by the federal government which can alleviate spillover effects from state to state.¹⁹⁰ The impacts to water should be regulated by the states, while utilizing the federal Safe Drinking Water Act as a guideline for water impacts with a baseline minimum standard.¹⁹¹ The local county and municipal governments ought to be able to regulate the localized impacts, such as the social impacts of “noise, visual disturbances, and traffic”, while also allowing for a ban on fracking activities, should the local residents decide that it is not in the common good.¹⁹²

Focused on the negative social externalities associated with hydraulic fracturing, Matthew Castelli argues that a cooperative federalism approach will best satisfy the injustices of fracking that burden the lower socioeconomic classes of society.¹⁹³ Because of the failures in tort claims by residents to reclaim losses due to hydraulic fracturing, Castelli argues that the negative externalities experienced by individuals could be internalized “by incorporating strategies from existing and proposed environmental laws into new federal legislation.”¹⁹⁴ He believes that legislation set at the federal level can better regulate issues such as water and air pollution that spillover from state to state.¹⁹⁵

To effectively instate a more comprehensive regulation of hydraulic fracturing, Gianna Cricco-Lizza argues that cooperative federalism is the best method to ensure that regulatory gaps are filled while creating a system of checks and balances down the various levels of government. She argues that cooperative federalism will alleviate instances of collusion and will provide a “fundamental protection

¹⁹⁰ Hodges (2015): 189.

¹⁹¹ Hodges (2015): 182.

¹⁹² Hodges (2015): 189.

¹⁹³ Castelli (2015): 285.

¹⁹⁴ Castelli (2015): 302.

¹⁹⁵ Castelli (2015): 300.

for citizens as the source of power.”¹⁹⁶ Cooperative federalism is touted as having the potential to decrease governmental competition while “promoting both vertical and horizontal cooperation” through collaboration.¹⁹⁷ She argues that the federal government ought to create a baseline minimum standard for pollution and fracking legislation where the states and local governments are left to directly regulate fracking activities.¹⁹⁸ Cricco-Lizza provides a few supporting arguments for choosing cooperative federalism. She believes that state regulations have created a cradle-to-grave mentality where the state oversees all aspects of fracking from permitting and drilling to disposal of wastes to the abandonment of the well after production has ceased.¹⁹⁹ Federal oversight and minimum standards can ensure that this regulatory process is not only efficient, but also utilizes environmental minimum standards while incorporating industry best practices. It is argued that cooperative federalism has the potential to “promote consistency across the nation as well as localized solutions,”²⁰⁰ while supporting public participation at the local levels of government.

Also valuing the support of public participation, Elizabeth Burleson argues that cooperative federalism can fill regulatory gaps while implementing industry best practices.²⁰¹ Burleson argues that public participation and participatory planning can “optimize genuine sustainable development” of hydraulic fracturing.²⁰² Through this adaptive and collaborative approach, inclusive decisionmaking and safeguards can be implemented nationwide.²⁰³ Further, closure of the Halliburton Loophole can ensure the protection of public health and the environment through the enforcement of federal minimum

¹⁹⁶ Cricco-Lizza (2012): 735.

¹⁹⁷ Cricco-Lizza (2012): 735.

¹⁹⁸ Cricco-Lizza (2012): 704.

¹⁹⁹ Cricco-Lizza (2012): 715.

²⁰⁰ Cricco-Lizza (2012): 728.

²⁰¹ Burleson (2012): 290.

²⁰² Burleson (2012): 327.

²⁰³ Burleson (2012): 291.

thresholds.²⁰⁴ This multi-layered governance across the various levels of government facilitates further checks and balances, which can protect the general public and the environment alike.²⁰⁵

Joshua P. Dennis, like Castelli, Cricco-Lizza, and Burleson, argues for cooperative federalism in the regulation of fracking through enforcing minimum standards at the federal level, while allowing for the states to regulate hydraulic fracturing. A federal standard, Dennis argues, ought to alleviate the patchwork of regulations that are in existence today with regulatory schemes left to the states.²⁰⁶ He feels that cooperative federalism is beneficial as it promotes the values of “plurality, dialogue, and redundancy,” while also encouraging “greater regulatory competition, policy innovation, and resistance to monopolization and interest group capture.”²⁰⁷ Further, cooperative federalism has the added benefit of combining more resources amongst various levels of government to address social ills while also allowing for state autonomy in regulations.²⁰⁸ Dennis does, however, warn against federal preemption through the supremacy clause, as regulation solely at the federal level could “allow for greater influence by interest groups who now can focus their lobbying power on one level of government.”²⁰⁹

Overall, it is critically important across all levels of government to avoid the risk of interest group capture by lobbyists. Although Dennis sees this possibility at the federal level through the supremacy clause, this interest group capture already exists at the state level, as highlighted by Charles Davis and Katherine Hoffer as well as Barbara Warner and Jennifer Shapiro. Warner and Shapiro discuss the “dominant interests” involved with hydraulic fracturing at both the state and federal levels “to benefit the fracking industry and push back against their own local governments, citizens, and advocacy

²⁰⁴ Burleson (2012): 333.

²⁰⁵ Burleson (2012): 338.

²⁰⁶ Dennis (2012-13): 269.

²⁰⁷ Dennis (2012-13): 271.

²⁰⁸ Dennis (2012-13): 272.

²⁰⁹ Dennis (2012-13): 273.

groups.”²¹⁰ They analyze how interest group capture and pressure is more prominent at the state level than the federal level, as interest groups find that the states are the “most favorable” regulatory level and the “best arena for legislation.”²¹¹ Likewise, Davis and Hoffer find much support for the state level as the ideal regulatory arena for such industry trade groups such as America’s Natural Gas Alliance, the API, the Interstate Oil and Gas Conservation Commission (IOGCC), and leading industry operators like Chesapeake Energy and Halliburton.²¹²

The danger in lobbying at the state level is that the interest groups utilize the same amount of influence and pressure at the state level, as they would at the federal level,²¹³ thereby leading to strong influences on state governments, elected officials, and regulatory agencies throughout the shale rich states.²¹⁴ In fact, these industry groups and interests seek out the sub-central and lower levels of government through venue shopping, because of the decreased amount of resources, research, and less ability for enforcement.²¹⁵ Furthermore, industry group lobbyists have the power and influence as they would at federal level, but use lobbying strength and backing at the state and local levels.²¹⁶ In addition to local governmental regulators, there are private-governance organizations who are filling the gaps in policymaking while also controlling the flow and quality of information provided to the public.²¹⁷ The actual details of water usage, chemical usage, and transparency of production are purposely kept hidden from the public by these private-governance organizations – while vague or limited information is presented in an attempt to appease the inquiring minds of the public.

²¹⁰ Warner and Shapiro (2013): 474.

²¹¹ Warner and Shapiro (2013): 475.

²¹² Davis and Hoffer (2012): 232.

²¹³ Warner and Shapiro (2013): 476.

²¹⁴ Warner and Shapiro (2013): 475.

²¹⁵ Warner and Shapiro (2013): 475.

²¹⁶ Warner and Shapiro (2013): 476.

²¹⁷ Leiter (2014): 1127.

Conclusion: A Critical Analysis of Hydraulic Fracturing

The hydraulic fracturing academic literature provides many legitimate reasons why fracking should exist at the preferred level of governance. The issue is, however, that all of the literature shares the same underlying commitment to a theory of pluralism. Yet, the ideal image of pluralism in America, in which all groups can have equal and viable access to policy formation and implementation, is not the reality. With the rise of capitalism, globalization, and the business-friendly conservative US Supreme Court – the voice and policy preferences of the citizens have been silenced and corporate interests have been allowed to dominate. As valuable as every piece of hydraulic fracturing literature is to the discussion, debate, and the dissemination of knowledge concerning the practice – the solutions cannot come from within a broken system. The answers are not to be found.

One of the main themes throughout this dissertation is how the gas and oil elite have commandeered the American government for their own benefit, and thereby, democracy. Although I will argue against pluralism in its current form, as the following chapter will show, I am not arguing against pluralism in totality. In the correct conditions, pluralism is at the core of democracy. This chapter has reviewed the many issues associated with the hydraulic fracturing process, development, production, and policies. Further, the literature was reviewed to show that policy explorations regarding fracking are maintained within the confines of capitalism, which cannot resolve the issues of the corporate takeover of democracy and worse, the irreversible damage caused to the global ecosystem. The next chapter will move into the theoretical world of pluralism, Ralph Miliband, and the capture of democracy by the gas and oil elite. These first chapters are critical for comprehension of the apparatuses and examples in the case study chapters ahead. Chapter 3 will begin the exploration of the state apparatuses, by taking a critical look at fracking within the executive, administrative, and coercive apparatuses. This chapter will reveal how the executive apparatus has strategically alienated itself from most policies concerning hydraulic fracturing. This has forced this alienation from the administrative

apparatus, while the coercive apparatus works to maintain that alienation and force the status quo on the people. Chapters 4 and 5 will complete the case study with a look at the judicial and sub-central apparatuses. Herein lies the active power of the gas and oil elite, and capitalism. In the concluding chapter, the case study will be critically analyzed to provide suggestions for a path forward. This is critical as the hydraulic fracturing policy literature thus far has only suggested ways to *fix* fracking within the confines of corporate domination. This dissertation, rather, seeks a way to *fix* corporate domination with a strategy that will solve the issues of fracking. As we turn to the theoretical world of the state, it is important to remember from this chapter that the elite have diligently enforced the status quo of state regulation of fracking over the jurisdiction of the federal government. The result is a patchwork of hydraulic fracturing policies and regulations across the United States. In many affairs concerning international politics and even economic trade, the executive apparatus holds the most political power of the apparatuses. However, in the case of fracking, the power has been alienated from the federal government and devolved to the stronghold of the sub-central state.

Chapter 2

Ralph Miliband, the Critique of Pluralism, and the State Under Capitalism

An association consists simply in the public assent which a number of individuals give to certain doctrines; and in the engagement which they contract to promote in a certain manner the spread of those doctrines... When an opinion is represented by a society, it necessarily assumes a more exact and explicit form. It numbers its partisans, and compromises them in its cause: they, on the other hand, become acquainted with each other, and their zeal is increased by their number. An association unites into one channel the efforts of diverging minds, and urges them vigorously towards one end which it clearly points out.

– Alexis de Tocqueville²¹⁸

When the United States was officially consented to as a democratic republic, the people were given the right to assemble. This right was so important, especially to the people and the Anti-Federalists, that it was written into the First Amendment of the Bill of Rights. When Alexis de Tocqueville visited America in the 1830s, he found much wonder, value, and some concern in the freedom of early associations in the United States. Tocqueville saw the American associations, or interest groups, as part of the democratic fabric of society. Not only were they necessary to act in common interests with their neighbors, but also to prevent the “despotism of faction” from forming with the democracy.²¹⁹

Alexis de Tocqueville lamented in the early 19th century how “Americans of all ages, all conditions, and all dispositions, constantly form associations. They have not only commercial and

²¹⁸ Alexis de Tocqueville. *Democracy in America*, ed. Richard D. Heffner. (New York: Signet Classic, 2001), 95-96.

²¹⁹ Tocqueville (2001): 97.

manufacturing companies, in which all take part, but associations of a thousand other kinds, - religious, moral, serious, futile, general or restricted, enormous or diminutive.”²²⁰ These early associations of Americans were the same groups formed in common interests, or factions, that James Madison feared when he wrote *Federalist #10*. Madison explained that he considered a faction to be a group of “citizens, whether amounting to a majority or minority of the whole, who are united and actuated by some common impulse of passion, or of interest, adverse to the rights of other citizens, or to the permanent and aggregate interests of the community.”²²¹ As expressed in *Federalist #10*, a solution to the factions that he so feared, would be to allow limitless factions with the hope that the most polarized would cancel each other out. Today, these polarized factions in American government are apparent in every relative policy debate, every coinciding event, and in every election. These early associations of Americans grew into what we now call majoritarian pluralism.²²² These are same interest groups that compete today on behalf of the interests and opinions of the American people. But some interests of Americans are heard more clearly than others.

Tocqueville foreshadowed this diminishing of democracy in the same breath while praising the democratic nature of American associations. As the Industrial Revolution was already taking hold in Britain, manufacturing was just beginning in the United States.²²³ Tocqueville warned of the potential that an aristocracy could arise amongst the manufacturers in the United States. He believed that aristocracy grew naturally out of democracy, and the type of aristocracy that was growing within the manufacturers “is one of the harshest which ever existed in the world.”²²⁴ He felt that should an

²²⁰ Tocqueville (2001): 198.

²²¹ Alexander Hamilton, James Madison, and John Jay. *The Federalist Papers*, ed. Clinton Rossiter. (New York: Penguin Putnam, Inc., 1999): 46.

²²² Martin Gilens and Benjamin I. Page. “Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens.” *Perspectives on Politics* 12, No. 3 (2014).

²²³ Andreas Malm. *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. (London: Verso, 2016).

²²⁴ Tocqueville (1999): 219.

aristocracy arise in America, that capitalism would be its entry point. Tocqueville warned that "...the friends of democracy should keep their eyes anxiously fixed in this direction."²²⁵ Yet, he provided another warning to the people, with the urging to stay politically active and involved. Sheldon S. Wolin explains that if the people choose "to relinquish participatory politics" and thereby "abandon their intense involvement with the common affairs of their communities in favor of personal ends", then "they, like the signatories to Hobbes's contract, have chosen to be apolitical subjects rather than citizens."²²⁶

From the beginning, democracy was threatened by elite freeholders of land, elite manufacturers, and disenfranchisement. By the last decades of the 19th century, many locations in Europe had already transformed with the fossil economy and the Industrial Revolution. This elite control became more apparent after World War II, "in the middle of the twentieth century."²²⁷ The elite power trilogy of the "high military, corporate executives, [and] the political directorate" came to control American policy and decisionmaking during the economic boom of mass production and consumption after World War II.²²⁸ The power elite, for C. Wright Mills, are "the people who own or control the 'strategic heights' of the economy; who control the central state apparatus; and who own and control the main means of communication in the private sector, or control those means of communication which are in the public sector."²²⁹ Mills explains how the New Deal expanded the American bureaucracy, and consequently, so was the strength of the American military expanded with the participation in two successful consecutive world wars. Under these "American conditions, it has meant the ascendancy of

²²⁵ Tocqueville (1999): 219.

²²⁶ Sheldon S. Wolin. *Democracy Incorporated: Managed Democracy and the Specter of Inverted Totalitarianism*. New Edition (Princeton: Princeton University Press), 2017: 80.

²²⁷ C. Wright Mills. "The Structure of Power in American Society." *The British Journal of Sociology* 9, No. 1 (1958): 32.

²²⁸ Mills (1958): 32-33.

²²⁹ Ralph Miliband. *Socialism for a Sceptical Age*. (London: Verso), 1994: 16.

the corporation man into political eminence.”²³⁰ The rise of the corporate elite into political eminence occurred primarily through two natural tactics for the business community – sales and investment. Through pluralism, corporations not only dominate the ears and minds of politicians – but their pockets too.

In the decades following the ideas of Mills, critiques of pluralism began to multiply, as did the corporate associations of collective actors attempting to influence policy through Congress and elected officials. The field of interest group politics in the United States is expansive and diverse, with a wide variety of ideological perspectives. Tocqueville was accurate when he commented on the variety of groups that associated and gathered in the United States, based on a shared opinion, ideology, and/or political stance. Beyond associations, however, is what these interest groups do. The most powerful, well-funded – and thereby the loudest – interest groups participate in lobbying. Across the spectrum of interests in the United States, there were 11,862 lobbyists registered in Washington DC in 2019.²³¹ If these lobbyists were spread evenly across all of Congress, there would be 22 lobbyists for every elected member. Lobbying is not new, in fact, it is older than America as it is a practice that originated in England. The money involved in lobbying is newer, however, especially with the 2010 US Supreme Court finding in *Citizens United v. Federal Election Commission*. In this case, the court sided with the non-profit interest group, Citizens United, in the opinion that corporate campaign donations are considered as free speech and cannot be limited by the Federal Election Commission (FEC). This opinion expanded the contribution of campaign donations to super PACs by allowing limitless donations, and it permitted corporations to run ad campaigns for or against candidates up until election day. The court established that corporations have the same right to free speech as individuals, as they are just associations of

²³⁰ Mills (1958):33.

²³¹ John G. Geer, Richard Herrera, Wendy J. Schiller, and Jeffrey A. Segal. *Gateways to Democracy: An Introduction to American Government*. 5th ed. (Boston: Cengage Learning), 2018: 279.

individuals acting for a business. *Citizens United* effectively opened the flood gate for campaign donations while dually silencing citizen-based interest groups – whether of the majority or the minority – as they cannot compete with the amount of corporate and large donations given to super political action committee (PAC) organizations. The pluralistic associations so marveled by Tocqueville seem to have fallen to the same aristocratic warnings that he feared could enter American democracy through capitalism. Pluralism today is dominated by interest group politics. The majoritarian interest group pluralism that Tocqueville witnessed has been overtaken by corporate interests and money. This has reduced the status of the citizen within the United States – by subverting the importance of the people for the money of the corporation. It has been argued that “[t]he citizen is irrelevant. He or she is nothing more than a spectator, allowed to vote and then forgotten once the carnival of elections ends and corporations and the lobbyists get back to the business of ruling.”²³²

In 2014, Martin Gilens and Benjamin I. Page conducted the first quantitative test of the effects of four contrasting theoretical predictions, by measuring the influence of each group on policy outcomes. Gilens and Page ultimately concluded that the “economic elites and organized groups representing business interests have substantial independent impacts on US government policy, while mass-based interest groups and average citizens have little to no independent influence.”²³³ While surprising to see as the concluding finding, this does generally reflect the reality that we see in government through the news media. Yet, Gilens and Page uncover another shocking finding that is not so publicized in the media. Their study reveals the fact that “the majority does not rule” when it comes to deciding policy outcomes.²³⁴ They explain that when economic elites and organized interest groups are aligned, they generally win, whether the majority of citizens agree or disagree. Further they explain

²³² Wolin (2017): xxix. This statement can be found in the introduction of Wolin’s *Democracy Incorporated* and was authored by Chris Hedges.

²³³ Gilens and Page (2014): 565.

²³⁴ Gilens and Page (2014): 576.

that “because of the strong status quo bias built into the US political system, even when fairly large majorities of Americans favor policy change, they generally do not get it.”²³⁵ When the majority of Americans have little to no influence over policymaking in the United States, majoritarian pluralism loses its democratic qualities and the admonitions of Tocqueville become apparent in the world around us. When corporations are heard louder than the American people, and the policy wishes of the people are ignored; then “America’s claims to being a democratic society are seriously threatened.”²³⁶ Although this was the first study to quantitatively test these theoretical predictions, as a critic of pluralism in the 1960s, Ralph Miliband explored these notions and essentially found the same relative conclusion more than half a decade prior, qualitatively.

In this chapter, pluralism in today’s society will be critically explored to introduce Ralph Miliband’s critique of pluralism and his theory of the state. This will highlight the political environment in the United States to better understand the case study on hydraulic fracturing in the following chapters. Additionally, the review of pluralism, its critics, and Miliband’s theory of the capitalist state will inform the argument formulated throughout this dissertation, that although pluralism is in the crosshairs of Miliband and others on the Left, it is not because of its democratic or decentralized nature. Rather, it is the commandeering of democracy by the corporate elite which disallows citizen’s voices to be heard, who determines the agenda, who buys their way into the halls of government in order to shape policy to their benefit, and who subverts the democracy of the people into an auction for the elite. That is what makes pluralism deplorable and undemocratic.

Pluralism and its Critics

Prevalent throughout Miliband’s *The State in Capitalist Society*, is his critique of pluralism. Not only do pluralists downplay the role, or even the existence of the state, but they also do not see

²³⁵ Gilens and Page (2014): 576.

²³⁶ Gilens and Page (2014): 577.

economic or social classes as “collective actors”.²³⁷ This is compared to Miliband’s, as well as Marx’s, conception of the state wherein the “classes are seen as the principal actors.”²³⁸ Blinded by the influx of capital after World War II in America and the rise of the middle class, the pluralists feel that state power is “influenced by a multitude of competing interests and groups,”²³⁹ wherein social class and class interests are not predominant and rather, “power is diffused and balanced [so] that no particular interest is able to weigh too heavily upon the state.”²⁴⁰ Miliband does not agree with the pluralist argument largely due to the fact that pluralists favor the exclusion of the state as a “special institution”, which can lead to the issues of “economic and political inequality and therefore, economic exploitation and political oppression.”²⁴¹ Proponents of pluralism argue that, “the pluralist model is one in which corporate special interests rarely win or at least win no more often than other groups under ideal conditions.”²⁴² This view is opposed to Miliband’s perception that “corporate special interests always win under ideal conditions.”²⁴³

Pluralism can be described by adherents of pluralism as an ideology in which power is “tamed” while coercion and control are “minimalized” with the open competition amongst various groups in society.²⁴⁴ Pluralism is said to facilitate collaboration and “consent of all citizens” wherein the “system” promotes the “peaceful settlement of conflicts to the mutual benefit of most if not all the contending parties.”²⁴⁵ Advocates of the ideology feel that pluralism alleviates the potential for “extremism and

²³⁷ Paul Wetherly. “‘In All Essentials Wrong’? Miliband’s Critique of Pluralism Revisited.” *Studies in Marxism*. 14 (2013): 2.

²³⁸ Wetherly (2013): 2.

²³⁹ Wetherly (2013): 12.

²⁴⁰ Ralph Miliband, *The State in Capitalist Society*. (Wales: Merlin Press), 2009: 5.

²⁴¹ Clyde W. Barrow. *Toward a Critical Theory of States: The Poulantzas-Miliband Debate After Globalization*. (Albany, NY: SUNY Press), 2016: 10-11.

²⁴² Barrow (2016): 11.

²⁴³ Barrow (2016): 11.

²⁴⁴ John F. Manley. “A Class Analysis of Pluralism I and Pluralism II.” *The American Political Science Review*. 77, No. 2 (1983): 369.

²⁴⁵ Manley (1983): 369.

provides a springboard for responsive political negotiations to emerge, in a climate conducive to the formation of alliances.”²⁴⁶ Based on this dominant ideology, it seems as though the goals of *Federalist* #10 were achieved, at least in perception. Pluralists believe there is an “absence of a power elite” as the policy areas are separated, structurally, thereby eliminating the influence of an elite that can be powerful and influential.²⁴⁷ Despite the reality that each of these policy structures have a dominant capitalist interest within each one. Consensus is seen as a primary factor in pluralism, as the ideology relies on “a multiplicity of groups coming into and leaving policy politics at varying rates of frequency and intensity.”²⁴⁸ Yet the strongest groups with the most financial backing never leave. Consensus is developed when these various groups are formed by “voluntary membership” in order to compete for the attention of the state and policymakers.²⁴⁹ The reality, though, is that various groups enter and leave after realizing they are up against economic Goliaths, and their attention cannot be won as they cannot be seen.

Jens Bartelson highlights four primary criticisms of pluralism by early critics. First, pluralism holds the perception that there exists a “unified political whole in which the interests, loyalties, and moral allegiances of the citizen subjects converge.”²⁵⁰ There are a few issues that Marxists take with this assumption. Bob Jessop explains that the channels available for these citizens are not equal, as there are particular interests rooted in civil society which are “recognized as legitimate by relevant branches of the state.”²⁵¹ Jessop argues that this access is unequal, as access to the state apparatuses do “not occur on the proverbial ‘level playing field’.”²⁵² For instance, groups that do not have access to major media

²⁴⁶ Gregor McLennan. *Marxism, Pluralism and Beyond: Classic Debates and New Departures*. (Cambridge: Polity Press), 1989: 20.

²⁴⁷ Darryl Baskin. “American Pluralism: Theory, Practice, and Ideology.” *The Journal of Politics*. 32 (1970): 75.

²⁴⁸ Baskin (1970): 75-81.

²⁴⁹ Bob Jessop. *The State: Past Present Future*. (Cambridge, UK: Polity Press), 2016: 62-63.

²⁵⁰ Jens Bartelson. *The Critique of the State*. (Cambridge, UK: Cambridge UP), 2001: 90.

²⁵¹ Jessop (2016): 62-63.

²⁵² Jessop (2016): 63.

outlets “tend to be marginalized in ‘normal’ conditions.”²⁵³ Moreover, dis- and mis- information campaigns can muddy the truths disseminated throughout media sources. Miliband would agree with this critique, as he calls it the myth of pluralism in which there is “[n]o interest other than business, anywhere, [that] has the same ease of access to the more important organs of executive power, and none enjoys the same familiarity with its agents.”²⁵⁴ Further, Miliband demonstrates the issue with business’ stronghold in pluralism with gaining political power in that “ordinary voters” are then forced to compete in a “pluralist political market situation on more or less equal terms with organized interests whose resources are immensely greater than their own.”²⁵⁵ Not only are groups without resources marginalized by the mainstream of society, but also the playing field is already sloped and uneven as business holds the more advantageous end of the field.

The second criticism of pluralism that Bartelson highlights is the waning importance of the state as a concept within pluralism, because the “sociocultural unity of the state was also incompatible with the notion of indivisible sovereignty, itself one of the defining characteristics of the traditional concept of the state.”²⁵⁶ Potentially, the dismissal of the state could be due to the fact that pluralists, in definition, are in opposition to the ideal of monism and reductionism in favor of a “multiplicity or plurality”.²⁵⁷ Not only do pluralists prefer a multitude of actors or groups competing for attention, but they also look at the state as a monist entity and would rather incorporate the power shared in governance, interstate relations, and global governing treaties and organizations. This same ideology has led states to act like “principle agents of globalization by exercising enormous power to realign the state apparatuses with transnational capital, to reconstitute property and contract law, and to otherwise implement and enforce the provisions of international trade and investment agreements

²⁵³ Jessop (2016): 62.

²⁵⁴ Miliband (2009): 119.

²⁵⁵ Miliband (2009): 126-127.

²⁵⁶ Bartelson (2001): 90.

²⁵⁷ Wetherly (2013): 3.

even against domestic oppression.”²⁵⁸ The monist nature of the state has contributed to the mainstream belief that “the sovereign state is unlikely to remain the main source of political authority in the future”, due to the rise in pluralism and governance.²⁵⁹ Clyde W. Barrow correctly illuminates that these ideologies deny the reality that none of the organizations associated throughout the global political landscape “have the police powers that are the constitutive essence of stateness.”²⁶⁰ Only the constitutionally sanctioned state powers have the authority to conduct state affairs in the international arena, such as sign and then ratify international treaties and recognize foreign nations.

Bartelson’s third critique of pluralism is that “the authority wielded by the state over the social body could no longer be understood as comprehensive and unlimited, since democratization and enlarged franchise had effectively bridled any such claims.”²⁶¹ Essentially, this aspect eliminates a monistic rule over society and rather, disperses and decentralizes authority to exist not only throughout the levels of government, but “the social body” as well through active democracy.²⁶² It altered the perception of a structured government to a messy and chaotic reality of advocacy, lobbying, closed door meetings, and campaign donations that permeates every corner of government from the small town city council to the presidency. This reality was created based on the pluralist assumption that power “in Western societies is competitive, fragmented, and diffused.”²⁶³ Ideologically, for pluralists, this leads to the perception of the unbiased “special role” in politics, to appease all groups competing for attention in the national and international arenas.²⁶⁴ These ideas also correlate with elite pluralism, wherein the concept “is itself a prime guarantee that power in society will be diffused and not concentrated,” a

²⁵⁸ Barrow (2016): 148.

²⁵⁹ Bartelson (2001): 1.

²⁶⁰ Clyde W. Barrow. “The Return of the State: Globalization, State Theory, & the New Imperialism.” *New Political Science*. 27, no. 2 (2005): 15.

²⁶¹ Bartelson (2001): 90.

²⁶² Bartelson (2001): 90.

²⁶³ Wetherly (2013): 1.

²⁶⁴ Wetherly (2013): 1.

central tenant of pluralistic ideology.²⁶⁵ Pluralistic ideology tends to lead to pluralist and decentralized political power structures.

Bartelson's fourth critique of pluralistic ideology is that "the state should no longer be understood as having moral superiority in relation to competing sources of value within society."²⁶⁶ Marxist state theorists believe that the state should, rather, be "judged in more pragmatic terms, on the basis of their instrumental value for the needs and goals of the community at large." Instead of advancing these needs and goals, Marxist state theorists who are critical of pluralism argue that the state supports the needs and desires of the capitalist class and the corporations which are run by these elites. This method and action on behalf of the capitalist elite ensures that political power will be focused on maintaining the status quo and the stronghold of capitalism and corporations over the needs of society. This is the issue at the root of Miliband's opposition to pluralism as it allows for advantaged groups to "constitute distinct groupings and interests, whose competition greatly affects the political process."²⁶⁷ Elite pluralism provides the ability for various capitalists throughout society to constitute a "dominant economic class, possessed of a high degree of cohesion and solidarity, with common interests and common purposes which far transcend their specific differences and disagreements."²⁶⁸ All of the above Marxist critiques of pluralism illustrate why pluralistic political power dominated by corporate elites does not advance the greater good of society as a whole, and instead, maintains the predominance of the capitalist class in society.

Miliband's State in Capitalist Society

Miliband's theory of the state is useful in explaining the organization of the dominating elite capitalist structures within the sphere of hydraulic fracturing in the United States. To some degree, the

²⁶⁵ Miliband (2009): 5.

²⁶⁶ Bartelson (2001): 91.

²⁶⁷ Miliband (2009): 35.

²⁶⁸ Miliband (2009): 35.

gas and oil industry influence has taken an integral role in shaping policy, throughout all five elements of Miliband's state – the executive apparatus, the administrative apparatus, the military or coercive apparatus, the judicial apparatus, and the sub-central governments. The gas and oil elite in America have had, and still have, an enormous effect on the policy outcomes in every apparatus. The capitalist elites have solidified their stronghold on the laws, regulations, exemptions, subsidies, judicial decisions, and state laws which facilitate the proliferation of fracking across the United States. This dominance of invested elite interests within pluralism has spread rampantly through most, if not all, policy areas, yet this is considered as normal in the pluralist status quo vision of government. This is an example of what Miliband considers "the crisis of political science."²⁶⁹ The pluralist theory of the state is not a theory concerning the state at all. Instead, pluralists see the state as "a rather special *institution*, whose main purpose is to defend the predominance in society of a particular class."²⁷⁰ Barrow furthers this notion through clarification: "[T]he maintenance of the system equilibrium in capitalist society is in fact the maintenance of economic and political inequality and, therefore, economic exploitation and political oppression."²⁷¹ There cannot be an equilibrium that is democratic while being maintained by the capitalists. With the equilibrium maintained between the capitalists and the government, there is no longer space for the American people. The citizens have been displaced, and some completely alienated. The people cannot weigh in on the balance when they are the subjects of economic exploitation and political oppression.

Ralph Miliband's theory of the state is also useful in explaining the world around us, in a manner that is accessible to most. Leo Panitch described Miliband's *The State in Capitalist Society* as "distinctive".²⁷² Panitch explains that anyone who "picked it up did not have to have been cloistered in

²⁶⁹ Barrow (2016): 10.

²⁷⁰ Barrow (2016): 10-11. Italics added for emphasis.

²⁷¹ Barrow (2016): 10-11.

²⁷² The Jacobin, "Leo Panitch on the Political Thought of Ralph Miliband", YouTube, recording of a previously live video, April 27, 2020, 15:30. <https://www.youtube.com/live/oBJR3xfmgA4?feature=share>.

the Marxist debates and Marxist concepts,” in order to clearly understand the workings of the world around them as conceptualized in Miliband’s book. Not only did Miliband intend to make his writings understandable, but his argument was critical in the post-World War II society as he was arguing against a façade – the perception of equality during the height of the post war consumer era in the United States. This pluralist conception and American perception still persists today, and it has led to the capitalist elite dominating the people’s route to government – the right to associate and the freedom of speech – while outspending the voices of true democracy, the people. Miliband’s relevance is as important today as when *The State in Capitalist Society* was published during the dawn of neoliberalism. This dissertation will highlight the importance of Miliband’s conception of the state and will explore the influence of the gas and oil industry throughout the apparatuses as presented in Miliband’s theory of the state. Like Miliband, this dissertation seeks to be accessible and is designed to provide information to readers who may not be familiar with the works in critical political theory, with an easily comprehensible explanation to understanding the influence of the gas and oil industry’s strength within every apparatus of the state, thereby explaining the political realities that many Americans live on a daily basis. Panitch has praised Miliband for his construction of the capitalist state and explains that he finds “especially distinctive” Miliband’s ability to “develop a conceptual framework for understanding the capitalist state at the political level”, while others at the time were “deriving the nature of the capitalist state from the economic concepts of Marxism.”²⁷³

Clyde W. Barrow summarizes Miliband’s theory of the state as a variation of Marxism wherein “the ‘ruling class’ of capitalist society is that class which owns and controls the means of production and which is able, by virtue of the economic power thus conferred upon it, to use the state as its instrument for the domination of society.”²⁷⁴ It is important to highlight that Miliband does not see the state and

²⁷³ The Jacobin. (April 27, 2020) 19:00: <https://www.youtube.com/live/oBJR3xfmgA4?feature=share>.

²⁷⁴ Barrow (2016): 22.

government as synonymous, however, the “government does speak in the name of the state and is formally invested with state power.”²⁷⁵ Instead, Miliband sees the “state as a complex of institutions, including government, but also the bureaucracy, the military, the judiciary, representative assemblies, and ... what Miliband calls the sub-central levels of government.”²⁷⁶ The state, as a concept in political science, has been of oscillating importance throughout the 20th century due to the rise in international governance and neoliberalism. Miliband viewed this fluctuating importance as “a crisis” as he felt that “mainstream social science was concealing the sources, structure, and operation of political power, not by what it studied, but by what it ignored for most of the post-World War II era.”²⁷⁷

In this time, since the end of World War II, the state has been thrown out of the primary concepts of political science, brought back in, and most recently dissolved with the onset of globalization and governance. Although the state has been “foundational”²⁷⁸ to the discourse of political science, the concept was first eroded with the rise of pluralism and institutionalism.²⁷⁹ In 1968, J.P. Nettl highlighted this decreasing importance of the state concept in social science due to scientific reductionism, and argued there “may be a case for bringing it back in.”²⁸⁰ During the time of Nettl’s writing, the pluralist-elitist model of the 1960-1970s dominated political science as the mainstream view.²⁸¹ The 1980s brought about a “return-to-the-state” movement with the “contemporary revival of Marxism”.²⁸² In the 21st century, the state has been “hallowed out” with the reorganization required in a globalized world, which will be discussed in further detail.²⁸³ These fluctuations in state importance

²⁷⁵ Miliband (2009): 37.

²⁷⁶ Leo Panitch, *The Canadian State: Political Economy and Political Power*, ed. Leo Panitch (Toronto: University of Toronto Press), 1983: 6.

²⁷⁷ Barrow (2016): 10.

²⁷⁸ Bartelson (2001).

²⁷⁹ J.P. Nettl. “The State as a Conceptual Variable.” *World Politics*. 20, No. 4 (1968): 561.

²⁸⁰ Nettl (1968): 562.

²⁸¹ Gabriel A. Almond. “The Return to the State.” *The American Political Science Review*. 82, No. 3 (1988): 854.

²⁸² Almond (1988): 868.

²⁸³ Jessop (2016): 143.

bothered Miliband as the institutional presence and power of the state was growing in advanced capitalist societies, although the study of the state as a concept was “very unfashionable”.²⁸⁴ Miliband saw this as a problem of pluralism in that mainstream social science viewed the theory of the state as something to be excluded as its “main purpose is to defend the predominance in society of a particular class.”²⁸⁵ For this reason, Miliband worked to renew state theory to reflect the “socio-economic and political and cultural reality of actual capitalist societies.”²⁸⁶

For Miliband, “the state is not a thing.”²⁸⁷ Rather, the state symbolizes a group of institutions “which, together, constitute its reality, and which interact as parts of what may be called the state system.”²⁸⁸ This state system works collectively in advanced capitalist societies to be the “guardian and protector of the economic interests which are dominant in them.”²⁸⁹ Miliband believes that the state’s primary importance is not to prevent the predominance of these powers, but to “ensure their continued predominance” in society which will promote the control of the capitalist elite and capital itself.²⁹⁰ As the state is not a thing, the state is also not synonymous with government, nor is the state system “synonymous with the political system.”²⁹¹ While the political system represents a plethora of institutions, including political parties and interest groups, the state system contains only the specific institutions related to the five apparatuses of Miliband’s state.²⁹² Many view state power as being equivalent to political power, but Miliband argues that “such a belief...is fraught with great risks and disappointments.”²⁹³ Government power and state power are separate in the sense that the state

²⁸⁴ Barrow (2016): 10.

²⁸⁵ Barrow (2016): 10-11.

²⁸⁶ Barrow (2016): 14.

²⁸⁷ Miliband (2009): 36.

²⁸⁸ Miliband (2009): 36.

²⁸⁹ Miliband (2009): 193.

²⁹⁰ Miliband (2009): 193.

²⁹¹ Miliband (2009): 40.

²⁹² Miliband (2009): 40.

²⁹³ Miliband (2009): 36.

“cannot claim anything: only the government of the day, or its duly empowered agents, can.”²⁹⁴ State power is derived from the Constitution, it is the structure of power and functioning that the government works within. The government is an ever-revolving door of agents who can speak in the name of the state, but they do not actually control state power. But, state power is not the only form of “ruling class domination,” as the capitalist class can also use their power in the institutions that are considered as non-state.²⁹⁵ These institutions are what Miliband considers as the “ideological state apparatus”, which contains such societal groups like “churches, political parties, the press, radio, television, publishing, and the family.”²⁹⁶ Additionally, there are institutions within the bureaucracy wherein the elite can determine the stronghold of the capitalist class, such as “the civil service, central banks, and regulatory commissions.”²⁹⁷ Miliband is clear in determining which institutions are considered as part of the state system and which institutions constitute the political system, which “remain autonomous from the state.”²⁹⁸ Ultimately, Miliband argues that “it is not necessarily ‘who governs’ but the strategic structural advantages the capitalist class enjoys in existing capitalist societies that ultimately determines the limits of governmental policy.”²⁹⁹

Ralph Miliband’s theory of the state is also considered as “a theory of society and the distribution of power in that society.”³⁰⁰ He determines that this is one of the primary reasons for writing *The State in Capitalist Society*, as there is an “enormous political significance of [the] concentration of private economic power in advanced capitalist societies, including its impact on the state.”³⁰¹ As the United States, itself, is one of the largest customers of the private industry and sector in

²⁹⁴ Miliband (2009): 36.

²⁹⁵ Barrow (2016): 96.

²⁹⁶ Barrow (2016): 96.

²⁹⁷ Panitch (1983): 6.

²⁹⁸ Panitch (1983): 6.

²⁹⁹ Milton Mankoff. “Power in Advanced Capitalist Society: A Review Essay on Recent Elitist and Marxist Criticism of Pluralist Theory.” *Social Problems*. 17, No. 3 (1970): 418-430.

³⁰⁰ Miliband (2009): 4.

³⁰¹ Miliband (2009): 12.

the United States, the state's "scale and pervasiveness" in intervening with "contemporary capitalism is now immeasurably greater than ever before."³⁰² In fact, for Miliband, the corporation is "the initial reference point for defining the capitalist class" which he considers as "the class that owns and controls the means of production."³⁰³ The leaders of this class are the individuals who manage and own these corporations who behold the economic power and the ability "to use the state as its instrument for the domination of society."³⁰⁴ As the state is considered as the primary vehicle for controlling class domination through the pervasiveness of the capitalist class, when it comes to class conflict, "the state is not neutral" in its mission is to protect the strength of the dominant capitalist class in society by using the "mental means of production."³⁰⁵ It is important to note, however, that Miliband clearly recognizes that the state must not only "promote capital accumulation" through business confidence, but it must also adopt the particular "policies that maintain the state's political legitimacy with a democratic electorate."³⁰⁶ He realizes there must be a balance to maintain the façade of being a democratic republic based on equality of opportunity. Miliband has argued that "[t]he state is not the only institution which makes the exercise of great power possible; but it is by far the most important one."³⁰⁷

Envisioning the Fractured State

The fact that politically organized interest groups with vast resources operate continuously, that they are coordinated with congressional procedures and calendars, that they occupy strategic points in the political processes, is indicative of how the meaning of "representative" government has radically changed. The citizenry is being displaced, severed from a direct connection with the legislative institutions that are supposed to "stand in" for the people. If the main purpose of elections is to serve up pliant legislators for lobbyists to shape, such a system deserves to be called "misrepresentative or clientry government." It is, at one and the same time, a powerful contributing factor to the depoliticization of the citizenry, as well as reason for

³⁰² Miliband (2009): 8-9.

³⁰³ Barrow (2016): 22.

³⁰⁴ Barrow (2016): 22.

³⁰⁵ Ralph Miliband. "Voices of Socialism: Karl Marx." *Monthly Review*. January (2015): 60.

³⁰⁶ Barrow (2016): 94.

³⁰⁷ Ralph Miliband. *Class War Conservatism and Other Essays*. (London: Verso), 1983: 70.

characterizing the system as one of antidemocracy.³⁰⁸

- Sheldon S. Wolin

Miliband's theory of the state contains five primary elements, or institutions, which make up the state system – the executive apparatus, the administrative apparatus, the military or coercive apparatus, the judicial apparatus, and the sub-central state apparatus. Subsequently, these apparatuses portray the five state entities that contain the key elite positions of authority and power, the areas where the decisions are primarily made. These elites hold the reigns to control the direction of the state machine. Using Miliband's state apparatus conceptual framework, this dissertation will use power structure research as an empirical methodology to identify and explain these elite positions, decisions, and policies within the state system that ultimately determine the trajectory of the state itself. Moreover, the different apparatuses will be discussed in detail to examine each element, the role they play in hydraulic fracturing, and to determine whether, ultimately, the gas and oil capitalist elite possess the control and power over the key resources necessary to force the machine to work in their own favor.

Power structure research is an approach “which views the organized control, possession, and ownership of key resources as the basis of exercising power in any society. Key resources typically consist of wealth, status, force, and knowledge.”³⁰⁹ The structure of this power scheme of a state is determined within the state system through the placement of these elites in locations where the primary authority for decisionmaking occurs throughout the institutions. These decisionmakers are the individuals who have been given a particular amount of power, and therefore, these individuals maintain control over resources throughout the state system. Depending on where these authorities of power exist in the state system determines the type of power that these individuals may possess,

³⁰⁸ Wolin (2017): 59.

³⁰⁹ Barrow, Clyde W. *Critical Theories of the State: Marxist, Neo-Marxist, Post-Marxist*. (Madison: Wisconsin University Press), 1993: 13.

whether it is economic, political, or ideological in nature.³¹⁰ Barrow explains that a “power structure consists of a patterned distribution of resources that is regularized by the institutions within a particular society.”³¹¹ Power structure research consists of identifying these patterns to determine the strength of the power structure in possessing key resources and the outcomes associated with this power. When this power is highly concentrated in conjunction with the control of key resources, “the more reasonable it becomes to describe a power structure as one dominated by a ruling class.”³¹² Raju J. Das argues that power structure research as a methodology is a “merit” of instrumentalism, as it “reveals the reality of instrumental control of the state”.³¹³

Miliband believes that state power is not equivalent to political power. The positions of primary decisionmaking authority within the state system, specifically, are the points of state power that feed the overall power of the state. The individuals who occupy these positions have the ability to hold political, economic, or ideological power to determine the governmental direction of the state; but political, economic, and ideological power are the only powers that the individuals in positions of authority can obtain. The state does not have power to gain, only the government of the day can gain political power. Collectively, the positions themselves bring political power (or state stagnation in some cases) to build the larger power, which can be considered as actual governmental or political power, but the individuals in these positions can only be conduits – they cannot withhold all the power in and of themselves. This will be shown in this dissertation through the lens of hydraulic fracturing to view the network of lobbyists, decisionmakers, the economic powers who financially contribute to elite individuals and organizations to influence policy decisions, and the nonstate entities that maintain the social power in connection to the gas and oil elites. Ruling class domination requires the combination of

³¹⁰ Barrow (1993): 14.

³¹¹ Barrow (1993): 14.

³¹² Barrow (1993): 14.

³¹³ Raju J. Das. “State Theories: A Critical Analysis.” *Science & Society*. 60, No. 1 (1996): 29.

both state and nonstate power. The social power contained in the ideological apparatus assists with the overall legitimacy of the ruling class in positions of power. This legitimacy helps deliver more political, economic, and ideological power to the positions of authority and the elites who fill these spaces of state power.

This chapter has critically explored the critiques of pluralism, including the corporate domination within, which has ousted the importance of the citizen in order to bid for policy favors and preferences. This chapter reviewed Miliband's theory of the state to explain his conceptual framework of the state apparatuses, in order to preview the structure of the case study on hydraulic fracturing. Using power structure research, the following chapters will highlight the positions of authority and the individuals who fill them, the different paths of political, economic, and ideological power that bring governmental power to the capitalist elite, and the connections and the relationship between the private industry of gas and oil in the United States which assist in the proliferation of fracking: all at the expense of the American citizenry and the general will of society which allows for the capitalistic turn in the United States state machine and the corporate colonization of the subsurface.

Chapter 3

Federal Self-Alienation from Hydraulic Fracturing

The first chapter explored the issue of hydraulic fracturing and the various aspects that are causing disruptions throughout American society. Chapter 2 introduced the ideological state components, or apparatuses, of Miliband. The executive, administrative, coercive, judicial, and sub-central governmental apparatuses are the ideological parts that make up Miliband's conception of the state. This chapter will explore the physical state with a discussion of the spatial state, the split estate, and will combine the idea of fracking with the executive, administrative, and coercive apparatuses of the state to show how Miliband's framework can organize the evidence of gas and oil elite capture of policy exemptions and ideologies of the status quo. Meanwhile, the subsurface of the spatial state is being colonized and fracked with no recourse of legal action or relief for the citizens.

In the United States, the federal executive and administrative apparatuses have little control over the regulations of hydraulic fracturing. Most of the decisionmaking power has been given to the individual states to regulate fracking. This, however, is by design. In the early 2000s, the gas and oil elite captured key positions in the state to ensure that the level of regulations would remain with the states, when the Halliburton Loophole was enacted. There are areas, however, that executive and administrative laws and regulations do still apply. The federal government does regulate fracking on federal lands including National Forest Service (NFS) land, which falls under the jurisdiction of the executive branch and the Department of Agriculture, as well as BLM land, which is managed by the Department of the Interior. Fracking within federally established tribal lands is typically managed by the

Tribes themselves, but they must adhere to any federal standards that have been established. These federal standards are very limited in scope, as this chapter will illustrate, and provides some space for the Tribes and individual states to develop their own hydraulic fracturing regulations, based on specific regions, geology, and political climates.

This chapter will utilize Miliband's organizational categories of the executive, administrative, and coercive apparatuses of the capitalist state to explore the moments of gas and oil elite capture of key positions within the state machine to ensure the stronghold of gas and oil dominance in creating executive and administrative exemptions while coercively projecting the ideological principles of the fossil elite on the citizens of the United States. First will be an exploration of the connection between hydraulic fracturing and the executive apparatus. Although the United States federal government has little regulatory control over fracking, it is important to understand the few points of regulation along with the reasons the executive is not in control of fracking regulations. Elite infiltration of government, lobbying by the petroleum companies and counsels, and the overall influence of capital have determined the direction, and sometimes content, of policy in keeping the control over fracking at the sub-central level. Next will be a discussion of the administrative apparatus, which consists of the governmental bureaucratic divisions and agencies at the federal level. The gas and oil cronyism that exists in the administrative apparatus will be traced, and the connections with the elite will be highlighted to further add validity to Miliband's claim that "[w]e have already seen that more and more businessmen find their way into one part or other of the state system at both political and administrative levels".³¹⁴ The pathway leads in both directions though, as Miliband highlights the revolving door, he argues, "[b]ut so do high civil servants ever more regularly find their way into corporate enterprise".³¹⁵ The final section of this chapter will draw the connections between the military

³¹⁴ Ralph Miliband. *The State in Capitalist Society*. (Wales: Merlin Press), 2009: 90.

³¹⁵ Miliband (2009): 90.

and coercive apparatus and hydraulic fracturing. There are some interactions between the military, the elite, and decisionmaking concerning fracking, but the majority of these relationships involve the protection of gas and oil business from protestors and others who use their free speech to speak out against fracking. Simply, the coercive apparatus works in the shadows to maintain the status quo of hydraulic fracturing. But first we look at fracking through Miliband's executive apparatus.

Colonization of the Subsurface: The Split Estate

The state is not only a political concept, but it is physical as well. We have borders which determine the physical limits and boundaries of the state. We have maps to show us the spaces between those boundaries. Reaching 4,000 to 10,000 feet into the atmosphere above the state, is the territory and airspace of the United States.³¹⁶ The homeowners on the surface can stake property claims reaching 500 to 1,000 feet above their rooftops. Comparatively, though, homeowners do not automatically own the earth underneath their homes. This is a separate parcel that must be purchased. The subsurface of the United States has always been valuable, as globally, the lithosphere has been the source for 70% of all materials used throughout human history.³¹⁷ But with the proliferation of hydraulic fracturing, the subsurface has taken on a new value, and the underground became the new frontier with the corporate race to colonize the subsurface.

In the field of human geography, a state is defined as "a territory with defined boundaries organized into a political unit and ruled by an established government that has control over its internal and foreign affairs."³¹⁸ This definition creates the physical demarcation of land that is controlled by a particular entity that claims title over the land. It defines a distinct domestic space in which everything

³¹⁶ Federal Aviation Administration. "Airspace." *Federal Aviation Administration* (accessed 6/12/23) https://www.faa.gov/air_traffic/technology/equipadsb/research/airspace. Updated 2/7/23.

³¹⁷ Margaret Robertson. *Sustainability: Principles and Practice*. 3rd ed. (London: Routledge), 2021: 9.

³¹⁸ R. Adam Dastrup. *Introduction to Human Geography*. Pressbooks, <https://humangeography.pressbooks.com/chapter/4-1/>.

on the outside of the boundary becomes foreign.³¹⁹ Within this space is the “territorial organization of political authority”³²⁰ wherein the citizens residing in these boundaries are bound to the political powers and social relations determined by the state governmental bodies.³²¹ This generalization of the state in its physical and political forms, geographically explains the spatial state and what exists within those boundaries. Bob Jessop calls this the “terrestrial state” as this concept “denotes the initial geophysical raw material or substratum for sociospatial relations.”

When considering hydraulic fracturing, the terrestrial state is not only what can be seen on the surface, but also the subsurface and the minerals contained within. The ability to own private property extends to this subsurface land, under the territorial boundaries of the state. Although particular ownership rights vary per parcel, ultimately, the United States “follows the so-called *ad coelum* rule, by which the owner of land is deemed to own the air rights above the land and the subsurface rights below the land. Ownership of the subsurface rights includes the right to extract ‘fugacious’ minerals found by drilling down into the subsurface column below the land, including oil, gas, and groundwater.”³²² This ownership of the subsurface and the quickly disappearing minerals contained within, however, does not always belong to the owner of the surface, as they are typically separate deeds of ownership. With fracking mineral rights, it is very likely that the owner of the mineral rights and the owner of the surface property are not the same. This leads to the situation that is referred to as split estate.

The concept of split estate dates back to the 1854 US Supreme Court case, *Turner v. Reynolds*. This case set the precedent of maintaining “dominance of the mineral estate over the surface estate in

³¹⁹ Bartelson, Jens. *The Critique of the State*. (Cambridge, UK: Cambridge University Press), 2001: 165.

³²⁰ Bob Jessop. *The State: Past Present Future*. (Cambridge, UK: Polity Press), 2016: 29.

³²¹ Jessop (2016): 125.

³²² Thomas W. Merrill. “Four Questions About Fracking.” *Case Western Reserve Law Review* 63, No. 4 (2013): 977.

severed estate situations.”³²³ Relying on the *Turner v. Reynolds* precedent, the courts have historically favored subsurface landowners and have allowed access to these minerals in “severed mineral estate[s].”³²⁴ The preference for the mineral estate owner has been further asserted within the courts as well as through legislation such as the General Mining Act of 1872, wherein the federal government opened public lands for “exploration, drilling, and extraction” thereby reinforcing the “mineral estate dominance, allowing mineral claims to preempt other land uses.” This dominance is “the right of the mineral owner to develop its subsurface property without association or coercion from others.”³²⁵ Moreover, under the *ad coelum* maxim, a subsurface landowner may alienate portions of the subsurface into smaller subsurface estates. For example, “an owner may sever and convey all of the minerals throughout the parcel, the rights within a specified depth or strata, one specific mineral, or convey only the surface and reserve the minerals.”³²⁶ Many times, and perhaps due to the *ad coelum* maxim, the homeowners on the surface do not own the mineral rights nor the subsurface below their homes.

Easement laws can vary per municipality, but all are based on three aspects of common law. First, when the contract was written for the severance of the land and/or minerals, the right of access is assumed in the price of the transaction. The second aspect of common law is the right of “the mineral owner to use, destroy, access, and occupy the surface [which] is limited to those uses reasonably necessary for development which could be exercised with due care and regard for the rights of others.”³²⁷ Finally, the easement must be utilized for the use it was created for.³²⁸ Some states have passed legislation protecting surface owners from “damages, loss of value, or disruption resulting from

³²³ Stacia S. Ryder and Peter M. Hall. “This Land is Your Land, Maybe: A Historical Institutional Analysis for Contextualizing Split Estate Conflicts in U.S. Unconventional Oil and Gas Development.” *Land Use Policy*. 63 (2017): 151.

³²⁴ Tara Kathleen Righetti. “Liberating Split Estates.” *International Journal of the Commons*. 14, No. 1 (2020): 638.

³²⁵ Righetti (2020): 638.

³²⁶ Righetti (2020): 640-641.

³²⁷ Righetti (2020): 641.

³²⁸ Righetti (2020): 641.

the lawful use of the mineral owners”³²⁹ during fracking activities on split estates. These protections are set through negotiations between the surface and subsurface owners. In Colorado, where the mineral owners have the right of access to surface property, some occupants of the surface can be disenfranchised as they live on split estates and have no decisionmaking power over the minerals underneath their homes. In some cases, the homes are rentals where the disenfranchised are tenants who “bear more risk and receive less benefit from oil and gas extraction than mineral right owners.”³³⁰

The federal government has also dealt with the issue of split estate, regarding dominance for use, on federal BLM lands throughout the western United States. The BLM has historically supported the ranching industry through issuing permits to ranchers to graze on 155 million acres of BLM land in the United States.³³¹ Split estate caused by leases sold under federal lands placed the BLM officials in a precarious position in upholding the mineral rights holder’s leases over the concerns and issues raised by rancher’s obstructions in their right of access.³³² In acreage, the land for ranchers is greater than the land granted in gas and oil permits granted by the BLM. Comparatively, gas and oil permits only span across 12.5 million acres.³³³ According to data from 2015, on this 12.5 million acres of onshore public land, exists over 100,000 gas and oil wells.³³⁴

The concept of the split estate is the crux in allowing the colonization of the subsurface. By doubling the purchasable land through mineral rights, the United States has allowed for a land grab by

³²⁹ Righetti (2020): 643.

³³⁰ Lisa M. McKenzie, William B. Allshouse, Troy Burke, Benjamin D. Blair, and John L. Adgate. “Population Size, Growth, and Environmental Justice Near Oil and Gas Wells in Colorado.” *Environmental Science & Technology*. 50 No. 21 (2016): 11471.

³³¹ Bureau of Land Management. “Livestock Grazing on Public Lands.” *Department of the Interior*. <https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing>.

³³² Charles Davis, “Regulating Oil and Gas on Federal Lands under Presidents Bush, Obama, and Trump,” in *The Environmental Politics & Policy of Western Public Lands*, ed. Erika Allen Wolters and Brent S. Steel, (OSU Open Educational Resources, 2020).

³³³ Mark Brownstein, “New BLM Fracking Rule Brings Crucial Oversight to Oil & Gas Development.” *Environmental Defense Fund*. March 20, 2015. <https://www.edf.org/media/new-blm-fracking-rule-brings-crucial-oversight-oil-gas-development>.

³³⁴ Brownstein (2015).

the gas and oil industry to obtain valuable state lands and minerals. Additionally, this has caused many surface landowners to become alienated from the safe and enjoyable use of their properties while raising local risks to carcinogenic exposure, as easements allow for the mineral rights owners to access the minerals below from the surface, despite the homeowner's dismay.

The Executive Apparatus and Self-Alienation from Hydraulic Fracturing

As previously introduced, Ralph Miliband agrees with Karl Marx in believing that “[t]he executive of the modern state is but a committee for managing the common affairs of the whole bourgeoisie.”³³⁵ In other words, the state consists of a ruling class that legislates to the benefit of the elite. The state is not a neutral terrain wherein groups compete for governmental interest and favorable policy outcomes, as in the pluralist view discussed in Chapter 2. Miliband believes that the state elite are the powerful industrial capitalist elite – industry owners and managers. He argues that the state elite are “involved in a *relationship* with the state, which cannot be assumed, in the political conditions which are typical of advanced capitalism, to be that of principal to agent. It may well be found that the relationship is very close indeed and that the holders of state power are, for many reasons, the agents of private economic power.”³³⁶ In the United States, the oil and gas companies are in a close relationship with all levels of the government – including the executive branch, the bureaucracy, and the representatives of the individual states.

The executive of the state has the power to steer the state apparatus in a general direction. Through the powers vested in the American presidency, such as executive orders, political appointees, and a supportive partisan government; the executive has the power to influence policy and enact laws by decree. Likewise, the executive branch works in the favor of the president, as it is an arm of the

³³⁵ Miliband (2009): 6.

³³⁶ Miliband (2009): 40. Italics in original.

executive's power. Since the proliferation of hydraulic fracturing began shortly after 2005, there have been four US presidents. Over this time, many regulations have been enacted and rules have changed, but they never stray too far from the status quo. Likely, this is due to Miliband's argument regarding the first of the "two main impulses" which motivate the executive:³³⁷

People in power wish for the most part to retain it. It is a spurious kind of worldly wisdom which affirms that all 'politicians' and people in power are moved by nothing but self-interest and are only concerned to serve themselves by acquiring and clinging to office. But it is naïve to think that, whatever else moves such people, they are not also moved by self-interest, meaning above all the wish to obtain and retain power.³³⁸

Miliband realizes that the executive, and politicians in general, will work to appease their constituency to remain in power. To stray away from the status quo too far in either direction will alienate the politician from the majority of voters, regardless of party affiliation.

The second impulse acted on by the president, according to Miliband, is that of the national interest. Miliband contends that governments try to disconnect any visible ties with the economic realm, when making decisions based on "national interest, national security, national independence, honour, greatness, etc.",³³⁹ because they would rather fulfill their "exalted role as guardians of the good of all,"³⁴⁰ than one-sidedly support business over the people. After all, it is the people who vote, not the individual businesses they would support. Yet, since *Citizens United*, it is the individual businesses and corporations that support the politicians and the parties – the financial support from these capitalist entities will all but guarantee the people's vote will follow the money spent in elections. Ultimately, though, Miliband argues that "because of that commitment, and because of their belief that the

³³⁷ Ralph Miliband. "Voices of Socialism: Karl Marx." *Monthly Review*. January (2015): 69.

³³⁸ Miliband (2015): 69.

³³⁹ Miliband (2009): 61.

³⁴⁰ Miliband (2009): 54.

national interest is inextricably bound up with the health and strength of capitalist enterprise, governments naturally seek to help business and business men.”³⁴¹ Further, Miliband points out that

governments have now come to possess one extremely effective weapon in relation to business, namely the fact that they are now by far the largest customer of private enterprise and have thus ‘an important and speedy instrument of influencing the decisions of private industry and commerce in such a way as to enable the governments to achieve on time its major national industrial objectives.’³⁴²

This beneficial relationship works in both directions, however, as the government is an avid consumer of goods, decisionmakers are also avid accepters of lobbyist and super PAC contributions. When a government makes decisions in the national interest, the economic realm is always directly involved as “the demands of business...are always claimed to be in the national interest.”³⁴³ Not only is it in the national interest to make sure businesses are successful for the good of the economy and the jobs for the citizens; but it is these same businesses that the government relies on to maintain the functions necessary for government employees – the vehicle fleet for the individual government employees, and the gasoline necessary to keep the military fleets on the ground, in the air, and on the water. However, the danger in this reciprocal relationship between government and business is that there is “no interest other than business, anywhere, [who] has the same ease of access to the most important organs of executive power, and none enjoys the same familiarity with its agents.”³⁴⁴ Not only do these large businesses have access, built relationships, and the interest of the executive, but they also have immense amounts of money.

This is certainly the situation in the gas and oil industry. In 2015, big oil spent large sums of money that flowed directly to lobbyists. In 2015 alone, ExxonMobil spent \$5 million, Shell budgeted \$4

³⁴¹ Miliband (2009): 55.

³⁴² Miliband (2009): 109.

³⁴³ Miliband (2009): 118.

³⁴⁴ Miliband (2009): 119.

million for lobbying in the US and the EU, the American Petroleum Institute chipped in \$3 million, and the Western States Petroleum Association provided \$4.8 million that was directly spent on lobbyists.³⁴⁵ The citizen groups competing with the oil and gas industry for the attention of policymakers cannot financially compete with these amounts. These same companies spent millions on public relations, staffing, PR campaigns, direct political contributions, lobbying, and support of US oil sector trade associations in order to defeat climate change initiatives, regulations, or support. In total, “obstructive lobby spending” by these corporations reached \$120 million in 2015.³⁴⁶ As will be explained, the funds spent on climate change denial and the promotion of gas and oil in the United States have proven to be valuable tools in limiting regulation of hydraulic fracturing at the national level. These lobbyist dollars are why Miliband argues that political leaders and governments “wish without a doubt, to pursue many ends, personal as well as public. But all other ends are conditioned by, and pass through the prism of, their acceptance of and commitment to the existing economic system.”³⁴⁷ This is especially true when the self-interest and the national interest of the executive desire the same end, as during the Bush administration, as the following section will explain.

Executive Decisions

As has been previously discussed, fracking regulations are mostly made within the individual states. Because hydraulic fracturing uses a different technique than typical gas and oil extraction, there was not much of a regulatory precedence set. The research used to initially regulate fracking was a coalbed methane EPA report from 2004 entitled “Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs.”³⁴⁸ The report, however, was

³⁴⁵ InfluenceMap. “An Investor Inquiry: How Much Big Oil Spends on Obstructive Climate Lobbying.” *InfluenceMap* March (2016).

³⁴⁶ InfluenceMap (2016).

³⁴⁷ Miliband (2009): 54.

³⁴⁸ John Manuel. “EPA Tackles Fracking.” *Environmental Health Perspectives*. 118, No. 5 (2010): A199.

flawed as the pseudo-scientific study had “no direct monitoring of water wells but instead relied on existing peer-reviewed literature and interviews with industry and state and local government officials.”³⁴⁹ The report focuses on coalbed methane, rather than natural gas trapped in rocks, at great depths below that of the coalbed methane deposits.³⁵⁰ Moreover, the overall process differs as coalbed methane uses a straight vertical well while shale natural gas fracking utilizes horizontal drilling.³⁵¹ Michael Burger contends that the report is also in conflict with an EPA report from 1987 regarding hydraulic fracturing where it was found that “fracking in a natural gas well in West Virginia had contaminated an underground drinking-water source.”³⁵² Another major difference between coalbed methane and shale rock hydraulic fracturing is the geology itself. Not only are coal seams at more shallow subsurface levels than shale, but the seams are located in different areas of the United States. With the faulty report on coalbed methane which found that the hydraulic fracturing process only posed a “minimal threat” to drinking water sources, the Bush administration relied on this report to exempt hydraulic fracturing from nearly all federal environmental protections, regulations, and standards. In fact, the EPA inspector general at the time, Weston Wilson, argued that “This study was hijacked... [which] may result in danger to public health and safety.”³⁵³ Wilson’s warnings in 2004 were an accurate foreshadowing for the reality that followed.

The findings from the faulty coalbed methane report became indoctrinated when the Energy Policy Act of 2005 (EPAAct) went into effect. Contained within this Act was an amendment that has

³⁴⁹ Manuel (2010): A199.

³⁵⁰ Environmental Protection Agency. “Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs.” *Office of Ground Water and Drinking Water*. (June 2004). EPA 816-R-04-003.

³⁵¹ Environmental Protection Agency (June 2004): EPA 816-R-04-003.

³⁵² Burger, Michael. “The (Re)Federalization of Fracking Regulation.” *Michigan State Law Review*. 1483 (2013b): 1519.

³⁵³ Tom Hamburger and Alan C. Miller. “Halliburton’s Interests Assisted by White House.” *Los Angeles Times*. (Oct 14, 2004). <https://www.latimes.com/archives/la-xpm-2004-oct-14-na-frac14-story.html>.

become known as the Halliburton Loophole.³⁵⁴ Collaboration between the former Halliburton chief executive officer (CEO) Dick Cheney, acting on behalf of the executive branch as the United States Vice President, members of Congress, and lobbyists passed the amendment to the EPCA which effectively exempted hydraulic fracturing and all gas and oil activities from the Clean Air Act (CAA), Safe Drinking Water Act (SDWA), Clean Water Act (CWA), the National Environmental Policy Act (NEPA), the Resource Conservation and Recovery Act (RCRA), the Emergency Planning and Community Right-To-Know Act (EPCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – better known as the Superfund Act.³⁵⁵ As noted in Chapter 1, the waste from fracking operations, or flowback, that is released into Class II injection wells is subject to federal regulation under the Underground Injection Control Program³⁵⁶ – only if it contains diesel fuel. The EPCA of 2005 brought the addition of two exemptions which changed how underground injection is federally defined: “(i) the underground injection of natural gas for purposes of storage; and (ii) the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.”³⁵⁷ Not only did this change the definition, but it exempted the coverage of the SDWA to all energy production waste releases underground – unless they contain diesel fuel. There have been some attempts to enact legislation that would close the Halliburton Loophole, such as the Fracking Responsibility and Awareness of Chemicals Act (FracAct),³⁵⁸ but none have been successful to date.

³⁵⁴ Elizabeth Burleson. “Cooperative Federalism and Hydraulic Fracturing: A Human Right to a Clean Environment.” *Cornell Journal of Law and Public Policy*. 22, No. 2 (2012): 307.

³⁵⁵ Hilary A. B. Lambert. “Whose Water Is It?” *American Journal of Economics and Sociology* 75, No. 3 (2016): 684.

³⁵⁶ Neal J. Manor. “What the Frack?” Why Hydraulic Fracturing is Abnormally Dangerous and Whether Courts Should Allow Strict Liability Causes of Action.” *Kentucky Journal of Equine, Agriculture, & Natural Resources Law*. 4, No. 2 (2012): 462.

³⁵⁷ William J. Brady and James P. Crannell. “Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations.” *Vermont Journal of Environmental Law*. 14 (2012): 45.

³⁵⁸ Kara Cusolito. “The Next Drilling Disaster?” *The Nation*. (June 21, 2010): 21.

It has been nearly two decades since the Halliburton Loophole went into effect. The fracking boom, proliferation, and slowdown precipitated by the Covid pandemic all existed within this timeframe. Numerous reports on methane pollution, water pollution, air pollution, earthquakes, birth defects and health effects, environmental and social injustices, infrastructure deterioration, and social conflict as a result of hydraulic fracturing operations have been generated in that time – and no changes have ever been made to close the Halliburton Loophole. From 1995 until 2000, Dick Cheney was the CEO of Halliburton, which is one of the top three support companies for gas and oil operations. In 2000, Cheney left his position as the CEO to become the running mate for George W. Bush – also a former oilman – in his run for the presidency; he successfully became the Vice President of the United States. Although he was the vice president and compensated for such by the executive branch, Cheney continued to receive deferred compensation from Halliburton from 2001 until the end of 2005. Further, he was also given “433,333 options to purchase Halliburton stock”³⁵⁹ while acting as Vice President of the United States, which undoubtedly was fruitful if purchased before the fracking boom that Cheney initiated. Stocks soared after the passing of the EPOA in 2005. At the time that the EPOA passed, 60% of gas and oil in the United States was imported from around the world. By 2011, the amount of imported petroleum dropped to 45% due to the proliferation of hydraulic fracturing in the United States.³⁶⁰ In 2004, according to a *Los Angeles Times* article, fracking already added \$1.5 billion a year to Halliburton’s revenue before the proliferation began.³⁶¹

Immediately after taking position as the vice president, Cheney’s loyalty to the gas and oil industry took priority as he was tasked by President G.W. Bush to head an executive level task force to

³⁵⁹ Hamburger and Miller: (2004).

³⁶⁰ Robert H. Freilich and Neil M. Popowitz. “Oil and Gas Fracking: State and Federal Regulation Does Not Preempt Needed Local Government Regulation: Examining the Santa Fe County Oil and Gas Plan and Ordinance as a Model.” *The Urban Lawyer*. 44, No. 3 (2012): 536.

³⁶¹ Hamburger and Miller: (2004).

create a national energy strategy, only 9 days after Bush's inauguration.³⁶² The overall focus of the cabinet level group was to expand gas and oil production, make improvements on the transmission of energy through pipelines and power lines, and to regulate air and water pollution. With Cheney as the head of the task force, though, he introduced the more direct topic of fracking.³⁶³ These discussions were kept secret at the time, as Vice President Cheney called for executive privilege over the content of the deliberations. The *Los Angeles Times* did uncover records and conducted interviews to discover that Cheney's office was involved in discussions about how fracturing should be portrayed in the report, and that it resisted EPA attempts to include concerns about its effects on the environment."³⁶⁴ In the more than 40 meetings of the Energy Task Force,³⁶⁵ Vice President Dick Cheney and the Energy Task Force met with Ken Lay or Enron representatives 6 times to argue against wholesale electricity price controls and "for removing regulatory obstacles to building new power plants and transmission lines, policies that became part of the Bush energy plan," (i.e., the EPAct).³⁶⁶

The enactment of the EPAct and the subsequent Halliburton Loophole could be argued to have been passed in the promotion of the national interest. Miliband argues that partiality towards the national interest is "not really partiality at all" when the national interest is "inextricably bound up with the fortunes of capitalist enterprise."³⁶⁷ According to Miliband, when the state intervenes in the economic sphere, this intervention occurs primarily "for the purpose of helping capitalist enterprise."³⁶⁸ This creates a mutually beneficial relationship between the capitalist elites and the government. This "privileged position of business" has been argued by Fred Block, Stephen Elkin, and Charles Lindblom to

³⁶² Hamburger and Miller: (2004).

³⁶³ Hamburger and Miller: (2004).

³⁶⁴ Hamburger and Miller: (2004).

³⁶⁵ Hamburger and Miller: (2004).

³⁶⁶ Wenonah Hauter, *Frackopoly: The Battle for the Future of Energy and the Environment* (New York: The New Press), 2016: 77-78.

³⁶⁷ Miliband (2009): 54.

³⁶⁸ Miliband (2009): 57.

promote a “natural alliance between state elites and the capitalist state”, when in a market economy such as the United States.³⁶⁹

Also authorized in the EPAct was more than \$13.5 billion in subsidies to encourage the growth of gas and oil drilling. This saved drilling companies massive amounts of money in the exploration and production phases of hydraulic fracturing resulting in a 0.3% tax on profits for United States natural gas companies, rather than the standard corporate tax rate of 35%.³⁷⁰ Natural gas exploration and production through unconventional hydraulic fracturing methods were initially made more cost effective through a little-known provision in a 1980 tax bill, known as Section 29. This provision granted these initial explorations federal tax credits for drilling for natural gas through unconventional methods.³⁷¹ Miliband contends that “[i]n no field has the notion of the ‘welfare state’ had a more precise and apposite meaning than here: there are no more persistent and successful applicants for public assistance than the proud giants of the private enterprise system.”³⁷² Gage Counts and Walter E. Block note that some have argued that “fracking is the poster child of the corporate welfare state”.³⁷³ Further, “[a]t every step of the way, the state steps in to subsidize the operating costs of the fossil fuel industry, steal land for it to build pipelines on, and indemnify it against liability through regulatory preemption of tort law or even flat out statutory caps on liability for damage.”³⁷⁴ Any government assistance given to gas and oil companies for unconventional hydraulic fracturing is a critical savings in profit as it has been estimated that each hydraulically fractured well costs between \$4.9 and \$8.9

³⁶⁹ Barrow (1998): 107.

³⁷⁰ Karen Charman. “Trashing the Planet for Natural Gas: Shale Gas Development Threatens Freshwater Sources, Likely Escalates Climate Destabilization.” *Capitalism Nature Socialism*. 21, No. 4 (2010): 79.

³⁷¹ Merrill (2013): 976.

³⁷² Miliband (2009): 57.

³⁷³ Gage Counts and Walter E Block. “Fracking: A Creature of Government?” *Energy & Environment*. 27, No. 8 (2016): 936.

³⁷⁴ Counts and Block (2016): 936.

million dollars from the exploration through the well completion phase.³⁷⁵ These subsidies that gas and oil companies receive from the federal government give weight to Miliband's argument that the business interests in the United States and other advanced capitalist countries "have generally been able to rely on the positive and active good will of their governments."³⁷⁶

The leaders of these top gas and oil companies making enormous subsidized profits are themselves making a large profit off the relationships with the state. This class of economic state elites are "involved in a relationship with the state" and "may wield considerable power and influence, which must be integrated in the analysis of political power in advanced capitalist societies."³⁷⁷ It is important to reiterate, however, that these business leaders do not themselves hold state power. They have influence, they have a relationship, and they receive benefits – but they are not official or elected state leaders, nor do they hold the power of leaders. They are members of the state elite, which Miliband separates into a different entity as they are not elected, nor do they hold state power. These business leaders and CEOs do, however, obtain governmental power when they step down from their corporate roles and assume a role in the executive branch, as did both Dick Cheney and George W. Bush.

Cabinet and Executive Actions

Directors in the executive branch departments of government are appointed by the president. "Formally, officialdom is at the service of the political executive, its obedient instrument, the tool of its will. In actual fact it is nothing of the kind."³⁷⁸ As portrayed in this chapter thus far, the executive makes decisions based on both national and self-interest. Department directors are chosen by the president, typically because these appointees are like-minded and will fulfill the vision of the president. According

³⁷⁵ Mohammed S. Hashem M. Mehany and Shantanu Kumar. "Analyzing the feasibility of fracking in the U.S. using macro level life cycle cost analysis and assessment approaches – A foundational study." *Sustainable Production and Consumption*. 20 (2019): 382.

³⁷⁶ Miliband (2009): 85.

³⁷⁷ Miliband (2009): 40.

³⁷⁸ Miliband (2009): 37.

to David Shafie, as highlighted by Charles Davis, “executive authority begins when the president selects people with similar policy values to head departments or agencies with prior experience or knowledge of natural resources management issues.”³⁷⁹ The fluctuations in the executive branch through electoral politics have produced the only major changes in federal hydraulic fracturing legislation and through executive orders. For better or for worse, most of the United States presidents that have maintained office since the fracking boom have realized that the fastest route for policy change is through the heads they appoint to these departments, in addition to issuing executive orders.³⁸⁰

The G.W. Bush administration’s legacy in facilitating hydraulic fracturing with little regulatory barriers is within the exemptions in the EPO. As explained above, these exemptions opened the flood gate for fracking to proliferate, in conjunction with the subsidies received in making exploration and production more affordable for the gas and oil companies. This industry friendly administration single handedly changed the landscape of fracking regulation in one act of the executive branch. Prior to the EPO, when the National Energy Policy report from Dick Cheney’s Energy Taskforce was released in 2001, President Bush passed two executive orders (EO) two days after the report’s release. Executive order 13211, “Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use,”³⁸¹ was a prelude to the second EO that provided much more direct action. This order directed all federal agencies to consider energy supply, distribution, or use in any agency actions taken. EO 13212, though, was much more involved. This order, “Actions to Expedite Energy Related Projects,” provided directions to “federal agencies – particularly the BLM – to “expedite their review of permits or take other actions as necessary to accelerate the completion of such [energy-related] projects.”³⁸² The EO created an interagency task force “to monitor and assist the agencies in their efforts to expedite their

³⁷⁹ Davis (2020).

³⁸⁰ Davis (2020).

³⁸¹ Robert E. Forbis Jr. *Altered Policy Landscapes: Fracking, Grazing, and the Bureau of Land Management* (Switzerland), 2019: 44.

³⁸² Forbis, Jr. (2019): 44.

review of permits or similar actions, as necessary, to accelerate the completion of energy-related projects, increase energy production and conservation, and improve the transmission of energy.”³⁸³ The order further directed the task force to facilitate the support needed to expedite permitting in the shale play areas.³⁸⁴ Although these orders were issued after Cheney’s Energy Task Force report, they were issued prior to the EPOA, which was passed in 2005 based on the 2001 report. According to Robert Forbis Jr., “[t]hese two executive orders sought to comprehensively change existing federal energy policy and administrative processes within land and resource agencies.”³⁸⁵

When Barack Obama became president, he attempted to bring back in the regulations through appointments and procedural changes. In 2009, Obama appointed Colorado’s former Senator Ken Salazar, as the Director of the Department of the Interior. With the first administration change in eight years, President Obama and Secretary Salazar worked to swiftly alter the fracking regulation landscape. “Immediately following his confirmation, Salazar announced steps to reform BLM energy policy. Secretary Salazar used a Secretarial Order to establish an energy reform team to identify and oversee energy reforms and issued immediate directives to the BLM, announcing to federal administrators that “the BLM will ensure that they, not industry, will determine where, when and how oil and gas leasing will occur”.”³⁸⁶ This marked the “beginning of procedural changes” regarding gas and oil leases, siting concerns, and environmental issues – which were all “vigorously opposed by energy company interests”.”³⁸⁷ While the Obama administration filled the position of the executive, gas and oil leasing did become more particular in addressing the concerns ignored by the Bush administration. In fact, one study has shown that the total acreage leased on federal land dropped by 45% with the change in the

³⁸³ Forbis, Jr. (2019): 44.

³⁸⁴ Forbis, Jr. (2019): 44.

³⁸⁵ Forbis, Jr. (2019): 45.

³⁸⁶ Forbis, Jr. (2019): 162.

³⁸⁷ Davis (2020).

executive from Bush to Obama.³⁸⁸ Despite these decreases, the altering of the regulatory landscape by the Obama administration did not prove to be substantial. It is argued that although he stood up to “the greedy energy interests and their Wall Street funders”, he “championed a lethal ‘all of the above’ energy strategy and advanced the use of fracked natural gas and oil”.³⁸⁹

Throughout the past century, American presidents have called on the Antiquities Act of 1906 to preserve and protect sensitive historical and archaeological sites. In 2016, President Obama preserved the area in southeastern Utah known as Bears Ears National Monument. These lands were the former home to, and are sacred lands for the Ute Mountain Ute, the Navajo Nation, the Ute Indian Tribe of the Uintah Ute Tribe, the Hopi Nation, and the Zuni Tribes.³⁹⁰ The Trump administration, however, relinquished nearly 2 million acres of these protected National Monument lands in 2017, when the Bears Ears National Monument was reduced by 85% and the Grand Staircase-Escalante was cut to half its size.³⁹¹ Although this decreased the amount of National Monument protected lands, this did not decrease the amount of national surface land. The newly unprotected subsurface lands were liberated from preservation to make room for more hydraulic fracturing permits on federal land, as well as potential uranium mining.³⁹²

In 2018, Obama’s fracking rules and policies continued to unravel as the BLM overturned 2015 rule that attempted to enact stricter fracking rules. The Obama-era rule required gas and oil companies to disclose the chemicals they use in fracking fluids.³⁹³ The BLM, under the Donald Trump

³⁸⁸ Davis (2020).

³⁸⁹ Hauter (2016): 270.

³⁹⁰ Matthew L. Campbell. “Protecting Bears Ears National Monument.” *Native American Rights Fund* (accessed June 17, 2022): <https://www.narf.org/cases/bears-ears/>

³⁹¹ Julie Turkewitz. “Trump Slashes Size of Bears Ears and Grand Staircase Monuments.” *The New York Times* (December 4, 2017): <https://www.nytimes.com/2017/12/04/us/trump-bears-ears.html>.

³⁹² Turkewitz (2017).

³⁹³ David Jackson, “Obama administration unveils new fracking rules.” *USA Today* (March 20, 2015): <https://www.usatoday.com/story/news/nation/2015/03/20/obama-interior-department-fracking-rules-sally-jewell/25101133/>.

administration, saw the Obama disclosure rule as “unjustified” and sought to “relieve operators of duplicative, unnecessary, costly, and unproductive regulatory burdens.”³⁹⁴ The Department of the Interior (DOI) argued to the U.S. Court of Appeals for the 10th Circuit that the 2015 Obama rule lacked benefits as the states already regulate hydraulic fracturing. The court agreed and the rule was rescinded as it was believed to impose “administrative burdens and compliance costs that are not justified.”³⁹⁵ The states have long been in control of gas and oil regulations, and that power was strengthened in the 1930s when the Interstate Oil and Gas Compact (IOGC) was created.³⁹⁶ According to Charles Davis, this compact was created for the states to maintain control over gas and oil regulations and to avoid federal control. This organization is contractually formed of member states involved in gas and oil production who make policy decisions.³⁹⁷

Before the Trump administration left office, the outgoing president did make one final executive order as a campaign tactic, to protect industry from ‘prohibitive regulations’, and to instate a mandatory analysis impact of fracking on the American economy and the effects on US trade should a ban be enforced on fracking in the next administration.³⁹⁸ On September 30, 2020, EO 13953, “Addressing the Threat to the Domestic Supply Chain From Reliance on Critical Minerals From Foreign Adversaries and Supporting the Domestic Mining and Processing Industries” was signed by Donald Trump, thereby identifying natural gas and 34 other minerals as “essential to the economic and national security of the United States.”³⁹⁹ Despite Miliband’s notion that governments try to disconnect any visible ties with the

³⁹⁴ “BLM Cites ‘Unjustified’ Costs to Scrap Obama-Era Fracking Rule.” *Inside EPA’s Water Policy Report*. 27, no. 1 (2018): 12.

³⁹⁵ “BLM Cites ‘Unjustified’ Costs to Scrap Obama-Era Fracking Rule.” (2018): 12.

³⁹⁶ Davis (2020).

³⁹⁷ Davis (2020).

³⁹⁸ Timothy Puko. “Trump Weighs Executive Order to Show Support for Fracking.” *The Wall Street Journal* (October 27, 2020): <https://www.wsj.com/articles/trump-weighs-executive-order-to-show-support-for-fracking-11603825225>.

³⁹⁹ Executive Office of the President. “Addressing the Threat to the Domestic Supply Chain from Reliance on Critical Minerals from Foreign Adversaries and Supporting the Domestic Mining and Processing Industries.”

economic realm when making decisions based on “national interest, national security, national independence, honour, greatness, etc.”⁴⁰⁰ because they would rather fulfill their “exalted role as guardians of the good of all”⁴⁰¹ than one-sidedly support business over the people – Trump was blatant about his support for the industry. Hoping to win support over Biden in Pennsylvania on the campaign trail, Trump announced the signing of the EO at a rally, touting the creation of 1.4 million jobs within 5 months.⁴⁰²

This number is distorted without context. In 2020, the employment rate did steadily rise during this time frame – but this was immediately following the onset of the Covid pandemic. Additionally, the total job creation former President Trump referred to in his campaign speech, spanned across all labor sectors in the United States, not just in gas and oil. In reality, the proliferation of hydraulic fracturing did add 725,000 jobs in the US from 2005 through 2012.⁴⁰³ Specifically, Pennsylvania saw a 4% increase in employment from 2008 through 2019 in the hydraulic fracturing sector. Much of this is due to the temporary nature of local fracking activities. There are plentiful jobs available during the drilling phase of exploration. However, once the equipment is set in place and production begins, very few employees remain in the local areas to maintain the equipment and check production. Generally, this leads to a boom-and-bust cycle in job creation and overall local business. Another reason is due to pre-existing employees that are brought into fracking communities from other states, primarily Texas and Oklahoma. This importation of workers has decreased the need for local employees in these communities, where

Federal Register (September 30, 2020): <https://www.federalregister.gov/documents/2020/10/05/2020-22064/addressing-the-threat-to-the-domestic-supply-chain-from-reliance-on-critical-minerals-from-foreign>.

⁴⁰⁰ Miliband (2009): 61.

⁴⁰¹ Miliband (2009): 54.

⁴⁰² Adam Shaw, Morgan Phillips, and Caitlin McFall. “Trump in Pennsylvania announces he signed executive order to protect fracking.” *Fox News* (October 31, 2020): <https://www.foxnews.com/politics/trump-pennsylvania-american-dream>

⁴⁰³ Reuters Staff. “U.S. fracking boom added 725,000 jobs – study.” *Reuters* (November 6, 2015): <https://www.reuters.com/article/usa-fracking-employment-study/u-s-fracking-boom-added-725000-jobs-study-idUSL8N13159X20151106>.

the industry had previously made promises of job creation and local economy generation that comes with the fracking boom. Nick Cunningham attributes this to the fact that hydraulic fracturing is “capital-intensive, not job intensive...In other words, it costs a lot of money to drill, but it doesn’t employ a lot of people, and much of the income is siphoned off to shareholders.”⁴⁰⁴

President Joe Biden, conversely, took the office of the executive and immediately enforced a new EO which temporarily halted gas and oil leases on federal land. In response to accusations of damaging the Covid-stricken economy, Biden explained that the job losses experienced in fracking would be replaced by the demand for wind and solar energy sources and transmission in the US.⁴⁰⁵ However, this was a short-lived action as the Biden administration opened 144,000 acres of federal land to drilling gas and oil,⁴⁰⁶ and issued over 3,500 new gas and oil permits in New Mexico and Wyoming alone. There is a current lawsuit filed against the Biden administration for issuing these permits in violation of the Endangered Species Act, the National Environmental Policy Act, and the Federal Land Policy and Management Act.⁴⁰⁷ The Biden administration is currently getting strife from the industry as well, amidst the ongoing economic energy crisis and his stance on hydraulic fracturing, and in a response from Biden’s suggestions that the fuel refining companies contribute to decreasing the energy costs for consumers. The fuel refiners and the American Petroleum Institute, speaking on behalf of the gas and oil industry, argues that the Biden administration should focus on mending relations with the gas and oil

⁴⁰⁴ Nick Cunningham. “Appalachian Fracking Boom Was a Jobs Bust, Finds New Report.” *Vancouver: Newstex*. (2021): <https://www.ecowatch.com/fracking-jobs-bust-appalachia-2650514718.html>.

⁴⁰⁵ Lisa Friedman, Coral Davenport, and Christopher Flavelle. “Biden, Emphasizing Job Creation, Signs Sweeping Climate Actions.” *The New York Times* (January 27, 2021): <https://www.nytimes.com/2021/01/27/climate/biden-climate-executive-orders.html>.

⁴⁰⁶ Josh Lederman and Zoe Richards. “Biden administration to resume leasing for oil and gas drilling on federal lands.” *NBC News* (April 15, 2022): <https://www.cnbc.com/2022/04/15/biden-administration-to-resume-leasing-for-oil-and-gas-drilling-on-federal-lands.html>.

⁴⁰⁷ Center for Biological Diversity. “Lawsuit Challenges Biden-Approved Oil Drilling Permits for Failing to Protect Climate-Imperiled Wildlife, Public Lands.” *Center for Biological Diversity* (June 15, 2022): <https://biologicaldiversity.org/w/news/press-releases/lawsuit-challenges-biden-approved-oil-drilling-permits-for-failing-to-protect-climate-imperiled-wildlife-public-lands-2022-06-15/>.

industry in the US and expand the production of domestic gas and oil extraction, and refining.⁴⁰⁸ Despite Biden's tough stance on the gas and oil industry, the gas and oil stockholder elites have reaped the benefit of the lack of supply and demand. The stockholders have enjoyed a gain of 103% since Biden's inauguration with US gas and oil doubling in market value.⁴⁰⁹

Faced with the Russian invasion of Ukraine, soaring energy prices and the resulting inflation, as well as the ongoing Covid pandemic, the Biden administration has mostly stood strong against the oil and gas industry in the United States. The ongoing strife between the American Petroleum Institute and the Biden administration shows that despite the current global issues that the administration is facing, the president is still attempting to fulfill his campaign promises of phasing out fossil fuels. Although this is positive for many environmentalists and environmental groups, this does not fare well politically for the Biden administration. Miliband has expounded on the importance of a government maintaining business confidence. "It is an implicit testimony to the power of business that all governments...have always been profoundly concerned to gain and retain its 'confidence.' Nor certainly is there any other interest whose 'confidence' is deemed so precious or whose 'loss of confidence' is so feared."⁴¹⁰ Biden experienced the loss of confidence from the gas and oil industry upon taking office and enforcing the halt on fracking. Unlike his predecessors, though, he continues to fulfill his promises of phasing out fossil fuels regardless of the dearth of business confidence, which Miliband explains is important to maintain the relationships between the business elite and the state. This is not an anomaly, however, as Clyde W. Barrow mentions the fact that Miliband recognized this can occur with state elites on occasion. There have been occasions where state elites "have in fact been compelled over the years to act against some

⁴⁰⁸ American Petroleum Institute. "API Responds to President Biden: Prioritize Unlocking U.S. Energy Resources." *American Petroleum Institute* (June 15, 2022): <https://www.api.org/news-policy-and-issues/news/2022/06/15/api-response-to-biden-oil-refineries-letter>.

⁴⁰⁹ Robert Rapier. "How Has the Oil Industry Fared Under President Biden?" *Forbes.com* (June 17, 2022): <https://www.forbes.com/sites/rrapier/2022/06/17/how-has-the-oil-industry-fared-under-president-biden/?sh=53946f383890>.

⁴¹⁰ Miliband (2009): 109.

property rights, to erode some managerial prerogatives, to help redress somewhat the balance between capital and labor, between property and those who are subject to it.”⁴¹¹

The Administrative Apparatus and Hydraulic Fracturing

The administrative apparatus works closely with the executive branch, and is part of the overall political process, as “administration is always political as well as executive.”⁴¹² Miliband names this apparatus as the second element of the state and defines it as the apparatus that is concerned with the overall management of the economic, social, and cultural activities in which the state is involved. This apparatus does contain the bureaucracy, but Miliband explains that this apparatus has become more than just the bureaucracy. It has stretched its reach to include ministerial departments, “public corporations, central banks, regulatory commissions, etc.”⁴¹³ The primary leaders throughout the administrative apparatus do serve the political executive, and the administrative apparatus becomes “its obedient instrument, the tool of its will.”⁴¹⁴ Constitutionally, the administrative apparatus, as well as the coercive apparatus, exist to “serve the state by serving the government of the day.”⁴¹⁵ To this end, administrative elites are not expected to be “partymen”.⁴¹⁶ They are to be dedicated to the government in control of the state apparatus and are to remain politically neutral. Further, the position of the administrative elite demand that their “exclusive concern is to advance the business of the state under the direction of their political masters.”⁴¹⁷ Miliband explains that while political leaders in advanced

⁴¹¹ Clyde W. Barrow. *Toward a Critical Theory of States: The Poulantzas-Miliband Debate After Globalization*. Albany, NY: SUNY Press, 2016: 29.

⁴¹² Miliband (2009): 37.

⁴¹³ Miliband (2009): 37.

⁴¹⁴ Miliband (2009): 37.

⁴¹⁵ Miliband (2009): 38.

⁴¹⁶ Miliband (2009): 86.

⁴¹⁷ Miliband (2009): 86.

capitalist states do “generally wear specific political and party labels,” ideally, the “top civil servants generally do not.”⁴¹⁸

With the advancement of capitalism throughout the 20th century, there have been “more and more businessmen [who] find their way into one part or other of the state system at both political and administrative levels”,⁴¹⁹ yet, as Miliband explains, “so do high civil servants ever more regularly find their way into corporate enterprise.”⁴²⁰ He calls these shifting government/corporate elites the “new breed of ‘technocrats’”.⁴²¹ Miliband further explains that these new technocrats have been “spawned by the economic interventionism of the ‘neo-capitalist’ state, and who wield considerable influence and power in a variety of departments.”⁴²² These elites exist within a realm that is neither government nor business, but are in a newly developed sphere between and within the governmental and business realms, making their existence “increasingly blurred and indistinct.”⁴²³ These crossings of the economic and political spheres have become conspicuous in the US with the election of the Bush administration with Cheney as vice president, and with the presidency of businessman Donald Trump.

Because of the limited federal regulation of hydraulic fracturing, due to the Halliburton Loophole, there are few traditional bureaucracies that manage the activities of the gas and oil industry. Using Miliband’s extended list of administrative apparatus entities, one ad hoc and congressionally approved regulatory commission that oversees the “effective regulation” of the oil and gas industry is the Interstate Oil and Gas Compact Commission (IOGCC).⁴²⁴ The Compact was signed in 1935 between Oklahoma, Texas, New Mexico, Illinois, Colorado, Kansas, and 25 other gas and oil producing states with

⁴¹⁸ Miliband (2009): 87.

⁴¹⁹ Miliband (2009): 90.

⁴²⁰ Miliband (2009): 90.

⁴²¹ Miliband (2009): 90.

⁴²² Miliband (2009): 90.

⁴²³ Miliband (2009): 90.

⁴²⁴ Interstate Oil and Gas Compact Commission. “About Us.” *Interstate Oil and Gas Compact Commission* (accessed June 19, 2022): <https://iogcc.ok.gov/history>.

the main purpose of maintaining state control over oil and gas extraction, to conserve the oil and gas, and to enforce the enactment of laws within the states with a set guideline of points to address. These IOGCC guidelines include optimal gas-oil ratios, dilution, prevention of inadvertent gas and oil releases, fire prevention, placement for optimum recovery, and avoiding improper usage of the well in energy production. As a “forum for states, industry, Congress, and the environmental community”, the IOGCC is less focused on direct regulation and rather, finds providing the industry and member states with an authoritative voice to be of more importance.⁴²⁵

An entity of the IOGCC that also falls within the administrative apparatus is the State Review of Oil and Natural Gas Environmental Regulations (STRONGER). This private governance entity reviews the state environmental laws that pertain to gas and oil and identifies “innovative regulatory approaches to reducing environmental and administrative problems associated with the management of oil and gas exploration and production industry wastes and to comprehensively assess and improve implementation and enforcement of state regulatory programs.”⁴²⁶ STRONGER self identifies as “a collaborative review team of stakeholders from industry, the environmental community, and state environmental regulatory programs.”⁴²⁷ The EPA recognizes STRONGER as a 501(c)(3) nonprofit, multi-stakeholder, educational organization. The EPA entered a non-legally binding Memorandum of Understanding (MOU) with STRONGER in 2018 to advance a form of cooperative federalism. As explained in Chapter 2, cooperative federalism is a regulatory scheme in which much of the regulation is still the burden of state and local government, while the federal government has the authority to set minimum environmental standards for the states to follow. Should a state not abide by these minimum standards, through the supremacy clause, the federal government then can supersede state rules to

⁴²⁵ Interstate Oil and Gas Compact Commission (accessed June 19, 2022).

⁴²⁶ Steve Souders. “Review of State Oil and natural Gas Environmental Regulations: Final Report.” (US Environmental Protection Agency, Washington DC), 2005.

⁴²⁷ Leiter (2014): 11.

ensure minimum standards are met. In the case of hydraulic fracturing, however, it should be mentioned that the Halliburton Loophole prevents federal baseline standards for fracking. In this particular MOU, however, the federal government is in cooperation with a non-profit organization. This collaboration does not lead to the federal creation or enforcement of nationwide fracking regulations. It merely creates a governmental relationship between the administrative apparatus and an interest group, while the states maintain jurisdiction over the fracking rules and legislation.

Another institution that functions under the administrative apparatus are universities. In the United States, many universities are publicly funded. As Miliband explains, these institutions are “very largely dependent upon the state for finance in their main activities, namely teaching and research.”⁴²⁸ One concern for Miliband is the potential for the state to impose on a university’s freedom to utilize these funds without government control. It has also been suggested that “the university has become the prime instrument of national purpose...”⁴²⁹ Miliband’s other concern, and the more pressing concern in the case of fracking, is that these same universities also rely on large private donations and other forms of financial support from wealthy individuals, groups, or corporations.⁴³⁰ Furthermore, these same wealthy individuals, business leaders in the community, and alumni are the same elite that maintain the status quo in universities by dominating “the boards of trustees, regent or governors in whom the ultimate control of universities is vested...”⁴³¹

Some instances of the conflicts of interest that could arise in these situations have already presented themselves. In 2012, the University of Texas’s (UT) Energy Institute published a draft claiming that there were minimal environmental risks associated with hydraulic fracturing. However, the principal investigator for the internal university grant, former US Geological Survey Chief Charles Groat,

⁴²⁸ Miliband (2009): 178.

⁴²⁹ Miliband (2009): 178.

⁴³⁰ Miliband (2009): 182.

⁴³¹ Miliband (2009): 182.

had a conflict of interest that he failed to disclose. Aside from his position at UT, Groat was “a paid board member of an energy firm that conducts fracking.”⁴³² After review by a commissioned outside panel, the study was found to have “fell short of contemporary standards for scientific work.”⁴³³ This finding led to not only the resignation of Groat from UT, but also the resignation of former DOE Research Chief Raymond Orbach from the position of director of the UT Energy Institute.⁴³⁴ These conflicts of interest are reported to be occurring at universities across the US. Also in 2012, a dean at Pennsylvania State University allegedly overstepped his academic barrier and stepped into advocacy in support of the industry. There has also been tension amongst faculty members of both Cornell University and Massachusetts Institute of Technology regarding various studies on fracking.⁴³⁵ In 2013, Harold Hamm, billionaire and founder of Continental Resources, influenced the changes in a study regarding the connection of fracking to earthquakes in Oklahoma. Hamm contacted the president of the University of Oklahoma, David Boren, in order to discuss the research conducted by the school, and the potential effects that releasing such information into the public could cause.⁴³⁶ In 2015, Austin Holland, the researcher who changed his study based on the heavy influence of Hamm, testified under oath that he was “pressured by members of the OU administration to suppress research” regarding the connection between fracking wastewater injection into underground wells and the subsequent

⁴³² Eliot Marshall. “In Wake of Scathing Review of Fracking Report, University of Texas Revises Conflict of Interest Policies.” *Science.org* (December 7, 2012): <https://www.science.org/content/article/wake-scathing-review-fracking-report-university-texas-revises-conflict-interest>.

⁴³³ Marshall (2012).

⁴³⁴ Marshall (2012).

⁴³⁵ Kaustuv Basu. “Fracking Open.” *Inside Higher Ed* (July 6, 2012): <https://www.insidehighered.com/news/2012/07/06/gas-drilling-research-stirs-controversies-universities>.

⁴³⁶ Joe Wertz. “Oil Billionaire Sought Meeting with OU President Boren on Oklahoma Quake Research as Far Back as 2011.” *NPR: State Impact Oklahoma* (April 9, 2015): <https://stateimpact.npr.org/oklahoma/2015/04/09/oil-billionaire-sought-meeting-with-ou-president-boren-on-oklahoma-quake-research-as-far-back-as-2011/>.

earthquakes.⁴³⁷ It was also uncovered that Boren was not only the sitting president for OU, but was also a board member for Continental Resources, the gas and oil company founded by Harold Hamm.

The regulatory agencies of the administrative apparatus and the civil servants who ought to remain politically neutral within this apparatus, appear to be nothing of the sort. Where they ought to serve the government of the day, they instead are serving the gas and oil industry. These examples align with Wolin's description of universities under totalitarianism. He explains that under totalitarian regimes, universities and other schools "were conscripted into the service of the regime. Scientific establishments and independent critics were either silenced, purged, or eliminated."⁴³⁸ Where totalitarianism attempted to "cleanse" the research, the current capitalist regime is trying to muddy the research.⁴³⁹ The IOGCC, made of member states, works closely with the states and not the federal government. Likewise, STRONGER is a non-profit and private entity who collaborates directly with the industry and the federal government. On university campuses across the US, the lines are blurred between private and public funding, influence, and employment, academic research, and corporate protection and promotion. Miliband describes the regulatory agencies in the United States as "not so much hostile organisms in a war for survival as a functional unit in a self-perpetuating industrial system...it adjusts to a system whose status quo it helps to protect."⁴⁴⁰ The last point is the key to understanding why none of these institutions would qualify to regulate hydraulic fracturing effectively – they are all capitalist creations or are easily influenced by capitalist funding. These institutions were created as part of the unit to perpetuate the industrial and political systems, while protecting the capitalist status quo.

⁴³⁷ Anna Bauman and Nick Hazelrigg. "Former OU researcher, state seismologist felt pressured to suppress fracking research." *OU DAILY* (November 15, 2017): https://www.oudaily.com/news/former-ou-researcher-state-seismologist-felt-pressured-to-suppress-fracking/article_3fa235ce-ca4d-11e7-9fe9-a35866d06ac4.html.

⁴³⁸ Sheldon S. Wolin. *Democracy Incorporated: Managed Democracy and the Specter of Inverted Totalitarianism*. New Edition. (Princeton: Princeton University Press), 2017: 67.

⁴³⁹ Wolin (2017): 67.

⁴⁴⁰ Miliband (2009): 92.

The Coercive Apparatus and Hydraulic Fracturing

Coercion has a variety of meanings and definitions based on the context it is used in. Narrowly, coercion can be defined as “agent A coerces another agent B if A intentionally forces B to do, or to refrain from doing, X through a command backed by the threat of sanctions.”⁴⁴¹ This can be as simple as ‘stop, or else...’, but it could also equate to a severe infringement on one’s personal liberties. Essentially, “when an agent is coerced, his or her freedom is constrained: he or she does not act on his or her own will, but is a mere instrument of the will of another.”⁴⁴² According to Guy Aitchison, a liberal lens of the democratic State will view coercion as illegitimate “since it conflicts with majority rule and mutual respect.”⁴⁴³ Additionally, for liberals, coercion by the state can only be moral if it would protect the freedom of all citizens equally, according to the principles of justice.⁴⁴⁴ Immanuel Kant has defined principles of justice as “those that can be legitimately enforced by law and whose purpose is to prevent individuals from violating one another’s freedom.”⁴⁴⁵ This form of coercion leads to the state as the ultimate authority in deciding the moral limit of its own authority.

C. Wright Mills sees coercion of the state as the “steady militarization of life and the extraordinary growth of the military domain [which] had produced a situation in which the military must be viewed as a power group coequal with the civilian government and the corporate elite.”⁴⁴⁶ Miliband sees this as an exaggeration. Rather, he feels that “military and police elites may always be expected to support with a particular zeal the determination of the civil power to combat ‘internal subversion,’ at least from the left, and to act, wherever required, as the coercive agents of the existing social order,

⁴⁴¹ Laura Valentini. “Coercion and (Global) Justice.” *American Political Science Review*. 105, no. 1 (2011): 205-220.

⁴⁴² Valentini (2011): 206.

⁴⁴³ Guy Aitchison. “Domination and Disobedience: Protest, Coercion and the Limits of an Appeal to Justice.” *Perspectives on Politics*. 16, no. 3 (2018): 666.

⁴⁴⁴ Valentini (2011): 206.

⁴⁴⁵ Valentini (2011): 207.

⁴⁴⁶ Miliband (2009): 98.

particularly in periods of social strife and open class conflict.”⁴⁴⁷ This apparatus consists of an elite who has the ability to coerce and force the status quo. As many of the US Army and Navy high officers originate in the upper middle classes of society, for Miliband:

those who control and determine selection and promotion at the highest level of the state service are themselves most likely to be members of the upper and middle classes, by social origin or by virtue of their own professional success, and are likely to carry in their minds a particular image of how a high ranking civil servant or military officer ought to think, speak, behave, and react; and that image will be drawn in terms of the class to which they belong.⁴⁴⁸

In this sense, the military elites have the same perspective of the state as the elites of the executive and administrative apparatus, since they originate from the same classes of society and the same elite mentality. For the United States military, according to Miliband, “business is represented as the epitome of the American way of life” and should therefore be protected and fought for as are all American freedoms.⁴⁴⁹ The elites of this apparatus perpetuate the conservative status quo while having the ability to apply this ideology with direct or indirect, armed force.

The conservative status quo of the coercive apparatus elite equates to a “highly conservative” influence which is reinforced by the military elite through acting “as an additional voice of caution, restraints, and admonition against whatever policies do not correspond to their own conservative view of the national interest.”⁴⁵⁰ Miliband is adamant concerning the ability of the coercive apparatus to inflict this conservative view on the people through force. He comments that “it has hardly ever had occasion to have any serious doubts as to their readiness to take the field, so to speak, against striking

⁴⁴⁷ Miliband (2009): 99.

⁴⁴⁸ Miliband (2009): 46.

⁴⁴⁹ Miliband (2009): 94.

⁴⁵⁰ Miliband (2009): 99.

workmen, leftwing political activists, and other such disturbers of the status quo.”⁴⁵¹ This has been the case in many oil producing countries around the world, including in the United States.

In 2015, the Canadian Security Intelligence Service (CSIS) released a memo about an “extremist” threat in the anti-Canadian petroleum movement. CSIS claims it is “a well financed and organized” movement, which includes “peaceful activists, militants, and violent extremists.”⁴⁵² Anti-fracking protesting in the UK has also prompted the coercive apparatus in that country to classify protestors as participating in “extremism”.⁴⁵³ At the 5 month long protest at a fracking site in England, known as The Barton Moss Community Protection Camp (BMCPC), the coercive apparatus ultimately made “231 arrests (relating to 115 individuals) and 77 complaints” to the Greater Manchester Police regarding the undue use of force by officers.⁴⁵⁴ The quiet passing of ‘critical infrastructure’ state laws in the US has also strengthened the hand of the coercive apparatus, which has made protesting a crime.

Since 2017, thirteen US states have enacted stricter laws regarding protesting near so-called critical infrastructure sites, which enforces harsher penalties on anti-fracking protestors – including felony charges. The more stringent protesting laws have been ushered in at the request of oil companies, including Koch Industries Inc., Marathon Petroleum Corp., and Energy Transfer Partners LP; incited after protestors chained themselves to the pipeline in the Dakota Access Pipeline Protests, commonly known as #NoDAPL.⁴⁵⁵

⁴⁵¹ Miliband (2009): 99.

⁴⁵² Alex Boutilier. “Anti-fracking, anti-oil activists seen as threats; CSIS ranks resource project protesters in line with anti-Muslim groups, jihadists.” *Toronto Star* (May 15, 2015): A3.

⁴⁵³ Will Jackson, Joanna Gilmore, and Helen Monk. “Policing unacceptable protest in England and Wales: A case study of the policing of anti-fracking protests.” *Critical Social Policy*. 39, no. 1 (2019): 29.

⁴⁵⁴ Jackson et al (2019): 32.

⁴⁵⁵ Jennifer A. Dlouhy. “Oil Companies Push States to Criminalize Pipeline Protests.” *Bloomberg* (August 19, 2019): https://www.rigzone.com/news/wire/oil_companies_push_states_to_criminalize_pipeline_protests-19-aug-2019-159592-article/.

The Critical Infrastructures Protection Act of 2001 defines critical infrastructures as: “systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.”⁴⁵⁶ Taking the federal act, which “seeks to facilitate greater sharing of critical infrastructure information among the owners and operators of the critical infrastructures and government entities with infrastructure protection responsibilities, thereby reducing the nation’s vulnerability to terrorism,”⁴⁵⁷ the individual states have adapted this to codify “criminal penalties for a person convicted of willfully trespassing or entering property containing a critical infrastructure facility without permission by the owner of the property, and holds a person liable for any damages to personal or real property while trespassing.”⁴⁵⁸ Similarly, Texas has a law protecting critical infrastructure, making it a third-degree felony to “obstruct” critical infrastructure.⁴⁵⁹ Florida, Indiana, Iowa, Kentucky, Louisiana, Mississippi, North Dakota, Oklahoma, South Dakota, Tennessee, Texas, Virginia, and West Virginia have all passed laws that “either criminalize unlawful entry to critical infrastructure facilities, or enhance the penalties associated with those offenses.”⁴⁶⁰

Critical infrastructure includes ‘energy systems’, which encompasses all well pads, fracking production sites, pipelines, and other areas associated with hydraulic fracturing activities. Specifically, the “energy, water, communication and transportation sectors are further designated as lifeline sectors,

⁴⁵⁶ “Critical Infrastructures Protection.” (42 U.S. Code § 5195c, 2001).

⁴⁵⁷ Department of Homeland Security. “Critical Infrastructure Information Act.” *Department of Homeland Security* (November 25, 2002): <https://www.dhs.gov/publication/critical-infrastructure-information-act>.

⁴⁵⁸ American Legislative Exchange Council. “Critical Infrastructure Protection Act.” *Alec.org* (January 20, 2018): <https://alec.org/model-policy/critical-infrastructure-protection-act/>.

⁴⁵⁹ Naveena Sadasivam. “New State Laws Are Criminalizing Protest to Protect Oil and Gas Companies.” *Rolling Stone* (September 19, 2019): <https://www.rollingstone.com/politics/politics-news/new-state-laws-are-criminalizing-protest-to-protect-oil-and-gas-companies-887219/>.

⁴⁶⁰ Dan Shea. “Balancing Act: Protecting Critical Infrastructure and People’s Right to Protest.” *State Legislatures Magazine* (July 21, 2020): <https://www.ncsl.org/research/energy/state-policy-trend-protecting-critical-infrastructure-and-peoples-right-to-protest-magazine2020.aspx>.

considered so critical that their disruption would harm critical infrastructure across a variety of sectors.”⁴⁶¹ Many of the state critical infrastructure laws have been modeled from legislation drafted by the American Legislative Exchange Council (ALEC), which up until recently, was funded by gas and oil companies such as ExxonMobil and Shell.⁴⁶² Leading up to the draft legislation written by ALEC, Marathon, the American Fuel and Petrochemical Manufacturers (AFPM), the American Chemistry Council, and two other trade groups requested support from the State of North Dakota in endorsement of ALEC’s draft legislation, support was granted and the bill was written.⁴⁶³ Similarly, in Minnesota, gas and oil company Enbridge increased its lobbying funds to the state by \$10.5 million from 2008 to 2018, to encourage the state to pass ALEC’s critical infrastructure legislation. Under this Minnesota state law, it has been reported that protesters could be incarcerated up to 10 years and could face \$20,000 in fines.⁴⁶⁴

Reports of gas and oil companies directly enlisting the services of police departments for protection of critical infrastructure have also surfaced. In Minnesota, Enbridge has received invoices from police departments throughout the state for “maintaining the peace in and around the construction site.”⁴⁶⁵ Reports state that the Canadian based company, Enbridge, has paid over \$2 million to police departments in the state to “fund the policing of protests against construction of its pipeline.”⁴⁶⁶ The flow of money between the oil industry and the police is not limited to invoices. The

⁴⁶¹ Shea (2020).

⁴⁶² Steven Mufson. “Shell Oil will drop its membership in ALEC, citing differences over climate change.” *The Washington Post* (August 7, 2015): <https://www.washingtonpost.com/news/post-politics/wp/2015/08/07/shell-oil-will-drop-its-membership-in-alec-citing-differences-over-climate-change/>.

⁴⁶³ Dlouhy (2019).

⁴⁶⁴ “Big Oil is paying the police for protection. Here’s why that’s a problem.” *Global Witness* (accessed August 18, 2021): <https://www.globalwitness.org/en/blog/big-oil-is-paying-the-police-for-protection-heres-why-thats-a-problem/>.

⁴⁶⁵ “Big Oil is paying the police for protection. Here’s why that’s a problem.” (accessed August 18, 2021).

⁴⁶⁶ Audrey Carleton. “An Oil Company Paid Police \$2 Million to Defend Its Pipeline from Protests.” *Vice* (August 9, 2021): <https://www.vice.com/en/article/4avp3w/an-oil-company-paid-police-dollar2-million-to-defend-its-pipeline-from-protests>.

New Orleans Police and Justice Foundation and Houston's Mounted Patrol Unit receive generous donations from both Chevron and Shell, while there is a Chevron staff member who also sits on the board for the Houston Police Foundation.⁴⁶⁷ The largest utility in the United States and support company for hydraulic fracturing, Exelon has donated to the Baltimore, Philadelphia, Chicago, and Washington DC police foundations.⁴⁶⁸ The fact that a growing number of oil companies are hiring and funding police departments across the US leads to the issue of coercion becoming systemic, rather than situational or interactional. In other words, coercion becomes practiced "through a system of rules supported by a large enough number of agents",⁴⁶⁹ it becomes accepted and normalized throughout the coercive apparatus to the extent that protest policing becomes forceful with arrests made, or worse, when protest is banned altogether.

Not only are officers of the police forces involved in the coercive apparatus and maintaining the status quo of the elite, but so are private security firms that are hired by gas and oil companies. In Pennsylvania, the Marcellus Shale Operators' Crime Committee (MSOCC) was established around 2012 in Williamsport, Pennsylvania and is a collective of "professionals with a law-enforcement background who are interested in developing working relationships and networking on intelligence issues."⁴⁷⁰ This collective of law enforcement professionals was uncovered through an email obtained by the *Pittsburgh City Paper* from Anadarko regional security manager, James Hansel. Intelligence collecting by MSOCC and sharing with the Pennsylvania State Police (PSP) was also brought to light, after anti-fracking protest

⁴⁶⁷ "Big Oil is paying the police for protection. Here's why that's a problem." (accessed August 18, 2021).

⁴⁶⁸ Rachel Frazin. "Report: Oil and gas companies have extensive ties to police groups." *The Hill* (July 27, 2020): <https://thehill.com/policy/energy-environment/509202-report-oil-and-gas-companies-have-ties-to-police-groups/>.

⁴⁶⁹ Valentini (2011): 206.

⁴⁷⁰ Adam Federman. "State police documents show intelligence-sharing network between law enforcement and Marcellus Shale drillers." *Pittsburgh City Paper* (October 8, 2014): <https://www.pghcitypaper.com/pittsburgh/state-police-documents-show-intelligence-sharing-network-between-law-enforcement-and-marcellus-shale-drillers/Content?oid=1782447>.

surveillance photos were transmitted to the PA State Police from MSOCC.⁴⁷¹ The photos were taken and sent by former state trooper and MSOCC associate, Don Peters, who sent the surveillance to Pennsylvania State Police intelligence analyst, Douglas Jackson, and Pennsylvania State Trooper and a member of the FBI's Terrorism Task Force, Trooper Hutson.⁴⁷² Trooper Hutson has actively worked on investigations of anti-fracking activists, including making a house call to an anti-fracking activist and professor in a different state to question why she took a picture of a compressor station. Yet, according to the Pennsylvania State Police spokesperson Maria Finn, the PSP not only do not have a policy for working with such firms, but they "do not contract with such firms."⁴⁷³ In the email obtained which had been sent to group members, Hansel, on behalf of the MSOCC, was attempting to recruit "law-enforcement officers assigned a position relating to intelligence and prosecutors at the county, state, and federal level."⁴⁷⁴ The group email was sent to over 150 email addresses, including members of the FBI, Pennsylvania Homeland Security, state and local police departments, and all of the primary gas and oil companies working in the Marcellus Shale.⁴⁷⁵ There has also been speculation about the Royal Canadian Mounted Police (RCMP) visiting Williamsport, PA to learn about dealing with anti-fracking groups, but the RCMP would not answer queries on who the RCMP worked with in Williamsport.⁴⁷⁶ With groups such as the MSOCC, glimpses into the shadows of the coercive apparatus can be seen.

For some protestors, the distinction between official police business and corporate security can be unclear. In 2018, a Colorado State University student and others protesting at a drilling site situated near a middle school in Greeley, CO were arrested. The student was arrested on two counts of

⁴⁷¹ Federman (2014).

⁴⁷² Federman (2014).

⁴⁷³ Federman (2014).

⁴⁷⁴ Federman (2014).

⁴⁷⁵ Federman (2014).

⁴⁷⁶ "Canadian police visited Pennsylvania to learn about fracktivists." *NPA: State Impact Pennsylvania* (November 6, 2015): <https://stateimpact.npr.org/pennsylvania/2015/11/06/canadian-police-visited-pennsylvania-to-learn-about-fracktivists/>.

tampering with oil and gas equipment and second-degree criminal trespass, after a member of the protesting group chained themselves to the bulldozer onsite.⁴⁷⁷ One of the protestors arrested in this situation stated that “he was unsure which law enforcement agency he was engaging with, because the officers were not in uniform and drove unmarked vehicles.”⁴⁷⁸ Furthermore, the protestor was not informed of the reason for his arrest, nor was he provided with officer names and badge numbers upon request.⁴⁷⁹ During his four hour detainment, the protestor was lectured by the “officers” on the benefits of fracking, and then released with criminal trespass and criminal tampering charges.⁴⁸⁰

In the case of fracking, the coercive apparatus works together with the state elite to maintain the status quo and promote capitalist extractive conquest and colonization of the subsurface. Miliband is on point when he stated that “military and police elites may always be expected to support with particular zeal the determination of the civil power to combat ‘internal subversion’, at least from the Left, and to act, wherever required, as the coercive agents of the existing social order, particularly in periods of social strife and open class conflict.”⁴⁸¹ As can be seen with the industry-led legislation that limits the ability of citizens to practice their First Amendment right to peaceably assemble due to critical infrastructure laws, and with the development of a secret security group of active law enforcement officers who enforce security and share intelligence with the gas and oil industry and law enforcement departments; Miliband was accurate when he wrote in *The State and Capitalist Society* that the military and police elites of the coercive apparatus have “hardly ever had occasion to have any serious doubts as to their readiness to take the field, so to speak, against striking workmen, leftwing political activists, and

⁴⁷⁷ Nora Olabi. “CSU Student Arrested at Anti-Fracking Protest in Greeley.” *Westword* (March 9, 2018): <https://www.westword.com/news/csu-student-cullen-lobe-arrested-at-anti-fracking-protest-in-greeley-awaits-court-hearing-10069732>.

⁴⁷⁸ Olabi (2018).

⁴⁷⁹ Olabi (2018).

⁴⁸⁰ Olabi (2018).

⁴⁸¹ Miliband (2009): 99.

other such disturbers of the status quo.”⁴⁸² With the infiltration of state elite into the offices of decisionmakers, the gas and oil companies have effectively limited the constitutional rights of the people, in order to conduct business as usual.

Concluding Thoughts

During the time Ralph Miliband was writing *The State and Capitalist Society*, the federal government was gaining more strength, and the power of the sub-central state apparatus was in a steady state of weakening. Likewise, as Miliband points out, Harold Laski saw the increase in “the obsolescence of federalism” during the 1940s, as he also witnessed a strengthening of federal power.⁴⁸³ In fact, Miliband observed that “[j]ust as legislative assemblies have lost power to the executive, so have local and regional units of government in advanced capitalist countries become ever more markedly dependent on central power and subordinate to it.”⁴⁸⁴ In Miliband’s time, this was an accurate observation, and it still stands for many issue areas today. In the gas and oil arena, however, decentralization has always been the choice of oilmen and the government. Precedent has held strong to the policy preferences of limited regulation, decentralized power, and historical jurisdictions when it comes to the case of fracking – and gas and oil in its entirety.

This is not to say that the gas and oil elite have not had their way with the executive, administrative, and coercive apparatuses – their influence has been strong, especially in times when integral legislation was passed to ensure the industry’s stronghold on the economy through federal regulation exemptions. The EPAAct effectively stripped all power from the federal government and the bureaucracy, concerning any oversight of hydraulic fracturing, by industry and executive design. In fact, the United States might have witnessed an entirely different outcome had the bureaucracy been tasked

⁴⁸² Miliband (2009): 99.

⁴⁸³ Miliband (2009): 124.

⁴⁸⁴ Miliband (2009): 124.

with regulating fracking. It is much more difficult for industry contributions and persuasion to reach the career civil servants that serve the federal government based on merit, rather than patronage or partisanship. While this area of government is undemocratic in nature, there are processes that are taken to weigh the costs and benefits to determine the best outcomes for implementation of regulations.

Meanwhile, the military and coercive segments of the government have perpetually worked in secret, and the extent of the influence of industry on the military is unknown. What has been documented, however, is the fracking secret police forces that have formed with military and coercive members and servants using resources and employees of the state and federal governments. Rather than infiltrating the government with direct industry influence, the gas and oil elites have effectively managed to construct a shadow police force to protect their capitalist interests while enlisting government servants to facilitate their coercion on the people of the United States, off-duty. It is difficult to imagine that these capitalist servants can compartmentalize which group they are to serve and protect when on-duty – their capitalist bosses or the American people. This was all initiated when former Vice President Dick Cheney enlisted federal policy to exempt hydraulic fracturing from all federal regulations. By taking this tactic, he used the governmental power of the executive apparatus to restrict power from the executive apparatus. In turn, this made the power of the administrative apparatus even weaker than it was and extracted any gas and oil regulations from this apparatus. The coercive apparatus does have strength, as that is its primary function. However, the strength of the coercive apparatus tends to exist in the shadows and is not expressly sponsored by the state nor the government.

The following two chapters will highlight the apparatuses where the gas and oil elite dominate governmental power: in the judicial apparatus and the sub-central states. Although there are to be checks and balances on the courts, even at the sub-central state level, there is not much balance when

nearly all members pursue the goals and policy wishes of the gas and oil industry. Miliband speaks of the good favors that are received by the propertied interest in courts, but as will be asked in Chapter 4, who does the court favor when both interests are propertied? Chapter 5 looks at the sub-central state level – the level of hydraulic fracturing regulations. Miliband sees this apparatus as the most active realm for pluralism, as in a pluralist society, this is where the local community power is said to exist. Miliband does not agree with pluralists, such as Robert Dahl, who claim that everyone in these local communities equally share public power. As will be shown in the chapter on the sub-central state apparatus, many of these community groups have been pushed out of the sphere of political influence as, Miliband speculates, that Dahl’s notion of high “indirect collective influence” is incorrect.⁴⁸⁵

⁴⁸⁵ Miliband (2009): 125.

Chapter 4

The Judiciary: The Apparatus Built on Elite Precedence

Although the overall role of the Supreme Court was first unclear, George Washington demanded that the United States Supreme Court justices be “the fittest characters to expound the laws and dispense justice...”⁴⁸⁶ The desired character of the justices was also sought throughout the judiciary in its entirety. To ensure this character, the American Bar Association (ABA) has codified judicial ethics into a Model Code of Judicial Conduct, amended most recently in 2010. There are four primary canons that shape the ethical character of American judges, on and off the stand. A judge is expected to be independent while maintaining integrity and impartiality and directly or indirectly avoiding impropriety. Another requirement in the judicial ethical canon is that a “judge shall perform the duties of judicial office impartially, competently, and diligently.”⁴⁸⁷ In order to fulfill the other canons, in the judges’ personal lives and in their extrajudicial activities, they must always be aware of potential conflicts of interest with their judicial obligations. And finally, when active in campaigning, the judge or candidate must act with the same “independence, integrity, and impartiality” required when on the judiciary.⁴⁸⁸ The Model Code of Judicial Conduct is a guide to maintain an objective American judiciary both inside and outside the courtroom, for all levels of courts.

Since the inception of the American court system, the requirement of judges maintaining ethical character has developed into a standard – a tradition. Legal historian, G. Edward White, named this

⁴⁸⁶ Alpheus Thomas Mason and Donald Grier Stephenson, Jr. *American Constitutional Law: Introductory Essays and Selected Cases*. 14th ed. (Upper Saddle River, NJ: Pearson), 2005: 1.

⁴⁸⁷ “Model Code of Judicial Conduct,” *American Bar Association* (2020): https://www.americanbar.org/groups/professional_responsibility/publications/model_code_of_judicial_conduct/.

⁴⁸⁸ American Bar Association (2020).

standard the American judicial tradition. He explains that there are three elements of the American judicial tradition that make it unique, just as John Madison and the Framers intended. The first element of the tradition is that it is autonomous from the other branches of government. American government was founded on the idea of three equal yet separate branches of government, with the judiciary “immune to any kind of direct political pressure and hence free to hand down decisions on considerations, compromise, and policy.”⁴⁸⁹ Judges have historically been viewed as insulated from the pressures of politics and are not positioned to gain money through political campaigns or favors.⁴⁹⁰ Second, the judiciary must stay within a particular scope or focus, to not impede on the other branches of government. Further, the court’s “scope of judicial authority extends to political and policy questions as well as routine legal questions,” while refraining from direct involvement in “ordinary politics”.⁴⁹¹ The third element of the American judicial tradition expounded by G. Edward White is that of “internalized constraints” which “restrict the scope of judicial discretion” and motivate all judges to maintain the status quo and “conform to the rule of law”.⁴⁹² The strength of the tradition is dependent on the “assumption that ‘the law’ has an objective existence outside the political and policy preferences of the judges.”⁴⁹³ It is critical that judges rule on the side of justice, which is defined as fair, equitable, and impartial treatment of the competing interests and desires of individuals and groups while upholding the common good.⁴⁹⁴ In our modern capitalist, pluralist, and polarized society, the human ability to maintain objectivity and reject influence is a rare occurrence. Likewise, upholding the common good over the privately motivated economic good is increasingly rare as well.

⁴⁸⁹ Melissa Heelan, “Judicial Campaign Missteps Flagged as Races More Intense.” *Bloomberg Law*. Bloomberg (Nov 2, 2021): <https://news.bloomberglaw.com/us-law-week/judicial-campaign-missteps-flagged-as-races-more-intense>.

⁴⁹⁰ Heelan (2021).

⁴⁹¹ William M. Wiecek. *Liberty Under Law: The Supreme Court in American Life*. (Baltimore: Johns Hopkins UP), 1988: 55.

⁴⁹² Wiecek (1988): 55.

⁴⁹³ Wiecek (1988): 55.

⁴⁹⁴ Richard A Mann and Barry S Roberts, *Smith and Roberson’s Business Law*. 14th ed. (Cincinnati, OH: South-Western College Pub), 2008.

Ralph Miliband was not convinced that judges are immune to the interests and pressures of American society. Miliband recognizes that through the American Constitution's separation of powers that judges are to be independent. Based on the Constitution, he feels that judges are to be independent from the political executive, they are protected by tenure, and they carry a duty to the people through defending the rights and liberties of citizens.⁴⁹⁵ For Miliband, however, this is where the independence of judges ends. Although judges are to be exempt from influences and pressures, Miliband argues that they cannot be independent from other influences, such as "class origin, education, class situation, and professional tendency, which contribute as much to their view of the world as they do in the case of other men."⁴⁹⁶ Political socialization is a process that occurs throughout one's life, based on the influences, experiences, and the reality of each individual person, and it creates an inherent bias within us all – judges included. These traits are not always consciously learned and yet they shape the adults that we become. Miliband argues that these traits cannot be ignored in order for the judges to maintain pure objectivity that is not influenced by their class or the "multitude of influences".⁴⁹⁷ Ultimately, Miliband contends that in "interpreting and making law, judges cannot fail to be deeply affected by their view of the world, which in turn determines their attitude to the conflicts which occur in it."⁴⁹⁸

This holds especially true considering that the majority of judicial elites are "drawn from the upper and middle layers of society."⁴⁹⁹ Miliband argues that in advanced capitalist countries, the judges that originate from the middle and upper classes generally have a conservative disposition.⁵⁰⁰ A conservative judge can be explained as one that would maintain precedent, to the status quo of

⁴⁹⁵ Ralph Miliband. *The State in Capitalist Society*. (Wales: Merlin Press), 2009: 38.

⁴⁹⁶ Miliband (2009): 100.

⁴⁹⁷ Miliband (2009): 100.

⁴⁹⁸ Miliband (2009): 101.

⁴⁹⁹ Miliband (2009): 100.

⁵⁰⁰ Miliband (2009): 100.

previous law, as “precedent is a matter of adhering to what has gone before, of conserving what has been done in the past.”⁵⁰¹ As highlighted by Miliband, Justice Benjamin N. Cardozo has reflected on influence and the expectation to maintain objectivity to realize that holding a precedent is still maintaining influence and political leanings through a lifelong process of socialization: “the spirit of the age, as it is revealed to each of us, is too often the spirit of the group to which the accidents of birth or education or occupation or fellowship have given us a place.”⁵⁰²

Miliband explains that the partiality of judges can be seen in times of social crisis, or in instances where the issues at hand may have a direct or indirect effect on the Constitution.⁵⁰³ Although the judges themselves may not be willing to admit or even see the partiality in these times of social crisis, Miliband argues that the judges still act with judicial hostility. As previously explained, the judicial branch is independent from the executive and legislature, yet there is judicial support for legislation that may “subdue or suppress dissident views and activities.”⁵⁰⁴ This is because in times of social crisis, the judges have “often shown a disposition to share the zeal of repressive authority and to view the erosion of civil liberties...as a lesser evil or as no evil at all.”⁵⁰⁵ Miliband contends that when the judges apply the law and “judicial acceptance” to the “repressive efforts of governments and legislatures,” the judges provide these laws of repression and partiality “a precious element of additional legitimation.”⁵⁰⁶ Miliband holds that the courts have the power and the ability to “strengthen the arm of the state in its encounter with dissent.”⁵⁰⁷

⁵⁰¹ David Strauss. “Originalism, Conservatism, and Judicial Restraint.” *Harvard Journal of Law and Public Policy*. 34, No. 137 (2011): 138.

⁵⁰² Miliband (2009): 102.

⁵⁰³ Miliband (2009): 102.

⁵⁰⁴ Miliband (2009): 103.

⁵⁰⁵ Miliband (2009): 103.

⁵⁰⁶ Miliband (2009): 103.

⁵⁰⁷ Miliband (2009): 103.

The bias of personal preferences and socialized influence is strong; however, Miliband argues that this is not the only bias that exists within the judicial branch in their attempts to “protect society.”⁵⁰⁸ He argues that judges have “consistently displayed in favour of privileged property and capital.”⁵⁰⁹ In fact, Miliband goes further to argue that protecting the rights of private property is conceived as one of the court’s “main duties to society.”⁵¹⁰ There have been times that courts have ruled so heavily to protect private property that the state has “been compelled to reduce their scope.”⁵¹¹ The courts are to remain at a level above the conflicts of capitalist society, yet Miliband argues that this is just an appearance. He feels that the judiciary is equally involved in the conflicts of capitalist society as “any other part of the state system.”⁵¹²

We have reached a point in modern society where property ownership is more prolific than ever before. Furthermore, the amount of property available has increased through the mineral ownership of the subsurface. In many areas of the United States, subsurface ownership nearly doubles the amount of land available, especially when factoring in the leases that exist under federal lands across the country. To this point, when more property is owned than ever before in American judicial history, who are the judges biased to? When the litigants in a case are both property owners, which property owner or which interest does the judge protect and uphold – the private economic interest or the public common good?

In the case of fracking, as will be shown in this chapter, the biased tendencies lean toward the propertied interest with more capital – which tends to be the gas and oil companies over the local homeowners. This chapter will explore the interactions between the judicial apparatus and the hydraulic fracturing cases that have been heard by the courts. It will begin with a review of the few cases which

⁵⁰⁸ Miliband (2009): 103.

⁵⁰⁹ Miliband (2009): 103.

⁵¹⁰ Miliband (2009): 104.

⁵¹¹ Miliband (2009): 104.

⁵¹² Miliband (2009): 104.

have been heard in federal courts. As hydraulic fracturing has been exempted from federal legislation, the grounds for federal court cases are limited. The majority of fracking cases in the United States have been alleged tort violations and encroachments which have been brought to the state courts. Many of these cases were settled outside of the courts and involve nondisclosure agreements. The instances and reasons for these gag orders will also be discussed in this chapter. While the industry prefers the citizens affected to remain silent, the people want the industry to disclose more information. This notion of disclosure and the industry's fight to prevent transparency will be reviewed as well. It has been made clear throughout this dissertation that the federal government has devolved all hydraulic fracturing regulations to the states, but this has opened the debate over how far these powers are devolved. The chapter will conclude with a look at preemption cases within the shale states, which decide *who* gets to regulate fracking – the sub-central state government or the various counties, cities, towns, and municipalities within.

Fracking in the Federal Courts

Considering the dearth of federal regulations addressing fracking, due to exemptions, lack of jurisdiction, and the exemption forced devolution discussed in previous chapters, there is also an absence of fracking litigation at the federal level. Only one case has reached the federal courts, and much of this was due to the political plays of the government and industry, as opposed to the state. Most of the cases end with a settlement and contain a nondisclosure agreement, thereby obscuring the facts contained within these fracking cases.

The Bureau of Land Management (BLM) under the Obama administration instated a federal rule to disclose chemical constituents in fracking fluids and increase the integrity of the cement casings at well sites located on Tribal and federal lands. This rule, entitled “Hydraulic Fracturing on Federal and Indian Land”, was immediately challenged by the Independent Petroleum Association of America and

the Western Energy Alliance in *Independent Petroleum Association of America v. Jewell* (2015).⁵¹³ The District Court of Wyoming found the rule as violating the Halliburton Loophole in the Energy Policy Act, and ruled that “no federal agency can regulate hydraulic fracturing.”⁵¹⁴ The following week, the State of Wyoming sued the BLM in *Wyoming v. U.S. Department of the Interior* (2016), which halted the application of the rule due to litigation over its constitutionality.⁵¹⁵ During Obama’s lame duck months of his presidency in 2017, upon appeal by the BLM, the Tenth Circuit Court of Appeals lifted the lower court’s halting of the rule, but the oral arguments were delayed and rescheduled until just before Trump’s inauguration. With further delays and continuances, the case was pushed until September of 2017. By this time, the Trump administration was proposing to rescind the BLM rule altogether. Due to this proposed change in the rule, the court dismissed the lawsuit claiming that it was now a moot point. By the end of 2017, the BLM formally rescinded the “Hydraulic Fracturing on Federal and Indian Lands” rule.⁵¹⁶

The beginning of 2018 brought a response to the rescission of the rule with a coalition of environmental groups and the State of California filing a lawsuit against the BLM in *California v. BLM* (2018). The federal government was joined in this lawsuit by the industry, as the American Petroleum Institute intervened and sided with the BLM. After a request to transfer was granted, the Northern District of California maintained the status quo of precedence through upholding the lower courts decisions and the Trump administration’s repeal of the BLM’s Hydraulic Fracturing on Federal and Indian Lands rule.⁵¹⁷ The final step in this case was a review of the district court’s decision. On March 30, 2020,

⁵¹³ *Independent Petroleum Association of America v. Jewell*. 2:15-cv-00041 (D. Wy.): 2015.

⁵¹⁴ “Hydraulic Fracturing (Fracking) on Federal and Indian lands.” *Harvard Environmental & Energy Law Program Regulatory Tracker*. (2022): <https://eelp.law.harvard.edu/2017/09/hydraulic-fracturing-on-federal-and-indian-lands/>.

⁵¹⁵ “Hydraulic Fracturing (Fracking) on Federal and Indian lands.” (2022).

⁵¹⁶ “Hydraulic Fracturing (Fracking) on Federal and Indian lands.” (2022).

⁵¹⁷ “Hydraulic Fracturing (Fracking) on Federal and Indian lands.” (2022).

the status quo was maintained and solidified when the federal district court's judge upheld the Trump administration's repeal of the Obama administration's BLM rule.⁵¹⁸

Due to the limited federal regulation of hydraulic fracturing, there has been very little litigation in the federal courts. Because of devolution, and the other factors already discussed, the regulation of fracking has been solely at the sub-central state level. However, constitutionally there are other ways the federal judiciary can rule on fracking indirectly. Eminent domain is one of the ways the federal courts have found a way to protect the property interests of the federal government while refraining from directly ruling on the regulation of fracking. Historically, eminent domain was used as a way to secure land for public infrastructure projects – roads, government buildings, schools, and easements for public utilities and utility infrastructure.⁵¹⁹ However, this was changed, and the scope of eminent domain was broadened by the US Supreme Court in the 2005 case from South Carolina, *Kelo v. City of New London*, wherein the court determined whether the City of New London could use its takings through eminent domain and deliver possession of the land to a private entity. In the case of *Kelo*, the private entity was a real estate developer. This was unprecedented, as eminent domain was historically viewed as takings for the benefit of the public good when delivered through the government or other public entity. But to deliver land acquired through takings to a private entity, a corporation, was previously unheard of. This case made its way to the United States Supreme Court, where it was decided that the City of New London could turn over the land acquired through eminent domain to the private entity – because New London was able to show that the income in taxes from the new development would benefit the public more than the homes that previously occupied the privately owned land.⁵²⁰

⁵¹⁸ “Court upholds BLM fracking rule repeal.” *InsideEPA.com* InsideEPA.Com's Daily Briefing. (2020): <https://ezproxy2.library.colostate.edu/login?url=https://www.proquest.com/trade-journals/court-upholds-blm-fracking-rule-repeal/docview/2384460107/se-2>.

⁵¹⁹ Pamela S. Evers. “Constitutional Law and Fracking.” *International Journal of Business and Public Administration*. 12, No. 2. (2015): 3.

⁵²⁰ Evers (2015): 3.

This was based on the hope that the new development would generate more tax revenue than the previous tax income of the land. With this case, the court changed the takings clause by changing the definition of public use to encompass a broader meaning as a public purpose.

The issue now at stake after this change to the takings clause, is the difference between public use and public purpose. Although a seemingly small difference in wording, this change opened the door for the states to “define the scope of public use.”⁵²¹ Essentially, the phrase ‘public use’ refers to the traditional notion of public ownership and control of property – land or places that are open to the public, that benefit the public, and work for the public. But the new usage of ‘public purpose’ denotes something entirely different. Public purpose is determined by capital, rather than property. Through the changes made in *Kelo*, “states may take property through eminent domain and transfer it to private entities because the state expects jobs to be created by the company’s new use of the property, higher property and income taxes to benefit the state, or a more aesthetic use of a particular property that will serve the general welfare and a public purpose.”⁵²² With the semantics slightly altered, this brought a wholesale change to eminent domain. Since *Kelo*, forty-four states have changed their takings laws in order to protect the land acquired through eminent domain from private developers.⁵²³

Texas has addressed this issue and determined that “public use does not include taking property for economic development or increasing tax revenues”, unless a 2/3 majority in the state legislature feels that the private entity should reap the benefits of government takings.⁵²⁴ Yet, there are other ways around this as well. The Texas courts have failed to answer the question of whether an energy company can be classified as a common carrier in the state. If an energy company is considered a common carrier, then that company would hold the power of eminent domain in the State of Texas. Again, though, the

⁵²¹ Evers (2015): 3.

⁵²² Evers (2015): 3.

⁵²³ Evers (2015): 3.

⁵²⁴ Evers (2015): 4.

courts have failed to answer this question despite years of litigation over the construction of a pipeline in the state. The case got so far as the appellate court, where the judge reversed and remanded the lower court's decision "holding that whether the pipeline qualified as a common carrier was a fact issue and inappropriate for summary judgment."⁵²⁵ In the end, despite the lack of a legal answer, the pipeline was constructed anyway. As opposed to the obscurity of Texas law, Pennsylvania is more clear in this matter. In Title 26 of the Pennsylvania State Code, a public utility company (PUC) is permitted to utilize eminent domain and moreover, "the PUC is authorized to further delegate that power to energy companies or pipeline operators."⁵²⁶ Through Title 26, the State of Pennsylvania has awarded the gas and oil companies the power of the Fifth Amendment of the US Constitution – eminent domain.

The takings clause has been applied through Title 26 in Pennsylvania in more than 12 projects in the Marcellus Shale of Pennsylvania. One such project is a 108 mile pipeline project costing \$1 billion led by the PennEast Pipeline Company – a "consortium of six energy companies and utility companies with PUC status."⁵²⁷ Additionally, if any of these projects were to cross state lines into another state, the pipeline company would then be regulated under the federal Natural Gas Act (NGA), and the pipeline company would then become "a federally regulated utility under the purview of the Federal Energy Regulatory Commission (FERC)."⁵²⁸ This status under the NGA delivers very broad powers of federal eminent domain directly to the pipeline and energy companies.⁵²⁹

Conversely, California utilizes the public use limitation over the judicially expanded definition of public purpose concerning eminent domain. Remaining true to the public, California's public use eminent domain project proposals require a public hearing to determine whether the proposed

⁵²⁵ Evers (2015): 5.

⁵²⁶ Evers (2015): 4.

⁵²⁷ Evers (2015): 5.

⁵²⁸ Evers (2015): 5.

⁵²⁹ Evers (2015): 5.

condemnation is actually in the public interest.⁵³⁰ Additionally, the state requires an environmental review in eminent domain cases, before condemnation is granted. These additional steps provide land and homeowners with an extra layer of defense against property takings. Many times, the landowners will “spend time and money to fight the land use or environmental permit before spending time and money to defend against a condemnation action.”⁵³¹

Aside from whether the regulation of fracking violates the Halliburton Loophole, and whether an energy company can be considered a public utility in order to use the Constitution’s takings clause for economic gain – the federal government does not have the immediate jurisdiction to decide on litigation regarding hydraulic fracturing. The remaining cases that will be reviewed in this chapter are mostly rooted in business and property law in state level courts. Many are individual homeowners and families that have been affected by hydraulic fracturing near their homes and have taken to the courts for recourse and justice. For Miliband, this would equate to a biased and subjective adventure of deciding which propertied interest has the higher amount of capital, and which is more likely to stay within the favor of the court.

Fracking and the Tort Courts

A common complaint from homeowners near fracking sites is that of water contamination. The potential for water to become contaminated near a fracking site is relatively high. Hydraulic fracturing contaminants can include drilling cuttings and mud, “chemicals, salts, hydrocarbons, fracturing fluids, and dissolved hydrocarbons.”⁵³² The potential for contamination is compounded and elevated by the fact that leakage can occur through various routes: “spills, pipeline breaks, leaks from storage ponds,

⁵³⁰ Evers (2015): 7.

⁵³¹ Evers (2015): 7.

⁵³² Hsue-Peng Loh, and Nancy Loh. “Hydraulic Fracturing and Shale Gas: Environmental and Health Impacts.” Chapter 4 in L.K. Wang, C.T. Yang, and M.-H.S. Wang, eds. in *Advances in Water Resources Management, Handbook of Environmental Engineering*, Vol. 16 (Springer International Publishing: Switzerland), 2016: 304.

leaks and overflow from pits or tanks that store wastewater leading to soil contamination, or leaks of diesel or other fuel used to power the compressors.”⁵³³ These are only the water contamination related risks from active drilling and production sites, and do not include any risks that may arise offsite during travel, distribution, disposal, and recycling phases. Beyond the risks of water contamination, there are other risks and negative effects from fracking that are felt the most by the people who live the nearest. The only route for affected citizens to redress their grievances is through the court system.

In tort law, only the landowners and those nearby – the lessors that are directly affected and can show a sufficient connection to the harm – have legal standing to address fracking violations of tort law through the courts. As Miliband has argued, the courts are only servient to propertied interests, which equates to the fact that non-lessors “are not entitled to the benefits granted to a lessor.”⁵³⁴ Another roadblock to legal recourse of homeowners within tort law is the burden of proof, “causation is frequently the Achilles heel in tort actions involving fracking.”⁵³⁵ Overall, legal scholar Matthew Castelli argues that the “doctrines of trespass, nuisance, negligence, and strict liability give affected individuals an inadequate avenue to compensation through the state courts.”⁵³⁶ The cases that will be highlighted in this chapter mirror Castelli’s claim. As of 2015, “fewer than 50 tort suits had been filed across the nation against drilling companies for fracking operations, but only a handful of plaintiffs have settled or been successful.”⁵³⁷

Tort claims can come in a variety of alleged ills, as do the harms from the fracking activities, such as: “excessive noise, increased seismic activity, groundwater and soil contamination, diminution in

⁵³³ Loh and Loh (2016): 304.

⁵³⁴ Castelli, Matthew. “Fracking and the Rural Poor: Negative Externalities, Failing Remedies, and Federal Legislation.” *Indiana Journal of Law and Social Equity*. 3, No. 2, (2015): 288.

⁵³⁵ Castelli (2015): 289.

⁵³⁶ Castelli (2015): 288.

⁵³⁷ Evers (2015): 10.

property value, and emotional distress.”⁵³⁸ Tort damages are generally awarded in cases for two purposes: “making the injured party whole by returning the party to the state it was in prior to the tortious conduct” and also “detering that tortious conduct by penalizing it.”⁵³⁹ Negligence is often claimed by the plaintiffs against the energy company defendants. Negligence “imposes liability for harms that are caused by the failure of an actor to exercise ‘due care’ or ‘reasonable care’.”⁵⁴⁰ In situations of negligence, the court will use a reasonable care standard to decide these cases – asking how a “reasonably careful person would behave” in this situation or scenario.⁵⁴¹ However, some law scholars argue that negligence is “ill-suited to fulfill the needs of injured parties”,⁵⁴² due to the fact that the burden of proof is then placed on the injured party in order to show the negligence. In this situation, the court would find that the drilling actions are “reasonable and prudent” if the energy company was adhering to standard operating procedures which generally mirror industry standards.⁵⁴³

Trespass is a common tort claim in instances where homeowners had their homes drilled under when they did not sign a lease for fracking on their property. A homeowner might claim trespass when they do not own their mineral rights, and the gas and oil company has the right to an easement on their surface property to access the company’s subsurface property, which commonly occurs in split estate situations. Another reason that trespass has been alleged in fracking tort cases is when one’s gas reserves are emptied through natural gas extraction on a neighboring property. Defined, trespass is the “intentional, unlawful entry upon the land of another.”⁵⁴⁴ For one to be guilty of this claim, “one must

⁵³⁸ Ashley Leonard-Roche. “Legal Causation: Hydraulic Fracturing and Groundwater Contamination.” *Science and Technology Law Review*. 18, No. 3 (2015): 286.

⁵³⁹ Sean Lonnquist. “Nondisclosure Agreements and the Unlikely Convergence of Sexual Harassment and Fracking Tort Claims.” *Duke Environmental Law & Policy Forum*. 31, No. 283 (2021): 292.

⁵⁴⁰ Hannah Coman. “Balancing the Need for Energy and Clean Water: The Case for Applying Strict Liability in Hydraulic Fracturing Lawsuits.” *Environmental Affairs*. 39 (2012): 145.

⁵⁴¹ Coman (2012): 145.

⁵⁴² Castelli (2015): 291.

⁵⁴³ Castelli (2015): 291.

⁵⁴⁴ Castelli (2015): 289.

intend the act that caused the trespass rather than intend to trespass.” In court, surface level trespass claims have failed, as the gas and oil companies have a right to access their mineral property from the surface through easements.⁵⁴⁵ Claims of trespass across subsurface property lines have also largely failed in court, as “trespasses typically involve continuing, physical invasions by drilling across property lines.”⁵⁴⁶ When drilling, the invasion is over within a couple of weeks and is not a continuing situation. The final example of trespass is the “theft” of one’s natural gas to a nearby fracking operation.

However, the courts have relied on the rule of capture from property law, to hold that “fracking operators are not liable in trespass for the removal of natural gas under the property of another.”⁵⁴⁷ The rule of capture was first articulated by the US Supreme Court in *Brown v. Spillman* (1895) by stating: “Petroleum oil and gas belong to the owner of the land, and are part of it, so long as they are on it or in it subject to his control, the title of the former owner is gone. If an adjoining owner drills his own land, and taps a deposit of oil or gas, extending under his neighbor’s field, so that it comes into his well, it becomes his property.”⁵⁴⁸ Relying on this early Supreme Court opinion, the precedent for rule of capture in gas and oil cases has made the claim of trespass futile in many situations. The Texas Supreme Court case, *Coastal Oil & Gas v. Garza Energy Trust* (2008) reiterates this precedent, specifically in relation to hydraulic fracturing, wherein the court stated that the “drainage of resources from one property to another ‘is virtually unavoidable’ when hydraulic fracturing wells are drilled.”⁵⁴⁹

Another common tort claim is that of nuisance – a weak claim for plaintiffs in attempting to redeem damages for injuries and losses. A private nuisance in tort law can be defined as “a substantial and unreasonable interference with a surface owner’s use and enjoyment of land, and an injury to

⁵⁴⁵ Castelli (2015): 289.

⁵⁴⁶ Castelli (2015): 289.

⁵⁴⁷ Castelli (2015): 289.

⁵⁴⁸ Victoria N. Georgevich. “Tapping into Trespass: Fracking, The Rule of Capture, and Landowner Protection.” *DePaul Law Review*. 69, No. 3 (2020): 802.

⁵⁴⁹ Evers (2015): 9.

persons or property must be shown.”⁵⁵⁰ Nuisance claims tend to focus on minor damages and ills – light pollution, noise pollution, and aesthetics. However, these cases will not earn the plaintiff’s redemption for the major ills and harms – the health issues and property value issues that tend to surround fracking operations.⁵⁵¹ Additionally, nuisance claims are difficult for plaintiffs to prove in court, especially when the burden of proof is on the landowner. Typically, the courts have suggested resource pooling or compulsory pooling as a solution to captured minerals and subsurface trespass. Compulsory pooling “combines all oil and gas interests in a particular tract of land (drilling unit) on which one well may be drilled to obtain gas or oil from the underlying reservoir.”⁵⁵²

Another risk in nuisance suits is that the state courts can “simply refuse to provide injunctions when the damage to the defendant and the economic consequences of an injunction are larger than the damage to the plaintiff.”⁵⁵³ In this type of situation, it would be difficult for the cost of water contamination and perhaps even medical costs to outweigh the economic loss from drilling for natural gas. It has been argued that these states “break rank with the traditional notion that the law does not tolerate any interference with the reasonable enjoyment of someone’s property, and instead they favor moneyed interests over the interest of those who are harmed.”⁵⁵⁴ This situation takes Miliband’s argument of the court favoring propertied interests into the modern age. As many more interests are propertied than at the time of his writing, the situation has turned to not just a favoring of propertied interests, but the propertied interest with the most economic value.

With the proliferation of fracking came a proliferation of allegations of water contamination caused by fracking companies. Many of the water contamination cases are “landowners who rely on the

⁵⁵⁰ Castelli (2015): 290.

⁵⁵¹ Castelli (2015): 290.

⁵⁵² Evers (2015): 8

⁵⁵³ Castelli (2015): 290-291.

⁵⁵⁴ Castelli (2015): 291.

water wells on their property as their primary source of water for daily activities.”⁵⁵⁵ Some of the most well-known fracking cases came out of the early years of fracking with *Fiorentino v. Cabot Oil & Gas Corp* (2010) and *Berish v. Southwestern Energy Production Co.* (2010), both heard in the Pennsylvania courts.⁵⁵⁶ *Fiorentino* brought a variety of torts into play in the 2010 court case, including “negligence, gross negligence, negligence per se, nuisance, strict liability, fraudulent misrepresentation, breach of contract, medical monitoring trust fund, and violation of the Pennsylvania Hazardous Sites Cleanup Act.”⁵⁵⁷ *Berish* also claimed a variety of alleged torts including negligence per se, common law negligence, nuisance, strict liability, trespass, medical monitoring trust fund, and violation of the Pennsylvania Hazardous Sites Cleanup Act.”⁵⁵⁸ *Berish* nearly ended the same way as *Fiorentino*, and both cases were used as a precedent allowing the court to refrain from judicial activism while permitting the gas and oil companies to proceed with fracking, despite the alleged damages and harms caused by the company’s actions. Further, when claiming liability in water contamination cases, “the gas industry often defends the hydraulic fracturing process by either claiming that the process is completely safe and that it did not cause the contamination, or that as long as there is proper well construction the groundwater in the area is protected from the chemicals used in the fracking fluid.”⁵⁵⁹ Thereby placing the burden of proof on the plaintiffs to prove that proper engineering was conducted within the frack operation above and below the surface – a near impossible feat for a nearby affected landowner.

Fiorentino began as a class action lawsuit of 19 Susquehanna County, Pennsylvania families who had many grievances with the fracking operations surrounding their homes, alleging that Cabot Oil & Gas and the Gas Search Drilling Services Corporation leaked methane gas (i.e., natural gas) into the

⁵⁵⁵ Leonard-Roche (2015): 286.

⁵⁵⁶ Coman (2012): 131.

⁵⁵⁷ Barclay R. Nicholson. “Analysis of Litigation Involving Shale & Hydraulic Fracturing.” *Norton Rose Fulbright*. January 1, 2014: 3.

⁵⁵⁸ Nicholson (2014): 7.

⁵⁵⁹ Coman (2012): 144.

water wells of the families involved in the suit. This suit claimed the gas and oil company's negligence led to the discharge of methane into their drinking water and groundwater. The gas built up inside the water well which caused an explosion of the well, and diesel fuel was then discharged around the family's homes and entered their water sources. Gas then built up in the wellhead, causing an explosion, followed by three large spills, all "within a ten-day period."⁵⁶⁰ The families claimed that the defendants consistently were a private nuisance through their negligence in "allowing gas wells to exist and operate in a dangerous and hazardous condition[s]."⁵⁶¹ A private nuisance is defined as "a condition that substantially interferes with the use and enjoyment of land by causing unreasonable discomfort or annoyance to persons of ordinary sensibilities attempting to use or enjoy it."⁵⁶² The primary question in this case regarded the strict liability claim and whether Cabot's drilling for and extraction of natural gas were considered as "abnormally dangerous", and if these actions were deemed dangerous, would Cabot be permitted to continue fracking drilling and production.

Pennsylvania courts have previously addressed the question of whether the "storage and transmission" of natural gas was abnormally dangerous, of which they ruled that it is not.⁵⁶³ In fact, Cabot attempted to use this previous finding in their defense, claiming that "drilling is similar to the operation of underground pipelines or storage tanks" which are not seen as abnormally dangerous activities.⁵⁶⁴ The court, however, refused to rule on this issue claiming that "the record at this early juncture is insufficiently developed for the court to render an informed decision as to whether this line of cases and the logic expressed therein should apply to the gas-well drilling activities at bar." In the claims of gross negligence and the seeking of injunctive relief through medical monitoring trust funds,

⁵⁶⁰ Nicholson (2014): 4.

⁵⁶¹ Michael Goldman. "A Survey of Typical Claims and Key Defenses Asserted in Recent Hydraulic Fracturing Litigation." *Texas A&M Law Review*. 1, No. 2 (2013): 310.

⁵⁶² Goldman (2013): 311.

⁵⁶³ "Fracking Litigation." *Jurist* (July 20, 2013). <https://www.jurist.org/archives/feature/fracking-litigation/>.

⁵⁶⁴ Coman (2012): 144.

however, the court did rule that the “[p]laintiffs sufficiently alleged plausible facts necessary to support claim for medical monitoring funds in providing evidence” for the negligence claims.⁵⁶⁵ The families who suffered through Cabot’s negligence was awarded a total of \$4.24 million in March 2016 by a federal jury.⁵⁶⁶ The following year, in March 2017, a federal judge “vacated the award, saying that it bore little or no relationship to the evidence presented at the 2016 trial.”⁵⁶⁷ A few months later, the families met with Cabot Oil & Gas and the case was settled for an undisclosed amount.

Homeowners have brought tort suits against extraction companies for damages from air pollution as well, but many of these cases have seen the same fate as the water contamination tort cases. In *Ginardi v. Frontier Gas Services* (2012), a class of plaintiffs living within one mile of compressor and transmission stations claimed trespass, negligence, nuisance, and strict liability for alleged air, water, soil, and noise pollution.⁵⁶⁸ However, the case was stalled from the beginning, as the court found that the plaintiffs failed to satisfy requirements under procedural rules. Once that situation was rectified, the court found that burden of proof would be on the plaintiffs to show liability, which “would require highly individualized evidence of causation and damages.”⁵⁶⁹ The case was eventually settled out of court.⁵⁷⁰

Ms. Hiser had a better result in her effort to seek compensation for the damage to her home in Arkansas. Claiming the vibrations from a well pad and drilling rig nearby her home was causing damage to the tiles, molding, foundation, and structure of her home, the case went before a jury with tort claims

⁵⁶⁵ Smita Walavalkar. “Digest of Hydraulic Fracturing Cases.” *Columbia Center for Climate Change Law*. (January 2013).

⁵⁶⁶ “Dimock, PA: “Ground Zero” In the Fight Over Fracking.” *State Impact Pennsylvania* (Accessed November 2022): <https://stateimpact.npr.org/pennsylvania/tag/dimock/>.

⁵⁶⁷ “Dimock, PA: “Ground Zero” In the Fight Over Fracking.” (Accessed November 2022).

⁵⁶⁸ Walavalkar (2013): 6.

⁵⁶⁹ Walavalkar (2013): 6.

⁵⁷⁰ G. Alan Perkins. “Unconventional Litigation in Unconventional Plays: A View from the Trenches.” *Annual of the Arkansas Natural Resources Law Institute*. (2013): 9.

of negligence, private nuisance, and trespass seeking damages totaling \$300,000.⁵⁷¹ The Defendant, XTO Energy, immediately filed a motion for a new trial, of which the court denied. Interestingly, fracking was never directly discussed during the trial. Rather, the court used the terminology of drilling. When the jury asked the court during deliberations: “Were they drilling only or were they also fracking?”, the judge responded by telling the jury, “[y]ou have all of the evidence in this case. You will have to make your own decision based on what you recall of the evidence, and the instructions provided.”⁵⁷² Ms. Hiser was awarded for her damages, but it is unknown if the absence of fracking from the testimony led to this end or not.

Yet, this was not the situation for Mr. Steve Lipsky, who alleged that Range Resource “contaminated his water supply with methane and benzene.”⁵⁷³ He sued the company for nuisance and gross negligence after realizing that he was able to ignite his water from his well.⁵⁷⁴ Prior to this lawsuit in 2013, the EPA had placed an order against Range Resources for “endangering health” and required the company to investigate.⁵⁷⁵ Upon receiving complaints regarding water quality and inspecting water contamination in Lipsky’s area, the EPA “advised nearby residents to discontinue use of the well water.”⁵⁷⁶ Mr. Lipsky filed his lawsuit against Range Resources the following year, in 2011. In 2012, the EPA withdrew the order against Range Resources after agreeing to a nonbinding agreement for well monitoring.⁵⁷⁷ The following year, in 2013, Republican Senator James Inhofe from Oklahoma, along with other senators in support of fracking operations, filed to inquire about the order that was placed on

⁵⁷¹ Perkins (2013): 9.

⁵⁷² John Chapman. “Arkansas Homeowner Wins Verdict of Damages Caused by Vibrations from Nearby Oil Drilling Operations.” *Heygood, Orr, & Pearson* (October 25, 2014): <https://www.hop-law.com/arkansas-homeowner-wins-verdict-for-damages-caused-by-vibrations-from-nearby-oil-drilling-operations/>.

⁵⁷³ Evers (2015): 11.

⁵⁷⁴ Jessica Schauwecker. “Defamation: Environmental Allegations Against Fracking Companies are Defamatory Per Se in Texas.” *SMU Law Review*. 69, No. 1 (2016): 283.

⁵⁷⁵ Evers (2015): 11.

⁵⁷⁶ Evers (2015): 11.

⁵⁷⁷ Evers (2015): 11.

Range Resources by the EPA. Again, the EPA held that the “order was justified due to the high level of contamination.”⁵⁷⁸

Concurrent to the EPA’s investigation, order, nonbinding agreement, and inquiry by the Senate – Mr. Lipsky’s case was dismissed claiming the court did not have jurisdiction to hear his case. However, in countersuit to Mr. Lipsky’s allegations of nuisance and gross negligence, Range Resources brought claims of civil conspiracy, defamation, and business disparagement against Mr. Lipsky.⁵⁷⁹ The trial court dismissed the charge of civil conspiracy but allowed the defamation claim to continue. Mr. Lipsky appealed under the Texas Citizens Participation Act (TCPA), which was enacted to protect “citizens from retaliatory lawsuits that seek to intimidate or silence them on matters of public concern.”⁵⁸⁰ However, the appeals court found that Range Resources had met the “clear and specific evidence standard” which establishes a “prima facie case under the TCPA.”⁵⁸¹ Range Resources claimed that Lipsky’s suit was not a case of free speech, as free speech under the TCPA is defined as “any communication made in connection with a matter of public concern”, and rather, Range Resources perceived Mr. Lipsky’s claims as defamation against their company.⁵⁸² *In re Steven Lipsky* climbed to the Texas Supreme Court in 2015 where the court dismissed the business disparagement claims due to the lack of evidence showing damages, but did allow the defamation claim to continue since “proof of particular damage is not required.”⁵⁸³ Although the fees from damages were small for Mr. Lipsky, he was still faced with the costs of years of litigation, attorney fees, and court costs; along with no justice for the environmental damages that he experienced. The lasting effect of the Texas Supreme Court finding in *Lipsky* is that it

⁵⁷⁸ Evers (2015): 11.

⁵⁷⁹ Evers (2015): 11.

⁵⁸⁰ Schauwecker (2016): 283.

⁵⁸¹ Schauwecker (2016): 283.

⁵⁸² Evers (2015): 12.

⁵⁸³ Evers (2015): 12.

“may deter potential plaintiffs [in Texas] from seeking to recover damages for nuisance or trespass, or even from reporting negative effects from fracking to the media or the EPA.”⁵⁸⁴

Overall, tort claims have not proved to be the best route for affected landowners to pursue compensation from fracking damages. As shown above, few cases have favored the plaintiffs – the landowners who deal with the noise, light, sound, vibrations, water contamination, air pollution, medical damages, property damages, and other harms from fracking. In fact, in a survey of 99 cases dealing with hydraulic fracturing related tort claims in the United States through 2018, 52 cases were settled out of court, 39 cases were dismissed, and 8 were decided.⁵⁸⁵ The difference between cases settled and dismissed, compared to decided, is stark. Cases are commonly dismissed due to the lack of causation – the fact that landowners are unable to attain the proof needed to solidify their claims. The burden of proof weighs heavily in different situations. In many early cases, baseline water quality before fracking was never obtained to prove that the contamination occurred after drilling operations had begun. Other obstacles include the technological and engineering expertise to investigate the operations, lack of access to operations, and the financial hurdles to secure such expertise and testing. The cases that are settled out of court are many, and they all include nondisclosure agreements.

Nondisclosure Agreements in Fracking Tort Cases

Nondisclosure agreements in settled fracking related tort cases have become so regularly used that “they seem like benign contractual terms.”⁵⁸⁶ A settlement is a contract wherein the terms are decided outside of the court. A nondisclosure agreement will almost always be included in the terms and is legally binding and enforceable. Many times in settlement situations, not only will the fracking

⁵⁸⁴ Schuwecker (2016): 288.

⁵⁸⁵ Blake Watson. “Hydraulic Fracturing Tort Litigation Summary.” *Probate and Property Magazine*. 31, No. 5 (2017).

⁵⁸⁶ R. Kyle Alagood. “Settlement Confidentiality: A “Fracking” Disaster for Public Health and Safety.” *Environmental Law Reporter*. 45, No. 5 (2015): 10459.

company settle, but they will buy the plaintiff's land as well.⁵⁸⁷ The court will typically refrain from involvement in the settlement, providing the terms are legal, but they can enforce the agreements contained within the contract.⁵⁸⁸ In Watson's survey of fracking tort cases, out of 99 cases 52 of these were settled out of court – more than half.⁵⁸⁹ Specifically, nondisclosure agreements will generally contain a clause that prevents the settling party from "disclosing the terms, amount, or even existence of a settlement."⁵⁹⁰ When cases are settled with nondisclosure agreements, the public does not become privy to the facts of the case. Further, the information that is sealed in the settlement agreements prevents the making of proper policy because the secrecy prohibits experts, the people, and lawmakers from accurately weighing the risks of hydraulic fracturing.⁵⁹¹

Some argue that private settling outside of court with a gag order is a form of justice – "defendants [i.e., gas and oil companies] should not have to abandon their privacy rights, and be forced to disclose damaging information, simply because they have been pulled into litigation."⁵⁹² In other words, if there is evidence within the settlement that would be harmful to the company's reputation or fracking as a whole, to keep that information from the public is the equivalent to justice. To ensure that the defendants – the extraction companies – retain their privacy rights; it is then generally understood that the "oil and gas companies will refuse to settle without plaintiffs signing extensive nondisclosure agreements that not only prohibit discussion of the settlement, but also discussion of fracking in general."⁵⁹³ The danger in this is that "systematic inclusion of nondisclosure agreements in fracking settlements...obscures public awareness of a threat to public health and safety and renders the tort

⁵⁸⁷ Elliot Fink. "Dirty Little Secrets: Fracking Fluids, Dubious Trade Secrets, Confidential Contamination, and the Public Health Information Vacuum." *Fordham Intellectual Property, Media and Entertainment Law Journal*. 29, No. 3 (2019): 998.

⁵⁸⁸ Lonquist (2021): 293.

⁵⁸⁹ Watson (2017).

⁵⁹⁰ Lonquist (2021): 294.

⁵⁹¹ Alagood (2015): 10460.

⁵⁹² Lonquist (2021): 294.

⁵⁹³ Lonquist (2021): 294-295.

system unable to properly serve its goals of deterrence and compensation.”⁵⁹⁴ Although nondisclosure agreements do obscure public awareness, it could be argued with the previous review of the tort cases in this chapter, that the tort system has already been rendered as ‘unable to properly serve its goals’ due to the systemic hurdles that burden plaintiffs or potential plaintiffs, such as proof of causation and defamation lawsuits.

Settling with a nondisclosure agreement is beneficial for the defendants, the gas and oil companies who allegedly had caused harm and damage. The most prominent and important of these benefits for the industry is that “industry leaders can claim there are no reported cases of groundwater contamination from hydraulic fracturing.”⁵⁹⁵ This benefit is the key to maintaining low levels of regulations, to perpetuating the proliferation of hydraulic fracturing, and the root of the industry’s claim that fracking is a safe form of domestic extraction. Additionally, settlements that include nondisclosure agreements help to maintain the reputation of fracking companies, and the industry. The nondisclosure agreements essentially “function as a shield that protects perpetrators from the kinds of investigations that might reveal repeated misconduct.”⁵⁹⁶ Settlements can occur inside or outside the courtroom, since the “general rule is that settlements need not be approved by the court.”⁵⁹⁷ When settlements are conducted with the court, the agreement will remain in the court’s jurisdiction, wherein a breach of the settlement – the contract – would result in contempt of the court order. If settlements are conducted outside of the court, it is merely a contract.⁵⁹⁸ Repercussions from breaching the contract outside of court would then be filed through the court after breaking the contract on behalf of either party. As previously mentioned, when companies settle in secrecy outside of court, there is no record of settlement amounts. Without this information, a “market rate” for settlements is nonexistent, thereby

⁵⁹⁴ Lonquist (2021): 286.

⁵⁹⁵ Alagood (2015): 10460.

⁵⁹⁶ Lonquist (2021): 305.

⁵⁹⁷ Alagood (2015): 10462.

⁵⁹⁸ Alagood (2015): 10462.

allowing companies to take advantage of this fact with minimizing the payments for the negative externalities and damages.⁵⁹⁹ Also resulting in a benefit to the industry, the utilization of nondisclosure agreements could be seen as a deterrent for additional litigation or as a motivator for bypassing the court altogether in settlement, by discouraging “injured parties from engaging with the legal system to seek redress.”⁶⁰⁰

There are a few benefits for the affected party in a settlement agreement with a nondisclosure agreement. It has been argued that “plaintiffs in a position to offer silence in settlement negotiations can end up with a better outcome.”⁶⁰¹ A company’s reputation is very important for future business, and in the case of fracking, it is important for the entire industry. To offer silence on company wrongdoings is a “bargaining chip” for landowners affected by fracking, as silence has the potential to encourage higher settlement sums for the plaintiff.⁶⁰² Another benefit to some landowners in a settlement is the ability to make a situation “right”, without the court hearings and media attention. Additionally, there is a “power symmetry” that deters residents from taking their tort claims to court – such as defamation and the burden of causation.⁶⁰³ Settling outside of court with a nondisclosure agreement urges some residents to be “willing to accept unsatisfying settlements, provided they decide it is worth bringing a claim in the first place.”⁶⁰⁴ None of these reasons change or validate the fact that public information is lost in settlements with nondisclosure agreements. This information, if known to the public, could provide valuable insight on the actual harms, dangers, and ills of fracking. Further, “without accurate reporting on the frequency of a particular occurrence, policymakers are less likely to understand its

⁵⁹⁹ Fink (2019): 999.

⁶⁰⁰ Fink (2019): 307.

⁶⁰¹ Lonnquist (2021): 294.

⁶⁰² Lonnquist (2021): 294.

⁶⁰³ Lonnquist (2021) 302-303.

⁶⁰⁴ Lonnquist (2021): 303.

severity, and the need to take steps to address it.”⁶⁰⁵ Although one state is making nondisclosure a little more difficult than other states.

The Third Circuit Court in Pennsylvania has held that a settlement cannot be sealed with a nondisclosure upon request. Rather, both parties must “demonstrate good cause, by establishing with specificity a clearly defined injury that failure to seal would inflict on one or both parties.”⁶⁰⁶ Pennsylvania’s discretion occurred following the first case with settlement containing a nondisclosure agreement, *Hallowich v. Range Resources Corporation* (2010). Public attention was on the case as the media reported that Range Resources “stated that it would enforce a nondisclosure agreement.”⁶⁰⁷ This nondisclosure agreement was part of the settlement with the Hallowich family agreeing “to a joint statement of confidentiality, where they will not make any statements or comments, directly or indirectly, to any third party regarding the well operators, or Marcellus Shale activity.”⁶⁰⁸ Although this has become typical of most nondisclosure agreements, this settlement agreement extended to the entire family.

...the parents were required to sign an affidavit to the effect that “there is presently no medical evidence that [the children’s alleged] symptoms are definitively related” to the drillers fracking processes. The drilling operator conditioned the settlement on what was described by the plaintiff’s attorney to the judge during conference as a “take-it-or-leave-it” demand to accede to a proposed gag order written so broadly as to potentially “forever bar the two children from ever commenting on anything to do with fracking”.⁶⁰⁹

This was the first time it was known to the public that the children of the family would also be susceptible and held to the nondisclosure agreement – a gag order – as well as the adults. It could be argued that many of the settlements and nondisclosure agreements could contain clauses such as the

⁶⁰⁵ Lonnquist (2021): 308.

⁶⁰⁶ Lonnquist (2021): 299.

⁶⁰⁷ Lonnquist (2021): 285.

⁶⁰⁸ Lonnquist (2021): 295.

⁶⁰⁹ Alagood (2019): 10461.

one the Hallowich family was presented with and agreed to – but it would be nearly impossible to prove as the cases are sealed from public scrutiny. Although the gag order on the children was in the media cycle at the time of the court case, the public spotlight on the situation did not blossom into any public backlash or scrutiny against the industry.⁶¹⁰ This is just another example of how these instances in society, facilitated by the acceptance of corporate and special interest dominance in pluralism, become an accepted normalcy.

Disclosure Cases

As the gas and oil industry requests nondisclosure of residents in settlements, the American people are asking the gas and oil industry to disclose their fracking fluids, the particular chemical additives used, and the process of how these chemicals are blended with the exact ratios of each chemical and fluid.⁶¹¹ In 2016, an EPA report was released concluding that 1,606 chemicals in fracking fluids had been identified by the EPA.⁶¹² However, of the 1,606 chemicals identified, the EPA could only identify the health effects for 173 of these chemicals.⁶¹³ The reason the EPA is having complications in identifying the chemicals used in fracking fluid and found in the wastewater is due to trade secret protections. A trade secret is defined by the Uniform Trade Secrets Act (UTSA) as “information, including a formula, pattern, compilation, program, device, method, technique or process that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.”⁶¹⁴ Under this definition in the UTSA, the economic value of the trade secret is the

⁶¹⁰ Lonquist (2021): 285.

⁶¹¹ Cody B. Johnson. “Intellectual Property and the Law of Fracking Fluid Disclosures: Tensions and Trends.” *Oil and Gas, Natural Resources, and Energy Journal*. 6, No. 3 (2021): 449.

⁶¹² Fink (2019): 1002.

⁶¹³ Fink (2019): 1002.

⁶¹⁴ Johnson (2021): 449.

primary consideration in nondisclosure of the chemical constituencies. Nearly every city and state in the United States recognizes these protections for trade secrets, and they are used widely. For example, between April 2011 and December 2012, out of 12,140 frack treatments in Texas, gas and oil companies claimed trade secret protections for 10,120 of these instances.⁶¹⁵ Similarly, an investigation conducted by the Department of Energy under the Obama administration in 2014 found that the industry claims trade secret protections about 84% of the time.⁶¹⁶ Since trade secrets and fracking chemicals are considered intellectual property, a study on the abuse of trade secret protections reviewed a variety of intellectual trade secrets – patents, copyrights, and trademarks – and compared these to the trade secret protections from the fracking industry. It was found that all other forms of intellectual property have limits to their secretiveness, however, fracking fluid trade secret protections were “inherently unlimited by their nature.”⁶¹⁷

Wyoming was the first state to enact laws relating to the disclosure of fracking fluids. Shortly after the enactment of the disclosure law, an early disclosure case occurred in Wyoming when the Powder River Basin Resource Council (i.e., the Coalition) utilized the Freedom of Information Act (FOIA) to request unredacted copies of all “undisclosed chemical information provided to the [Wyoming Oil and Gas] Commission by a host of fracking operators, including Baker Hughes and Halliburton.”⁶¹⁸ When the Commission responded to the Coalition, it included only “redacted versions of the operators’ correspondence and justified its denial of the Coalition’s request under the trade secrets exemption” found in the Wyoming Public Records Act (WPRA).⁶¹⁹ In *Powder River Basin Resource Council v. Wyoming Oil & Gas Commission* (2014), the court reviewed various definitions of trade secrets under multiple

⁶¹⁵ Fink (2019): 1002.

⁶¹⁶ Fink (2019): 1002.

⁶¹⁷ Fink (2019): 1016.

⁶¹⁸ Johnson (2021): 464.

⁶¹⁹ Johnson (2021): 464.

laws – FOIA, the Third Restatement of Unfair Competition, and the UTSA.⁶²⁰ Under all three of these laws, the court found that chemical constituents of fracking fluids qualify as trade secrets.⁶²¹ Upon appeal, the finding was reversed, but purely on procedural grounds. The case reached the Wyoming Supreme Court who concluded that “the appropriate procedure for this challenge was under the WPRA, which allows any person denied access to a public record to apply to a district court for an order “directing the custodian of the record to show cause” for why the denial was proper.”⁶²² Ultimately, the court’s opinion led to a stronger disclosure law wherein the Commission was required to provide “greater factual support for trade secret claims made by fracking operators.”⁶²³

In a survey conducted in 2019, it was found that twenty-eight states have laws and regulations regarding the disclosure of the constituency of fracking fluids.⁶²⁴ Most of these laws contain a clause that requires companies to disclose the chemical constituents to first responders, in the case that a spill or any other exposure related medical emergencies should arise.⁶²⁵ One such state that did not have a law requiring disclosure in event of an emergency was Ohio, prior to a 2014 frack well explosion in “Monroe County, Ohio that released thousands of gallons of fracking fluids into Opossum Creek, a tributary of the Ohio River.”⁶²⁶ When the first responders arrived on scene, they were completely unaware of the chemicals they were battling during the response and the cleanup. Information on the chemicals that the firefighters were exposed to, and those that were released into Opossum Creek, remained secret to the EPA and the Ohio state authorities who inquired about the chemicals in the investigation of the explosion. Following the chemical spill and exposure, former Governor John Kasich

⁶²⁰ Powder River Basin Resource Council v. Wyoming Oil & Gas Commission, 320, P.3d 222 (Wyo. 2014).

⁶²¹ Johnson (2021): 464.

⁶²² Johnson (2021): 465.

⁶²³ Johnson (2011): 460.

⁶²⁴ Johnson (2019): 456.

⁶²⁵ Johnson (2019): 456.

⁶²⁶ Johnson (2021): 451.

“stated that first responders should always have access to the chemicals at wells (*sic*) sites, “including the ones protected by trade secrets” .”⁶²⁷

Also in 2014, the DOE under Obama proposed to change the federal database, FracFocus, to take a systems approach to disclosure through “fully disclosing the underlying chemical constituent chemicals in each fracking additive.”⁶²⁸ Halliburton chemical engineer, Ron Hyden, publicly commented on this potential change with a sworn affidavit “attesting that [he] could take the information disclosed from the proposed regime and could essentially reverse engineer another company’s fracking formula.”⁶²⁹ Hyden argues that taking the systems approach would leave the company’s secret formulas potentially exposed for other companies to mimic, test, and ultimately steal. Yet, some argue that Hyden’s point weakens the overall argument for trade secret protections.⁶³⁰ For example, Coca-Cola is subject to the systems approach disclosure laws of trade secrets, and no one has been able to copy Coca-Cola or reverse engineer the formula based on disclosure.⁶³¹

Another incident that lends evidence to the idea that chemical constituents may not be secretive only out of fear that another company will steal another’s formula, took place in Naples, Florida. This incident has shed some light on the secretive aspects of fracking that are veiled through trade secrets. In competing proposals from Baker Hughes and Halliburton, it was shown that the processes used by the two competitors were very similar. When comparing the two proposals, “both companies proposed injecting their frack fluid at the same “bottom hole pressure” and during the pad stage, each company proposed doing seven separate frack stages, each with the following sequence of fluid used, in thousands of gallons: 5, 6, 7, 7, 3, 5, 15.”⁶³² The only slight difference noted was in the

⁶²⁷ Johnson (2021): 451.

⁶²⁸ Fink (2019): 1004.

⁶²⁹ Fink (2019): 1004.

⁶³⁰ Fink (2019): 1005.

⁶³¹ Fink (2019): 1005.

⁶³² Fink (2019): 1007.

amount of acid used – Halliburton proposed to use a 15% hydrochloric acid solution, while Baker Hughes wanted to use less at 10%.⁶³³ The lesson to be learned from these proposals is that although the chemical names are different, the anticipated process and actions with the chemicals are almost identical in nature.

Fracking Preemption Cases

The question over who should make policy regarding hydraulic fracturing has been one the courts have answered throughout shale states. The federal government has devolved hydraulic fracturing regulations to the states – but through state constitutions and powers given to cities, counties, and municipalities like Dillon’s Rule and home rule, the jurisdiction of fracking regulations becomes murky once it reaches the state level. Dillon’s Rule was developed in the 1868 opinion of Iowa Supreme Court Justice John Dillon. Dillon’s Rule “maintains that local governments only have powers that are expressly or implicitly granted to them, and that state legislators have the power and duty to curtail local governments as they deem fit to promote the public good.”⁶³⁴ Home rule is essentially the same concept wherein the state grants a particular degree of autonomy to a local municipality or county within a state. However, in the case of fracking, many municipalities and counties have tested where this autonomy ends through enacting local laws, regulations, codes, moratoriums, and bans. In many of these situations, the state has stepped in to challenge the autonomy of the localities’ ability to regulate fracking. Most states in the US have adopted the home rule approach, which is codified in their state constitutions. Also determined by each state is the level of power the state delegates to the cities and

⁶³³ Fink (2019): 1007.

⁶³⁴ Parker Watts. “Florida Preemption of Local Environmental Ordinances.” *Florida Law Review*. 74 (2022): 487.

municipalities, and the extent of authority granted to the localities that does not conflict or supersede state interests.⁶³⁵

Colorado's first challenge to home rule occurred in 1992 in *Voss v. Lundvall Brothers, Inc.* over the City of Greeley's authority to develop land use regulations. Specifically, Greeley had used its home rule authority to "prohibit drilling of oil, gas, or hydrocarbon wells within its corporate limits."⁶³⁶ The court questioned whether the Oil and Gas Conservation Act preempted a home rule city from instating a ban on oil, gas, or hydrocarbon wells. The case arose after Lundvall Brothers, Inc. obtained permits from the City of Greeley as well as the State of Colorado, to drill four wells within city limits in an area deemed as residential.⁶³⁷ However, before drilling began, the Greeley City Council adopted Ordinances 89 and 90. Both ordinances banned any drilling within corporate limits and repealed any previous ordinances that conflicted with the new ordinance.⁶³⁸ Lundvall Brothers, Inc. filed suit claiming that the Greeley ordinances were "null and void and did not divest them of their respective rights under the Oil and Gas Conservation Commission." The Colorado State Supreme Court agreed with the Lundvall Brothers, by stating that the state's interest can be found in the Oil and Gas Conservation Act:

The state has an interest in oil and gas development, production, and utilization of the natural resources of oil and gas in the State of Colorado; to protect the public and private interests against the evils of waste in the production and utilization of oil and gas by prohibiting waste; [and] to safeguard, protect, and enforce the coequal and correlative rights of owners and producers in a common source or pool of oil and gas to the end that each such owner and producer in a common pool or source of supply of oil and gas may obtain his just and equitable share of production therefrom.⁶³⁹

From the language of the law itself, the primary focus of the State of Colorado, as shown through the Oil and Gas Conservation Act, is extraction and production. The court found that Greeley's ban on drilling

⁶³⁵ Watts (2022): 488.

⁶³⁶ *Voss v. Lundvall Bros*, 830 P.2d 1061 (Col. 1992).

⁶³⁷ *Voss v. Lundvall Bros*, 830 P.2d 1061 (Col. 1992).

⁶³⁸ *Voss v. Lundvall Bros*, 830 P.2d 1061 (Col. 1992).

⁶³⁹ *Voss v. Lundvall Bros*, 830 P.2d 1061 (Col. 1992).

and extraction within the city would be a waste of oil and gas, and it would cause damage to the owners of the mineral rights and producers to deny them the drilling or extracting of oil and gas.

Fracking had not commenced in Colorado in 1992, when *Voss* was decided in the Colorado State Supreme Court. Twenty years later, in the 2012 election, the voters in Longmont, Colorado initiated and voted to amend their home rule charter to ban hydraulic fracturing as well as the storing or disposal of any produced water or other fracking wastes within city limits.⁶⁴⁰ The industry group, The Colorado Oil & Gas Association (COGA), as well as the state regulating authority, the Colorado Oil & Gas Conservation Commission (COGCC), filed suit against the City of Longmont alleging that the change to the city's charter preempted Colorado state regulations.⁶⁴¹ Longmont defended the voter initiated and approved the change to the home rule charter claiming that it did not conflict with state laws. The following year, in 2013, the voters in Fort Collins, Colorado similarly initiated and voted in favor to adopt a city ordinance that would place a moratorium on fracking and fracking wastes within city limits.⁶⁴² Like in the situation of Longmont's change to the city's home rule charter, the COGA and the COGCC immediately filed against the City of Fort Collins claiming that the city's moratorium preempted the Oil & Gas Conservation Act and state interests.

Using the forbids/authorizes test, the Colorado Supreme Court decided on both cases on the same day. The forbids/authorizes test determines "whether a local ordinance conflicts with state law."⁶⁴³ In *City of Longmont v. Colorado Oil and Gas Association* (2016), the court further asked, "on the direct basis of whether the local law would materially impede or destroy a state interest."⁶⁴⁴ Some legal scholars argue that the court stepped too far in deciding this direct basis question. Courts are to decide

⁶⁴⁰ Daniel E. Kramer. "Preemption Law: The Evolving Meaning of "Conflict"." *Colorado Lawyer*. (April 2019): 41.

⁶⁴¹ Kramer (2019): 41.

⁶⁴² Kramer (2019): 43.

⁶⁴³ Kramer (2019): 42.

⁶⁴⁴ Kramer (2019): 42.

cases upon the facts that are presented. To ask if Longmont’s law would affect the state interest is asking the court to “‘assess the interplay between the state and local regulatory schemes’ as a legal matter to see if the local scheme interferes with the interest behind the state scheme.”⁶⁴⁵ Longmont argued that the ban instated by the voters actually harmonized with the state interest “because other production methods were at least as efficient as fracking and because fracking is inconsistent ‘with the protection of public health, safety, and welfare’.”⁶⁴⁶ However, the Colorado State Supreme Court looked at the precedent that was set in *Voss* in 1992, and also the purpose statement of the OGCA to define the state’s interest:

It is the intent and purpose of this article to permit each oil and gas pool in Colorado to produce up to its maximum efficient rate of production, subject to the prevention of waste, consistent with the protection of public health, safety, and welfare, including protection of the environment and wildlife resources...⁶⁴⁷ The court also opined that Longmont’s points of harmony between the ban and state interest were irrelevant, merely “competing views”, and “differences of opinion,” which were “divorced from the legal questions at issue.”⁶⁴⁸

The companion case of *Fort Collins* that was heard on the same day followed the same fate as *Longmont* as the court found that Longmont’s ban and Fort Collin’s moratorium disrupted the implied intent of “statewide uniformity” in gas and oil regulations.⁶⁴⁹ In *Longmont*, the court stated that the Oil and Gas Conservation Act and the COGCC had “pervasive rules and regulations, which evince state control over numerous aspects of fracking, from the chemicals used to the location of waste pits, convince us that the state’s interest in the efficient and responsible development oil and gas resources includes a strong interest in the uniform regulation of fracking.”⁶⁵⁰ Hence, the *implied* intent of uniformity as there is no law expressly stating that Colorado requires uniform regulations throughout

⁶⁴⁵ Kramer (2019): 42.

⁶⁴⁶ Kramer (2019): 42.

⁶⁴⁷ Kramer (2019): 42.

⁶⁴⁸ Kramer (2019): 42.

⁶⁴⁹ Kramer (2019): 43.

⁶⁵⁰ *City of Longmont v. Colorado Oil and Gas Association*, 15SC667, 29 (Col. 2016).

the state. Interestingly, since *Longmont* and *Fort Collins* were heard in 2016, the State of Colorado elected a new governor, Jared Polis, who has since overhauled the regulatory scheme in Colorado with the signing of Senate Bill 19-181.⁶⁵¹ The comprehensive reforms question the stability of the findings in both *Longmont* and *Fort Collins*, which will be discussed in detail in Chapter 5.

Like in Colorado, there have been numerous conflicts between local municipalities and states in shale states that have brought litigation, such as in West Virginia, Pennsylvania, New York, and Ohio. Similar to the findings in *Voss*, *Longmont*, and *Fort Collins*, most states argue that municipalities and counties “cannot create moratoriums on fracking because the states issuing fracking permits have oil and gas development laws already in place.”⁶⁵² The West Virginia Supreme Court mirrored the findings in Colorado in *Northeast Natural Energy, LLC v. The City of Morgantown* (2012-2013), where it was found that Morgantown’s ban on fracking was invalid due to the preemption of state gas and oil laws.⁶⁵³ Conversely, though, the New York Supreme Court decided in *Wallach v. Town of Dryden* (2015) that home rule powers were stronger and held more validity than did the Oil, Gas, and Solution Mining Law of New York State. Since the New York Supreme Court’s finding solidified the power of home rule in the state, over 170 New York cities and towns have banned fracking.⁶⁵⁴

The Judicial Apparatus and Hydraulic Fracturing

In the overview of fracking litigation, it can be observed that in matters relating to state laws – such as preemption and disclosure – the courts hold strongly to previous precedent and the upholding of state law over the municipalities. With the exceptions of New York and the recent changes in Colorado, the states are quick to retract autonomy from local communities in the case of fracking –

⁶⁵¹ Don Ray. “Balkanization in Oil and Gas: How Home Rule Constitutional Provisions Disrupt State Law.” *Oil and Gas, Natural Resources, and Energy Journal*. 5, No. 4 (2020): 737.

⁶⁵² James K. Pickle. “Fracking Preemption Litigation.” *Washington and Lee Journal of Energy, Climate, and the Environment*. 6, No. 1 (2015): 314.

⁶⁵³ Pickle (2015): 318.

⁶⁵⁴ Pickle (2015): 325.

whether the state's authority in these matters is express or implied. There is an uneven balance in public information and disclosure, though. As each state requires different disclosure rules while allowing nondisclosure due to trade secrets, the flow of information between the corporations, first responders, and the public is incomplete. The federal government will continue to devolve the regulation of gas and oil to the states, while the states extend the federal power of eminent domain to the various energy and pipeline companies. As was reviewed in this chapter, to file a tort claim in court against the fracking companies when one has suffered from damages caused by negligence, nuisance, liability, and/or trespass – one must come equipped with the burden of proof and should expect the possibility of a defamation or business disparagement charges. Further, plaintiffs can expect to settle outside of court with the accompanying nondisclosure agreement that would bar them from ever speaking about the incident or fracking, ever again.

Miliband argues that the judges and the judiciary cannot be independent from the influences of “class origin, education, class situation, and professional tendency” which are the primary inputs that develop one's perception of the world and how it ought to work.⁶⁵⁵ Miliband contends that the judiciary's disposition is typically conservative in nature, they tend to retaliate against radical dissent of the status quo. Further, in the judiciary's active protection of society, they “have consistently displayed in favour of privileged property and capital.”⁶⁵⁶ Moreover, the courts historically have protected private property as a primary duty to society, so much so that states have wanted to restrict the court's power.⁶⁵⁷ It was then pondered: in modern society, when more property is owned than ever before in American judicial history, who are the judges biased to? When the litigants in a case are both property owners, which property owner or which interest does the judge protect and uphold – the private

⁶⁵⁵ Miliband (2009): 100.

⁶⁵⁶ Miliband (2009): 103.

⁶⁵⁷ Miliband (2009): 104.

economic interest or the public common good? In the case of fracking, as was shown in this chapter, the biased tendencies lean toward the propertied interest with more capital - the gas and oil companies over the local homeowners. Miliband further argues that the “judiciary has not been able to prevent the states ‘interference’ with the freedom of property-owners to do what they willed with their own.”⁶⁵⁸ In the case of fracking, it seems though the courts have sided with the state and allow the freedom of use to the subsurface property owners, rather than the residents who live on the surface. With the energy companies in tow, the courts have effectively “strengthen[d] the arm of the state in its encounter with [anti-fracking] dissent.”⁶⁵⁹

⁶⁵⁸ Miliband (2009): 104.

⁶⁵⁹ Miliband (2009): 103.

Chapter 5

The Devolved Locus of Power: The Sub-Central State Apparatus

Although Ralph Miliband was critical of the shrinking federalism in advanced capitalist countries, he did recognize that the United States was the exception in maintaining some level of sub-central state power. In Miliband's time, this shared power between the federal and sub-central states was steadily shifting to the federal level, but not to the extent of other states. He further observed that "business at local and state level is not only at an enormous competitive advantage in getting those things it wants; it is also uniquely well placed to prevent those things from begin done, or even seriously discussed and considered, which it does not want."⁶⁶⁰ In the case of hydraulic fracturing, the gas and oil industry prefers the regulatory level to remain with the sub-central state apparatus, and has successfully prevented any federalization of gas and oil policies.

After much debate over the fate of the governmental structure of the United States, the Federalists prevailed and so it was written in the Tenth Amendment of the Constitution that "[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."⁶⁶¹ The reserve clause in this amendment effectively created federalism in the United States, and thus, some powers were devolved to the states. It is this collection of US states that Ralph Miliband calls the sub-central government, which represent an "an extension of central government and administration."⁶⁶² True, they are an extension of the federal

⁶⁶⁰ Ralph Miliband. *The State in Capitalist Society*. (Wales: Merlin Press), 2009: 127.

⁶⁶¹ U.S. Const. Amend. 10.

⁶⁶² Miliband (2009): 39.

government, however, the states have been granted a toolbox of implied powers that rival the strength of the federal government as “agents of the central government.”⁶⁶³ Miliband explains that the states within the sub-central government are “power structures in their own right, and therefore able to affect very markedly the lives of the populations they have governed.”⁶⁶⁴ This is because many of the laws and policies enacted at the state level, or even ordinances made at the local levels; directly affect the people living in those jurisdictions. As acting agents of the central government, the sub-central states “often have had a certain amount of freedom as to the manner in which they have discharged their functions, and this has been of considerable importance to those who have come under their authority.”⁶⁶⁵ With this freedom of “independent initiative and decision”⁶⁶⁶ provided to the states by the federal government, much policy differentiation thereby exists. Due to the lack of federal hydraulic fracturing regulations, the states are free to create laws to the stringency that each state desires. Depending on the interests, the capital, and the initiative of each state’s governmental representations, the states will pursue the fracking regulations that they independently see as appropriate for their state. This does not always equate to what is most appropriate for the people who reside in the state, nor the environment, but is likely what will financially benefit the state the most.

Because of the structure of American federalism, the entry point for the people and their interests is most impactful at the state and local levels. This is where the people – what Miliband calls the periphery – can directly express their support for or opposition to policy proposals and other governmental interests. The “voice of the periphery” has the potential to be heard in the sub-central state apparatus, as opposed to the other functioning areas of the state machine.⁶⁶⁷ Because of the republican nature of the United States, the sub-central government is the level of the people. The

⁶⁶³ Miliband (2009): 124.

⁶⁶⁴ Miliband (2009): 39.

⁶⁶⁵ Miliband (2009): 124.

⁶⁶⁶ Miliband (2009): 124.

⁶⁶⁷ Miliband (2009): 39.

people are then, thereby, represented in the federal government by their elected officials – state and federal representatives – who are voted into their positions by the people. Miliband sees the voice of the periphery as strong in the sub-central state, as it is the primary location for active political pluralism. Further, the political parties that are active in the sub-central apparatus, according to Miliband, are “seldom if ever single-minded in their support of the political executive and altogether subservient to it.”⁶⁶⁸ He continues to explain that these political parties “include people who, by virtue of their position and influence must be persuaded, cajoled, threatened, or bought off.”⁶⁶⁹ For these reasons, he argues that the sub-central state in capitalist society has been weakened and is “markedly dependent on central power and subordinate to it.”⁶⁷⁰

In this chapter, the last and largest apparatus – the sub-central state – will be explored to highlight the varying degrees of regulations that exist throughout the shale states in the United States. While some argue that federalism allows for a race to the top in federal regulations, others maintain the states are in a race to the bottom to cut regulations and increase industry within their states. This chapter will argue that while some states genuinely want to improve the conditions for the citizens and future generations (i.e., Colorado, New York, and others), other states and their decisionmakers are either seeking ways to increase their own benefit in the imbalance of regulatory favors or they are just allowing for an ‘anything goes’ mentality.

Fracking Power in the Sub-Central State Apparatus

By direct design of the gas and oil industry, the power of the federal government in the case of fracking has been completely taken away. The Energy Policy Act of 2005 devolved the power to regulate gas and oil to the individual states, expressly providing jurisdiction to the states. The result has been a

⁶⁶⁸ Miliband (2009): 39.

⁶⁶⁹ Miliband (2009): 39.

⁶⁷⁰ Miliband (2009): 124.

patchwork of hydraulic fracturing regulations across the United States, leading to a spectrum of state policies which range from no regulations to no fracking. The devolution and variety of policies, though, ultimately portrays a mixed view of how the states and the representatives of the people uphold the importance of, and how much value is given to, the health of their state's environment and residents.

As described in Chapter 1, there is much debate and contention over which level of government ought to govern over hydraulic fracturing. While some feel that regulation should be left to the states,⁶⁷¹ others find that the federal government has the most capability of fracking regulation.⁶⁷² Though many feel that a hybrid regulatory structure between local, state, and federal will best satisfy the needs of the people as well as the benefits to government and the gas and oil industry alike.⁶⁷³ The primary arguments against regulating fracking at the federal level is that each state has different economic goals and development priorities, the geology in each state varies, and there are different "legal regimes associated with property and leases."⁶⁷⁴ For these reasons, the state legislators argue that fracking regulation should remain with the states. In the literature regarding the locus of power, many academics

⁶⁷¹ Matt Willie. "Hydraulic Fracturing and "Spotty" Regulation: Why the Federal Government Should Let States Control Unconventional Onshore Drilling." *BYU Law Review*. 5 (2011).; Charles Davis. "Substate Federalism and Fracking Policies: Does State Regulatory Authority Trump Local Land Use Autonomy?" *Environmental Science & Technology*. 48 (2014).; Wes Deweese. "Fracking Misconceptions: A History of Effective State Regulation, Groundwater Protection, and the Ill-Conceived FRAC Act." *Oklahoma Journal of Law and Technology*. 6, No. 1 (2010): 1-32.

⁶⁷² Burger (2013).; Elizabeth Burleson. "Cooperative Federalism and Hydraulic Fracturing: A Human Right to a Clean Environment." *Cornell Journal of Law and Public Policy*. 22, No. 2 (2012); Amanda C. Leiter. "Fracking as a Federalism Case Study." *University of Colorado Law Review*. 85 (2014); Diane Rahm. "Regulating Hydraulic Fracturing in Shale Gas Plays: The Case of Texas." *Energy Policy*. 39 (2011); Barbara Warner and Jennifer Shapiro. "Fractured, Fragmented Federalism: A Study in Fracking Regulatory Policy." *Publius: The Journal of Federalism*. 43, No. 3 (2013).

⁶⁷³ Emily C. Powers. "Fracking and Federalism: Support for an Adaptive Approach that Avoids the Tragedy of the Regulatory Commons." *Journal of Law and Policy*. 19, No. 2 (2011); Matthew Castelli. "Fracking and the Rural Poor: Negative Externalities, Failing Remedies, and Federal Legislation." *Indiana Journal of Law and Social Equity*. 3, No. 2 (2015); Nicholas Hodges. "Multi-Tiered Preemption: Regulating Fracking at the Federal, State, and Local Levels." *University of California, Davis*. 38, No. 2 (2015); Burleson (2012).; Joshua P. Dennis. "The Emergence of Natural Gas and the Need for Cooperative Federalism to Address a Big "Fracking" Problem." *San Diego Journal of Climate & Energy Law*. 4 (2012-2013); Gianna Cricco-Lizza. "Hydraulic Fracturing and Cooperative Federalism: Injecting Reality into Policy Formation." *Seton Hall Law Review*. 42 (2012).

⁶⁷⁴ James K. Pickle. "Fracking Preemption Litigation." *Washington and Lee Journal of Energy, Climate, and the Environment*. 6, No. 1 (2015): 298.

agree with the state legislators, like Matt Willie, who strongly advocates for the regulation of fracking to remain with the states, as “federal intervention into state regulation of fracking seems unnecessary” due to the idea that “state officials are generally more informed about local and regional production techniques that federal regulators.”⁶⁷⁵ There are benefits to the states maintaining the power over gas and oil, such as the overall confidence that the federal system is accurately functioning. Jonah J. Ralston and Jason A. Kalmbach point out that to date, “the federal government’s policy actions have leveraged the major strengths of American federalism, namely the ability for states to innovate and for risks to be localized rather than nationalized.”⁶⁷⁶ However, Ralston and Kalmbach do not praise the federal government completely, but the authors do place blame on the government for not performing their due diligence in completing the proper studies to establish the level of risk involved before handing regulations over to the states for experimentation.⁶⁷⁷

The Federalists who argue for national level regulations find much value in establishing federal pollution baseline standards, and share a concern for spillover effects and transboundary pollution from state to state.⁶⁷⁸ Another argument for federal regulation is that there are fewer people to regulate, which allows for more accountability in the decisionmaking of policymakers – “direct regulation would remain in the hands of a few...”⁶⁷⁹ rather than spread along every level of government. Some feel that the proliferation of fracking and the gas and oil industry has gotten too large to be regulated by the states, as the US has “outgrown the oil and gas industry’s state regulatory framework.”⁶⁸⁰

⁶⁷⁵ Willie (2014): 1772.

⁶⁷⁶ Jonah J. Ralston, and Jason A. Kalmbach. “Regulating Under Conditions of Uncertainty and Risk” Lessons Learned from State Regulation of Hydraulic Fracturing.” *Environmental Practice*. 20, No. 2-3 (2018): 69.

⁶⁷⁷ Ralston and Kalmbach (2018): 69.

⁶⁷⁸ Burger (2013b): 1501.; Leiter (2014): 1125.

⁶⁷⁹ Cricco-Lizza (2012): 730.

⁶⁸⁰ Burger (2013b): 1501.

Many within the academic community feel that the gas and oil regulatory jurisdiction should be split between the federal and state governments in a hybrid style of governing, known as cooperative federalism.⁶⁸¹ This hybrid regulatory approach would satisfy the spillover interstate effects that federalists worry about, while establishing baselines at the federal level, and addressing the local issues such as zoning, noise, and traffic associated with active drilling areas.⁶⁸² Some argue that a cooperative approach can create more accountability with checks and balances between the different levels of government, and can reduce instances of collusion. Advocates for cooperative federalism claim this structure can also “promote consistency across the nation as well as localized solutions,”⁶⁸³ while supporting public participation at the local levels of government.

It is unsurprising that the industry would prefer the locus of power in fracking regulations to remain in the state’s jurisdiction, as the industry seeks to maintain the status quo. The gas and oil elites tend to “resist efforts to expand the jurisdictional scope of regulations affecting drilling operations,” as any efforts to “federalize” regulations would disrupt the balance of power the industry holds in their relationships with state leaders.⁶⁸⁴ The states prefer to be the primary jurisdiction for the regulation for gas and oil as they enjoy the benefits of controlling the economic growth within their state.⁶⁸⁵ Based on E.E. Schattschneider’s theory on the scope of conflict, Davis and Hoffer explain that the maintenance of the status quo with state jurisdiction effectively limits the scope of the conflict to the state and local levels.⁶⁸⁶ This began with the Halliburton Loophole in the Energy Policy Act of 2005. The industry elite, with the assistance of the Bush administration and Dick Cheney, determined and secured regulations in

⁶⁸¹ Powers (2011).; Castelli (2015).; Hodges (2015).; Burleson (2012).; Dennis (2012-2013).; Cricco-Lizza (2012).

⁶⁸² Hodges (2015): 189.

⁶⁸³ Cricco-Lizza (2012): 728.

⁶⁸⁴ Charles Davis and Katherine Hoffer. “Federalizing Energy? Agenda Change and the Politics of Fracking.” *Policy Sci.* 45 (2012): 222.

⁶⁸⁵ Davis and Hoffer (2012): 223.

⁶⁸⁶ Davis and Hoffer (2012): 224.

the “more ‘favorable’ lower level of government – the states – where typically there are fewer resources available for research, enforcement, and interstate coordination.”⁶⁸⁷ At this level, the industry interest groups are “particularly adept at strategically influencing the regulatory process” and are primary actors in shaping state regulations.⁶⁸⁸ For the industry, though, it is crucial to maintain regulations at the state level, and to prevent regulatory power from devolving further to the local municipalities and counties.

In Colorado, the industry worked to maintain state level regulations to the extent that it created industry-backed “citizen” groups who worked to raise enough signatures to get two pro-fracking measures on the ballot for the 2017 election. Using benign and citizen-friendly group names such as Coloradans for Responsible Energy Development (CRED) and Protect Colorado, the industry spent \$27 million in Colorado in 2014 to promote these measures which sought to maintain fracking regulations at the state level, and not in the local control of the periphery – of the people.⁶⁸⁹ In fact, the editorial board of the *Denver Post* forewarned that if the industry’s proposed amendment to the Colorado Constitution should pass, it would make it “nearly impossible” for Coloradoans to pursue local bans, regulations, or zoning ordinances.⁶⁹⁰ Amendment 71, also known as the “Raise the Bar” Amendment, ultimately sought to make changing the Colorado Constitution more difficult, or “nearly impossible.”⁶⁹¹ The amendment essentially made local action and citizen initiatives more difficult by “requiring initiative petitioners to spread signature-gathering efforts across the state’s 35 Senate districts.”⁶⁹² In order to garner support, Protect Colorado argued the point that the majority of the signatures obtained for the anti-

⁶⁸⁷ Warner and Shapiro (2013): 475.

⁶⁸⁸ Warner and Shapiro (2013): 475.

⁶⁸⁹ John Light. “A Colorado Ballot measure Could make it Nearly Impossible to Ban Fracking.” *Billmoyers.com* (November 4, 2016). <https://billmoyers.com/story/ballot-measure-ban-fracking/>.

⁶⁹⁰ Light (2016).

⁶⁹¹ Corey Hutchins and Kelsey Ray. “Amendment 71, aka “Raise the Bar,” Explained.” *The Colorado Independent* (October 19, 2016). <https://www.coloradoindependent.com/2016/10/19/colorado-raise-the-bar-amendment-71/>.

⁶⁹² The New York Times. “Colorado Amendment 71 – Constitutional Initiative – Results: Approved.” *The New York Times*. (August 1, 2017). <https://www.nytimes.com/elections/2016/results/colorado-ballot-measure-71-constitutional-initiatives>.

fracking/fracking ban amendment initiatives were received in areas that were not as intensely active as other areas.⁶⁹³ This industry backed amendment that proposed to decrease direct democracy and limit citizen initiatives passed in 2017 by a little more than 200,000 votes.⁶⁹⁴ The industry spent \$27 million to push through this initiative with the campaign's 'great marketing', resulting in the majority of Colorado's citizens voting to limit their own ability to participate in democratic action.⁶⁹⁵

In addition to acting as agents for the state, Miliband explains that individual sub-central states are to act as agents for the periphery. As the individual states are the only "channels of communication and administration from the centre to the periphery, but [they are] also the voice of the periphery, or of particular interests at the periphery; they have been a means of overcoming local particularities, but also platforms for their expression, instruments of central control and obstacles to it."⁶⁹⁶ Miliband places the locus of power over the periphery at the sub-central state level, as states have oversight capabilities and the 'means of overcoming local particularities'. 'Local particularities', for Miliband, refers to the competing interests of pluralism as opposed to the state who would act as "a committee for managing the common affairs of the whole bourgeoisie."⁶⁹⁷ Yet, the citizen's primary location for political action, redressing grievances, and community collaboration is typically at the local city, municipality, and county levels. It is in these locations that city council and county commission meetings take place, where a citizen's voice can be directly heard by the representatives and their neighbors.

Grassroots organizations usually consist of local civilian populations who are "advocating a cause to spur change" at various levels of government.⁶⁹⁸ These local groups focus on bottom-up

⁶⁹³ Light (2016).

⁶⁹⁴ The New York Times (2017).

⁶⁹⁵ Light (2016).

⁶⁹⁶ Miliband (2009): 39.

⁶⁹⁷ Miliband (2009): 6.

⁶⁹⁸ Alexandra Bettencourt. "Grassroots Organizations are Just as Important as Seed Money for Innovation." *UNHCR* (2022). <https://www.unhcr.org/innovation/grassroots-organizations-are-just-as-important-as-seed-money-for-innovation/>.

change, but their primary goal is to advocate for a cause in their local communities. Local groups at the grassroots level are citizens of the communities who take the time out of their lives, work, and families to play active citizen roles to protect or advocate for their communities, their homes, their families, and their livelihoods. Understandably, it is important for communities to have a direct say in choosing the direction of their communities, taking actions to protect their homes and families, and to maintain some level of local control. Yet, the ability for local municipalities to maintain control over particularities of oil and gas regulations has been systematically taken away in many situations.

The periphery does not only contain grassroots organizations, as these groups are largely on the anti-fracking side of the debate and spectrum, but there are also individuals and organized groups who consist of other community members such as “property owners, tenants, environmentalists, unions, non-unionized employees, owners of local business, the unemployed and whoever else happens to care about fracking in the state or locality.”⁶⁹⁹ Other peripheral actors and interests include associations such as “banks, mortgage companies, and insurance companies.”⁷⁰⁰ As citizens and members of society in shale states, many people in the periphery are also directly involved in the daily operations of fracking and fracking support companies in local areas, including oil field workers, their families, well owners, and many others. There are many competing voices in the periphery that do have a right to be heard, as citizens within the sub-central states and the state.

There are different barriers and gateways to citizen participation regarding fracking. Many Americans do not have the time to research the technical and skilled information that is required to fully comprehend the entire process of hydraulic fracturing – from the permitting, exploration, and drilling phases through the production and disposal of wastes from all phases of the process. Additionally, not

⁶⁹⁹ Benjamin E. Apple. “Mapping Fracking: An Analysis of Law, Power, and Regional Distribution in the United States.” *Harvard International Law Review*. 217 (2014): 224.

⁷⁰⁰ Apple (2014): 224.

all Americans live in or near a shale producing state or region. Because the industry has worked diligently to restrict the scope of the hydraulic fracturing conflicts – fracking is still very unknown to a large percentage of the population. Academic surveys reflect this dearth of knowledge on the process, as public perceptions of fracking vary across the country. The cause of the variance has been “driven by individuals’ values and worldviews, as well as by proximity of respondents to drilling sites.”⁷⁰¹ Surveys have also shown that perception has been guided through framing strategies “used by both civil society and industry groups”⁷⁰² in shale states. The industry attempts to frame fracking as a good and beneficial economic practice, while they provide community contributions to assuage groups such as the 4-H Club and the Boy Scouts, as well as food pantries, cleanup projects, and schools.⁷⁰³ Despite how a citizens’ knowledge is obtained and perceived, surveys completed in Colorado show that citizens do prefer a blended approach to fracking regulations that would involve all levels of government.⁷⁰⁴

Fracking Power in the Sub-Central Governments: Case Studies

The regulatory reality of hydraulic fracturing is that “since the 1980s, US energy policy has been increasingly devolved to the states.”⁷⁰⁵ As discussed previously, the Halliburton Loophole found in the 2005 EAct solidified that regulation would remain in the state’s jurisdiction, specifically when making any policy related to fracking. Within the hydraulic fracturing issue framework, there have been questions regarding the “independence of legislators, and about how regulators balance competing stakeholder interests.”⁷⁰⁶ Miliband would argue that the independence of policymakers in balancing competing interests ought to be questioned, as there are “reasons enough for a brief consideration of

⁷⁰¹ Jennifer Baka et al. “Disclosing Influence: Hydraulic Fracturing, Interest Groups, and State Policy Processes in the United States.” *Energy Research & Social Science*. 70 (2020): 3.

⁷⁰² Baka et al. (2020): 3.

⁷⁰³ Anastasia Hudgins, and Amanda Poole. “Framing Fracking: Private Property. Common Resources, and Regimes of Governance.” *Journal of Political Ecology*. 21 (2014): 313.

⁷⁰⁴ Baka et al. (2020): 3.

⁷⁰⁵ Baka et al. (2020): 1.

⁷⁰⁶ Baka et al. (2020): 1.

the character and distribution of sub-central power in advanced capitalist societies...where much of the pluralist theory has used “local community power” as its context and sought to rebut ‘ruling class’ and ‘power elite’ concepts by reference to it.”⁷⁰⁷ Miliband’s inquiry would likely be satisfied in his favor, as research has shown that “hydraulic fracturing at the state level has been heavily influenced by industry and environmental concerns are tertiary to economic development.”⁷⁰⁸ Miliband would disagree with the position of the locus of power in hydraulic fracturing regulations, mostly due to the fact that “local and regional units of government [have] retained many powers as agents of the centre,” but also because “these units often have had a certain amount of freedom as to the manner in which they have discharged their functions.”⁷⁰⁹ This mirrors Barrow’s argument that the restructuring of the capitalist state has resulted in “a realignment of internal power relations within the national state apparatus.”⁷¹⁰ This is apparent in the devolution of energy policy from the national government to the states in the United States.

Again, though, the current reality is that fracking regulations are in the jurisdiction of the individual states. In a study of fracking policy trends across the United States, four common fracking regulatory themes began to emerge. However, these trends are not new nor groundbreaking in gas and oil policy, as much of the current fracking regulations are “simply an extension of the regulations that have always covered all oil and gas second and tertiary development processes.”⁷¹¹ According to Christopher S. Kulander, the four primary areas of fracking regulations enforced by shale states are: “(a) control of the acquisition and use of water for fracing; (b) disclosure of chemicals used in fracing fluid; (c) flowback water disposal requirements; and (d) requirements for casing, cementing, drilling, and

⁷⁰⁷ Miliband (2009): 124.

⁷⁰⁸ Ralston and Kalmbach (2018): 13.

⁷⁰⁹ Miliband (2009): 124.

⁷¹⁰ Clyde W. Barrow. “The Return of the State: Globalization, State Theory, & the New Imperialism.” *New Political Science*. 27, no. 2 (2005): 144.

⁷¹¹ Christopher S. Kulander. “Shale Oil and Gas State Regulatory Issues and Trends.” *Case Western Reserve Law Review*. 63, No. 4 (2013): 1104.

completion.”⁷¹² Francis Gradijan also finds four trends in fracking regulatory actions by the states. Like Kulander, he found that disclosure regulations are widespread across the shale states. Likewise, operational regulations are widespread across shale states. These regulations include the well, setback, and casing requirements. Gradijan also reviewed the regulatory restrictions that have been put in place by various states – mostly through preemption policies and court findings to overturn local bans and moratoria. The fourth regulatory action taken by the states that he discusses are economic regulations, which include “imposing larger permitting fees on hydraulically fractured wells,” and “more detailed filing and review processes.”⁷¹³

When the states make fracking regulatory policy, there are three primary policy tools they can work with. The most prevalent and widely used of these tools are command-and-control policies. These types of policies typically set targets for firms, or energy companies, with required compliance “regardless of conditions or circumstances.”⁷¹⁴ A widely used example of a command-and-control policy would be setback regulations for drilling well (i.e., a state mandate that would prohibit fracking from occurring within a particular distance from a water well, waterway, or building). Ralston and Kalmbach highlight the disadvantages of command-and-control strategies and argue that: “there are few economic incentives for polluters to comply rapidly and efficiently with command and control” regulations.⁷¹⁵ Yet, command-and-control strategies are widely used in the United States. In fact, in a comprehensive study of regulations in shale states, 81% of these regulations were command-and-control forms of policies. Other regulatory tools available to states would be case-by-case permitting, which happens to require

⁷¹² Kulander (2013): 1104. The usage of ‘fracing’ and ‘fracking’ have been interchangeable. However, the industry has heavily used the spelling without the k, at times even adding a second c to become fraccing. Multiple claims for why the differences in spelling exist, including the idea that there is no k in fracturing, others argue the media added the k. While different explanations abound, the large majority of sources use the spelling with the k.

⁷¹³ Francis Gradijan. “State Regulations, Litigation, and Hydraulic Fracturing.” *Environmental & Energy Law & Policy Journal*. 7, No. 1 (2012): 63.

⁷¹⁴ Ralston and Kalmbach (2018): 6.

⁷¹⁵ Ralston and Kalmbach (2018): 71.

“regulatory experts for each specific case” and would also involve a regulatory review process.⁷¹⁶

Utilized far less than command-and-control strategies, case-by-case permitting standards only accounts for 14% of the fracking regulatory policies.⁷¹⁷ Used even less than case-by-case permitting, is the regulatory tool of performance standards. These types of policies typically set a fluctuating cap for maximum emissions, allowing for more flexibility for companies to meet standards.⁷¹⁸

Texas

Everything is bigger in Texas, and hydraulic fracturing is not exempt from this statement. Not only is Texas the largest state in the continental United States but it also produces the most natural gas from shale deposits. Of the coastal areas and states in the US, Texas accounts for nearly one third of the US natural gas production.⁷¹⁹ Likewise, in 2012, Texas crude oil also fulfilled 36% of all oil produced in the US.⁷²⁰ Oil was first spotted in 1543 in the area that would later become the State of Texas.⁷²¹ However, drilling in the area did not commence until the 1860s and the Texas Oil Boom did not begin until 1901.⁷²² Alone, the Eagle Ford Shale play - skirting such cities as Laredo, San Antonio, Austin, and Houston - provides 6% of all natural gas produced the United States.⁷²³ Although the surface above the Eagle Ford play is mostly rural, this area between major cities is heavily populated, and has nearly 400,000 people who live within five kilometers of a natural gas well that has been hydraulically

⁷¹⁶ Ralston and Kalmbach (2018): 72.

⁷¹⁷ Ralston and Kalmbach (2018): 72.

⁷¹⁸ Ralston and Kalmbach (2018): 71.

⁷¹⁹ Rahm (2011): 2974.

⁷²⁰ Christopher M. Weible and Tanya Heikkila. “Comparing the Politics of Hydraulic Fracturing in New York, Colorado, and Texas.” *Review of Policy Research* 33, No. 3 (2016): 236.

⁷²¹ Geltman and LeClair (2018): 26.

⁷²² Rahm (2011): 2978.

⁷²³ Rahm (2011): 2974.

fractured.⁷²⁴ Demographically, “this region is home to low income families, and approximately 40% of residents identify as Hispanic.”⁷²⁵

Responsible for state fracking regulations in Texas is the Oil and Gas Division of the Texas Railroad Commission. The Railroad Commission regulates the gas and oil industry as well as pipeline and transport companies.⁷²⁶ The Commission is “responsible for community safety and stewardship of natural resources, while at the same time one of its missions is to promote “enhanced development and economic vitality”.”⁷²⁷ Operators must apply for drilling permits from the Railroad Commission, whether the company wants to “drill, deepen, reenter, or plug back” a well.⁷²⁸ Hydraulic fracturing operating companies must also apply for permits to dispose of the waste from drilling, typically through open pit systems on site providing that the location does not risk polluting any nearby waters.⁷²⁹ However, companies do not need a permit if they “dispose of certain low chloride fluids and other wastes without a permit by spreading them over the land on which they were generated, or by burial.”⁷³⁰ Other wastes are disposed through underground injection in impervious beds away from freshwater and nonproducing zones of gas and oil.⁷³¹ As the Railroad Commission is responsible for community safety and resource stewardship, the Commission does prohibit fracking operators from causing or allowing pollution to enter any surface or subsurface waters in Texas.⁷³² The Railroad Commission is not the entity in charge of regulating water pollution in the state, as this is one of the tasks of the Texas

⁷²⁴ Jill E. Johnston, Khang Chau, Meredith Franklin, and Lara Cushing. “Environmental Justice Dimensions of Oil and Gas Flaring in South Texas: Disproportionate Exposure among Hispanic Communities.” *Environmental Science & Technology*. (2020): A.

⁷²⁵ Johnston et al. (2020): A.

⁷²⁶ Rahm (2011): 2978.

⁷²⁷ Rahm (2011): 2978.

⁷²⁸ William J. Brady and James P. Crannell. “Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations.” *Vermont Journal of Environmental Law*. 14 (2012): 60.

⁷²⁹ Brady and Crannell (2012): 61.

⁷³⁰ Brady and Crannell (2012): 61.

⁷³¹ Brady and Crannell (2012): 61.

⁷³² Brady and Crannell (2012): 61.

Commission on Environmental Quality (TCEQ). Speculation of the Railroad Commission's ability to balance their mission exists, as "some would suggest that the missions of community safety and stewardship of natural resources fall victim to that of promoting the oil and gas industry."⁷³³ Yet, the TCEQ's ability to manage environmental affairs ought to be questioned as well.

Overall, the State of Texas lacks a "strong ethos of environmental protection."⁷³⁴ This would explain the reason why Texas also lacks a central structure of administering statewide, inclusive environmental protection of all regulations, and rather, the state has a variety of authority offices responsible for "mineral, water, air, and land" regulations.⁷³⁵ Although the TCEQ has the jurisdiction over environmental pollution, they have not proven to be the most capable entity of handling such matters. Already embroiled in conflict with the US EPA over "lax enforcement of the federal Clean Air Act," tensions further flared in 2010 when "Texas became the only state to refuse to implement EPA's greenhouse gas regulations."⁷³⁶ Like TCEQ, the Railroad Commission has also been in conflict with the EPA. Also in 2010, the Commission was accused by the EPA of not properly enforcing the federal Safe Drinking Water Standards. In December of that year, the "EPA issued an Imminent and Substantial Endangerment Order to protect drinking water in Southern Parker County," in the Eagle Ford Shale play.⁷³⁷

In fact, the Railroad Commission has already shown the priority it provides to the gas and oil industry regarding water – aside from the SDWA violations. The Railroad Commission has sole authority over the use of groundwater for drilling gas and oil wells and in fracking. Although the companies must apply for a permit, the Railroad Commission "allows a company to use as much groundwater as it needs

⁷³³ Rahm (2011): 2978.

⁷³⁴ Rahm (2011): 2978.

⁷³⁵ Rahm (2011): 2978.

⁷³⁶ Rahm (2011): 2978.

⁷³⁷ Rahm (2011): 2978.

to complete a well.”⁷³⁸ With dry, arid Texas being the second most populated state in the country as well as a major producer of oil and gas nationally, water usage competition has been intensified by the Commission’s withdraw allowances. Localized groundwater depletion has already become an issue in the particularly parched Permian Basin Shale play of Texas.⁷³⁹ Because the groundwater conservation district system in Texas is so decentralized and oversight is weak, along with the bias of the Commission in addition to the regulatory capture of remote and local authorities, the gas and oil industry is very politically strong in the state.⁷⁴⁰ Ultimately, as pointed out by Dana and Wiseman, this explains why the Texas state government is silent when it comes to the risks of and actual groundwater depletion throughout the state.⁷⁴¹ Although, the Commission does take some precaution, as fracking regulations require that the “well casing should isolate and seal off all “usable-quality water zones” to “prevent contamination or harm”,⁷⁴² of water sources.

Other basic regulations in Texas include the disclosure of non-trade secret chemicals to FracFocus, operational well integrity policies like the casing regulation mentioned above, and regulations that restrict drilling near public schools.⁷⁴³ Texas does have a preemption law which restricts home rule regulation of gas and oil processes. This law was only instated after the people in the City of Denton voted to enact a fracking ban inside city limits in 2014. Within hours of the vote, Denton received two lawsuits that had been filed against the city, “one by the Texas General Land Office (GLO)

⁷³⁸ Rahm (2011): 2979.

⁷³⁹ David A. Dana and Hannah J. Wiseman. “Fracking as a Test of the Demsetz Property Rights Thesis.” *Hastings Law Journal*. 71, No. 4 (2020): 895.

⁷⁴⁰ Dana and Wiseman (2020): 895.

⁷⁴¹ Dana and Wiseman (2020): 895.

⁷⁴² Brady and Crannell (2012): 60.

⁷⁴³ Weible and Heikkila (2016): 236.

and one by the Texas Oil and Gas Association (TCOGA).⁷⁴⁴ After the lawsuits were filed and the new preemption law was enacted, the City of Denton removed the democratically voted on ban.⁷⁴⁵

Also notable for the State of Texas is that private gas pipeline companies are provided with the power of eminent domain in the state. The state statute which extends this authority to pipeline companies “practically allows them to lay lines wherever they choose.”⁷⁴⁶ Moreover, the pipelines in Texas typically cross state lines, thereby extending the federal power of eminent domain to the private companies through the federal Natural Gas Act (NGA), as explained in Chapter 4. Ultimately, gas and oil companies in the State of Texas “enjoy considerable latitude in their pursuit of drilling opportunities with relatively few state-level restrictions.”⁷⁴⁷

Pennsylvania

After Texas, Pennsylvania is the United States’ second largest producer of natural gas. 2021 was a record-breaking year for the state with a total of 7.6 trillion cubic feet of natural gas recovered and produced.⁷⁴⁸ Pennsylvanians contribute heavily to the labor force of fracking in the state, as there are around 52,000 people employed in hydraulic fracturing and support industries.⁷⁴⁹ The state has enacted disclosure, operational, and economic regulations regarding fracking. The Pennsylvania Department of Environmental Protection (DEP) and the Bureau of Oil and Gas Management are primarily responsible for fracking regulations and oversight in the state. The DEP is specifically tasked with the oversight of

⁷⁴⁴ Jamal Knight and Bethany Gullman. “The Power of State Interest: Preemption of Local Fracking Ordinances in Home-Rule Cities.” *Tulane Environmental Law Journal*. 28 (2015): 311.

⁷⁴⁵ Weible and Heikkila (2016) 236-237.

⁷⁴⁶ Rahm (2011): 2979.

⁷⁴⁷ Charles Davis. “The Politics of “Fracking”: Regulating Natural Gas Drilling Practices in Colorado and Texas. *Review of Policy Research*. 29, No. 2 (2012): 184

⁷⁴⁸ “Pennsylvania State Energy Profile.” *U.S. Energy Information Administration* (November 17, 2022). <https://www.eia.gov/state/print.php?sid=PA>.

⁷⁴⁹ Reid Frazier. “Wolf’s Fracking-Health Record Hammered by New Industry Opposition Group.” *State Impact Pennsylvania* (May 23, 2018). <https://stateimpact.npr.org/pennsylvania/2018/05/23/wolfs-fracking-health-record-hammered-by-new-industry-opposition-group/>.

Pennsylvania's water quality. If a landowner notices any changes to their water quality, they are to request to have the DEP investigate, which should occur within ten days.⁷⁵⁰ Upon investigation, if the DEP finds that the landowner's water quality has been affected; Pennsylvania law states that the operator must "restore or replace the affected supply with an alternative source of water adequate in quantity and quality for the purposes served by the supply."⁷⁵¹ The DEP will fault the well operators if the finding of water diminution occurs within six months of drilling, if the gas well is within 1000 feet of the water well.⁷⁵² Unless the operator can formulate a valid defense of their drilling practices.

In theory, this regulation and oversight scheme lends itself to assisting the residents in their fight against the fracking companies and the risks associated with drilling activities and water pollution, while forcing operators to internalize their negative externalities. Pennsylvania, like other states, has consistently contended with short-staffing issues for the regulatory agencies. According to research by Elliot Fink, between 2009 and 2012 in states like Pennsylvania, Ohio, Oklahoma, and Texas, "it was commonplace for 60% or more of wells to never be inspected due to staffing shortages."⁷⁵³ To compound this lack of regulation, there is a lack of information from the regulators themselves. Between 2004 and 2016, there were 9,442 environmental related complaints in areas known for fracking activities, filed with the Pennsylvania DEP.⁷⁵⁴ Yet, a 2017 report found that in their bias toward the industry, "Pennsylvania regulators kept complaints of drinking water contamination confidential and only released redacted versions when state "right to know" requests were lodged," to shield the "companies from regulatory consequences."⁷⁵⁵ Despite this fact, there are still over 300 instances from

⁷⁵⁰ Brady and Crannell (2012): 59.

⁷⁵¹ Brady and Crannell (2012): 59.

⁷⁵² Brady and Crannell (2012): 59.

⁷⁵³ Elliot Fink. "Dirty Little Secrets: Fracking Fluids, Dubious Trade Secrets, Confidential Contamination, and the Public Health Information Vacuum." *Fordham Intellectual Property, Media and Entertainment Law Journal*. 29, No. 3 (2019): 990-991.

⁷⁵⁴ Frazier (2018).

⁷⁵⁵ Fink (2019): 991.

2009-2019 in Pennsylvania where the state has identified impacts to landowner's water supplies, caused by local gas and oil development, and lawfully contacted the affected landowners.⁷⁵⁶

Pennsylvania has undergone changes in state fracking policy throughout the expansion of fracking. Under the governorship of Republican Tom Corbett, Act 13 was signed into law in 2012. This legislation was an overhaul of the state's gas and oil regulations. When originally enacted, the statute preempted local zoning jurisdiction to change statewide regulations that would allow fracking in any land planning zone, including residential zones, providing that the well was not constructed within 500 feet of any building or well. Unless the owner agrees to have the well built within that 500 foot buffer zone.⁷⁵⁷ This portion of Act 13 was overturned in *Robinson Township v. Commonwealth* in 2016, as discussed previously. The Act also requires disclosure of fracturing fluids used, but the statute does provide for trade secret protections of this disclosure. Act 13 also created an impact fee – different than fees initiated in other shale states – to be paid by the gas and oil companies based on the age of the well fractured as well as the market price of natural gas.⁷⁵⁸ This particular impact fee goes directly to the state, not the local municipality. If the county should choose to enforce an impact fee to gain funds from the state, they must pass an ordinance to impose a county impact fee.⁷⁵⁹ Since 2011 when the state commenced collection of impact fees, Pennsylvania has earned over \$1.2 billion from the gas and oil industry.⁷⁶⁰

While in the governorship, Tom Corbett heavily supported the gas and oil industry, and continued to defend Act 13 after the court struck down large portions of the Act because they violated

⁷⁵⁶ Frazier (2018).

⁷⁵⁷ Hudgins and Poole (2014): 308.

⁷⁵⁸ Hudgins and Poole (2014): 309.

⁷⁵⁹ Emma Laurens, Abigail York, and Gwen Arnold. "The Vulnerability of Polycentricity: The Case Study of Fracking Governance in Pennsylvania." (Workshop on the Ostrom Workshop Conference, Indiana University Bloomington, June 19-21, 2019): 12.

⁷⁶⁰ Frazier (2018).

the state constitution.⁷⁶¹ During his time in office, former Governor Corbett made unpopular decisions on fracking and other issues, leading to his 2014 re-election loss. Tom Corbett became the first incumbent governor in Pennsylvania history to lose re-election.⁷⁶² Democrat Tom Wolf became Corbett's predecessor and had a very different perspective on fracking. Although he does support hydraulic fracturing, he recognizes that it could be conducted in a manner that would have less of an impact on the environment. Soon after taking his new position, Governor Wolf issued an executive order that reinstated a prior moratorium in all state parks and forests prohibiting any new leases on these state lands.⁷⁶³

An additional issue that Pennsylvanians contend with in the Marcellus Shale play is uranium. It is common to find trace amounts of uranium in shale plays across the country, generally around 3 parts per million (ppm).⁷⁶⁴ The estimated amount of uranium in the Marcellus Shale play, however, is anywhere from 10 to 100 ppm.⁷⁶⁵ This creates an added layer of risk for the workers and the landowners nearby with evidence of both naturally occurring radioactive materials (NORM) and technologically enhanced naturally occurring radioactive materials (TENORM) in the shale and in the environment as drilling brings this material to the surface. To address these materials in Pennsylvania, the DEP did provide a "guidance document" to educate citizens about NORM and TENORM.⁷⁶⁶ The state also has statutes and provisions in the Pennsylvania Solid Waste Management Act, the Radiation Protection Act, and in state codes which extends some protections against NORM and TENORM exposure to the public;

⁷⁶¹ Hudgins and Poole (2014): 309.

⁷⁶² Michael LaRosa. "Corbett Could be First Governor to Lose Re-Election in Pa. History." *MSNBC* (July 8, 2013). <https://www.msnbc.com/hardball/corbett-could-be-first-governor-lose-re-el-msna65178>.

⁷⁶³ Reuters Staff. "Pennsylvania Governor Bans New Oil/Gas Leases on State Land." *Reuters* (January 29, 2015). <https://www.reuters.com/article/us-energy-pennsylvania-natgas/pennsylvania-governor-bans-new-oil-gas-leases-on-state-land-idUSKBN0L21YT20150129>.

⁷⁶⁴ Elizabeth Ann Glass Geltman, and Nichole LeClair. "Regulation of Radioactive Fracking Waste." *CUNY Academic Works*. CUNY Graduate School of Public Health and Health Policy. (2018): 31.

⁷⁶⁵ Geltman and LeClair (2018): 31.

⁷⁶⁶ Geltman and LeClair (2018): 32.

however, “they are not expressly covered for oil and gas operations.”⁷⁶⁷ Likely these protections would not extend coverage to gas and oil employees, as one DEP study “concluded that there was little potential for harm to workers or the public from radiation exposure due to oil and gas drilling.”⁷⁶⁸ The study used TENORM exposures in workers that were already directly involved in the waste and disposal of TENORM waste – as well as the effects of TENORM waste repurposed on roads as “a dust suppressor or road stabilizer.”⁷⁶⁹ Spreading of fracking wastes is a common practice, whether containing TENORM or not, in various states. As explained above, spreading low chloride waste at the drilling site is in the waste provisions of the Texas Railroad Commission’s regulations.

Colorado

Colorado has the third largest natural gas reserves of states in the US and held the position as the fifth largest producing state in 2015.⁷⁷⁰ In 2018, there were 53,719 active wells throughout the state and the industry brought 232,900 jobs to Colorado.⁷⁷¹ As of 2019, production of petroleum in the state averages 514,000 barrels of oil daily.⁷⁷² The Colorado Oil and Gas Conservation Commission (COGCC) was formed in the 1970s and is tasked solely with regulating gas and oil development and activities in the state. Historically, the State of Colorado has been known to work closely with the industry in developing natural resources, and has largely been a “probusiness state.”⁷⁷³ Although the state has seen many changes in regulations throughout the years of fracking in Colorado, the general COGCC regulations require: “establishing protection zones around streams that provide drinking water supplies; reporting the chemicals used in any fracking operations [to FracFocus]; consultation with state and

⁷⁶⁷ Geltman and LeClair (2018): 32.

⁷⁶⁸ Geltman and LeClair (2018): 32.

⁷⁶⁹ Geltman and LeClair (2018): 32.

⁷⁷⁰ American Petroleum Institute. “Progress and Opportunity: Colorado Natural Gas and Oil.” *American Petroleum Institute*. (2018).

⁷⁷¹ American Petroleum Institute (2018).

⁷⁷² Ray (2020): 765.

⁷⁷³ Davis (2012): 185.

wildlife officials on fracking applications; and cleaning up of a well site after fracking is completed.”⁷⁷⁴

Colorado led the curve on water protection in the early days of the fracking boom, as they enforced stronger water protection regulations than required by the federal government.⁷⁷⁵

As discussed in the previous chapter, Colorado has contended with home rule discrepancies, which were ultimately settled by the state supreme court who found that local bans violated the mission of the Colorado Oil and Gas Act (COGA). Since these findings, however, the hydraulic fracturing regulations have been completely overhauled. When Jared Polis won election for the Governorship and fulfilled his position in 2019, one of his first orders of business was to enact a new statute that “empowers local governments to regulate numerous impacts of oil and gas development and requires broader state regulation of environmental externalities from oil and gas production.”⁷⁷⁶ This new law “repeals, adds, and amends the language of sixteen existing Colorado statutes related to the regulation of oil and gas” and affects such entities as the Colorado Air Quality Control Commission, the COGCC, and local governments.⁷⁷⁷ While requiring the state to minimize their environmental impacts, the new statute also requires state regulators to have prior experience in land use planning and knowledge of “environmental protection, wildlife protection, or reclamation.”⁷⁷⁸ In order to provide more local control, the enacted Senate Bill 19-181 expressly provides more jurisdiction for local governments to regulate fracking in their communities. Another significant change brought by this legislation is that the entire focus of gas and oil in Colorado has shifted. Where previously the COGCC and the COGA had stressed the importance of eliminating waste (i.e., the wasting of gas and oil in the subsurface by leaving

⁷⁷⁴ Pickle (2014): 312.

⁷⁷⁵ Pickle (2014): 312.

⁷⁷⁶ Tara Kathleen Righetti. “Liberating Split Estates.” *International Journal of the Commons*. 14, No. 1 (2020): 52.

⁷⁷⁷ Righetti et al. (2020): 59.

⁷⁷⁸ Righetti et al. (2020): 56.

it untapped) and maximizing production throughout the state; the changes in the legislation called for a “mission change” wherein the new goal is to protect the environment and the people of Colorado.⁷⁷⁹

Although the people of Colorado voted for Polis and have since re-elected him as incumbent; not all counties are onboard with the changes in gas and oil legislation in the state. Weld County, home to Greeley and the original preemption case *Voss vs. Lundvall Bros, Inc.* in 1992, produces more gas and oil than any county in the state. The county is largely industry friendly and decided to take advantage of the local control aspects of the new statutes. “Shortly after the passage of The Bill, Weld County designated the development of oil and gas as an area of local interest through the Colorado Areas and Activities of State Interest Act.”⁷⁸⁰ By making this move, the county effectively opened the gateway to developing the Weld County Oil and Gas Energy Department (OGED), created to “exercise Weld County’s new siting authorities.”⁷⁸¹ The state authorities, the COGCC, took offense to the creation of this new county entity asserting that “while local governments enjoy new authority to regulate oil and gas under The Bill, this does not divest the COGCC of authority.”⁷⁸² This discrepancy, along with the preemption rulings for the Colorado Supreme Court prior to the enactment of the new statutes, could lead to new legal questions of authority and jurisdiction in the future.

North Dakota

The boom in the Bakken Shale play of North Dakota began early, in 2006, and by 2012 the state became the second highest producing state in the US behind Texas.⁷⁸³ The production rate continued to rise, and in 2012 the state was responsible for adding one million barrels to the US oil supply, daily.⁷⁸⁴

⁷⁷⁹ Righetti et al. (2020): 60.

⁷⁸⁰ Ray (2020): 738.

⁷⁸¹ Ray (2020): 738.

⁷⁸² Ray (2020): 738-739.

⁷⁸³ Curtis W. Stofferahn and Jessica D. Ulrich-Schad. “Predicting Support for Oil Industry Regulatory Policy Alternatives During the North Dakota Oil Boom.” *Journal of Rural Social Sciences*. 30, No. 2 (2020): 1-2.

⁷⁸⁴ Stofferahn and Ulrich-Schad (2020): 2.

North Dakota has experienced large population growth correlated with the fracking boom. The industry employs about 55,000 people in the state.⁷⁸⁵ Including the influx of pop-up Man Camps in open fields to house the workers, as discussed in Chapter 1. North Dakota has a strong state interest in the development of their gas and oil reserves in the subsurface. The North Dakota state legislature has even declared that it is “in the public interest to foster, to encourage, and to promote the development, production, and utilization of natural resources of oil and gas in the state in such a manner as will prevent waste.”⁷⁸⁶ North Dakota’s codified laws are contained within the Century Code, which was originally established in 1891.⁷⁸⁷ Within this code, the state established the North Dakota Industrial Commission (NDIC) who delegated the governance of oil and gas in the state along to the Oil and Gas Division.⁷⁸⁸ Other entities partially responsible for regulating gas and oil operations are the North Dakota Water Commission for the distribution of water for fracking, and the North Dakota Department of Health, who is tasked with the cleanup of any leaks, spills, or other discharges.⁷⁸⁹ With a strong focus on production and minimizing gas and oil waste, North Dakota has instated very few actual regulations. The state does have a ban on open pits for disposing of waste for wells drilled over 5,000 feet deep. Considering the Bakken Shale is deep in the subsurface, nearly 2 miles, most of the wells would thereby prohibit open pits.⁷⁹⁰ North Dakota does require disclosure of fracking fluids on FracFocus while allowing for trade secret protections.⁷⁹¹

⁷⁸⁵ Cormac Bloomfield. “Fracking the Bakken: Interpreting the Public Trust Doctrine and State Constitutional Law to Restrict Fracking Under Beneficial Use Principles.” *Natural Resources Journal*. 61, No. 2 (2021): 211.

⁷⁸⁶ Brady and Crannell (2012): 64.

⁷⁸⁷ “A Brief History of Codification of North Dakota Law.” *North Dakota Legislature*. (2022). <https://www.ndlegis.gov/research-center/a-brief-history-codification-north-dakota-law>.

⁷⁸⁸ Brady and Crannell (2012): 64.

⁷⁸⁹ Brady and Crannell (2012): 64.

⁷⁹⁰ Bloomfield (2021): 210.

⁷⁹¹ Brady and Crannell (2012): 64.

There was little opposition to fracking operations in North Dakota, aside from a few organizations who were ostracized for speaking out against the extraction technique valued by the state. But in 2013, accidents began to occur, and the news of the events made their way into the media cycle. According to a 2014 report in the *New York Times*, all within the timeframe of a year the state experienced “the largest on-land oil spill, the largest wastewater spill in North Dakota, publication of a satellite photo showing flaring in the oil patch, the discovery of an illegal radioactive drilling sock dump site, and the explosion of tanker cars on a train carrying Bakken crude oil.”⁷⁹² Despite these environmental disasters, in a survey of North Dakota residents, Stofferahn and Schad found that “respondents are not opposed to oil development, they just want more regulation of existing oil development.”⁷⁹³ The support for hydraulic fracturing in North Dakota mirrors a policy statement released by the North Dakota Legislative Assembly wherein it was “declared that oil and gas development is in the public interest, such that ‘the general public realize and enjoy the greatest possible good from these vital natural resources’.”⁷⁹⁴

Policy Diffusion and the Sub-Central States

Policy diffusion is thought to play a role in fracking policymaking across the shale states, as it has been argued that a “defining feature of US federalism is that states will innovate in select areas of policy development while “follower” states will learn from the experiences of leaders in determining if and how to adopt similar policies.”⁷⁹⁵ In a study by Baka et al. concerning model bills and fracking policy diffusion, they highlight the hurdles to policymaking in state legislatures as “only ten US states have full-

⁷⁹² Stofferahn and Schad (2020): 3.

⁷⁹³ Stofferahn and Schad (2020): 21.

⁷⁹⁴ Judy Stewart, Alastair Lucas, and Giorilyn Bruno. “A Transboundary Comparative Analysis of Opportunities for Public Participation in the Regulation of Hydraulic Fracturing in the Bakken Shale Formation.” *Journal of Energy & Natural Resources Law*. 36, No. 3 (2018): 329.

⁷⁹⁵ Baka et al. (2020): 3.

time legislatures. Most state legislatures meet infrequently and are minimally staffed.”⁷⁹⁶ In four shale states – Montana, North Dakota, Nevada, and Texas – the state legislatures only meet twice a year.⁷⁹⁷ In addition to this, thirty-nine different states have limited their legislatures to only part-time meetings where sessions have been decreased to less than four months out of each year.⁷⁹⁸ Baka et al. did find evidence that a form of policy diffusion is occurring throughout the states, which “indicates that states are communicating about this rapidly evolving regulation domain.”⁷⁹⁹

But what exactly are states communicating about? When looking across the shale states, there is a patchwork of regulations, a variety of rules and ordinances, lax regulations, stringent regulations, and even bans. Interests infiltrate at every level of local, state, and national government. With the review of states above, it is apparent that states like Colorado take the lead in stringent regulations while local governments are free to make ordinances and rules for local control of gas and oil. On the other hand, there are states like North Dakota who have very few regulations instated with no local control given to municipal governments.

The Regulatory Races

In the environmental policy literature, the concept of a regulatory race to the bottom competition amongst the sub-central states is prevalent in most issue areas. The race to the bottom theory, or argument, consists of the idea that when the sub-central states are “confronted with interstate economic competition, states have incentives to adopt excessively lax environmental standards in an effort to attract mobile capital.”⁸⁰⁰ This theory does assume that states are economically competitive in their regulations in comparison to each other, or that they are responsive through

⁷⁹⁶ Baka et al. (2020): 4.

⁷⁹⁷ Baka et al. (2020): 4.

⁷⁹⁸ Baka et al. (2020): 4.

⁷⁹⁹ Baka et al. (2020): 9.

⁸⁰⁰ David M. Konisky. “Regulatory Competition and Environmental Enforcement: Is There a Race to the Bottom.” *American Journal of Political Science*. 51, no .4 (2007): 854.

regulations to compete. If the incentives are beneficial enough to both the state and industry, the race to the bottom theory postulates the possibility that states may continue to reduce their regulatory standards in order to capture more industry through the competitive advantage created through less stringent regulations.⁸⁰¹ When other states see the effect of this reduced regulatory competitive advantage, they too may reduce standards in order to gain their share of industry within their states. The result is that regulatory standards are reduced across the board, and the only way to tempt more industry is down to no regulations, and a “literal bottoming out of environmental regulation.”⁸⁰² The overall societal effects of a race to the bottom in environmental regulations are “inadequate environmental standards, poor environmental quality, and lower overall social welfare.”⁸⁰³

Yet, some argue that the regulatory race to the bottom should not be a concern. Rather, the regulatory competition actually leads to a race to the top of environmental regulation standards. The simple fact that states have exceeded standards set by the EPA shows, for some, that the real race is to the top.⁸⁰⁴ Proponents of this upward race argue that these states are likely ones to have a strong pro-environmental periphery,⁸⁰⁵ while others attribute this to states attempting to bring less carbon- and pollution- intensive industries and carry a NIMBYist (Not In My Backyard) behavior. This behavior has been previously theorized regarding the “California effect” of enacting strong environmental standards in hopes that the federal government will use these standards as future baselines.⁸⁰⁶

⁸⁰¹ Konisky (2007): 854.

⁸⁰² Konisky (2007): 854.

⁸⁰³ Scott R. Saleska, and Kirsten H. Engel. “Facts are Stubborn Things: An Empirical Reality Check in the Theoretical Debate over the Race-To-The-Bottom in State Environmental Standard-Setting.” *Cornell Journal of Law and Public Policy*. 8, no. 1 (1998): 56.

⁸⁰⁴ Matthew Potoski. “Clean Air Federalism: Do States Race to the Bottom?” *Public Administration Review*. 61, no. 3 (2001): 335.

⁸⁰⁵ Potoski (2001): 338.

⁸⁰⁶ Konisky (2007): 855.

Therein lies the difference between all discussions within the race to the bottom literature, and hydraulic fracturing. Fracking does not have federal standards, minimum baselines, or maximum amounts. It is exempt from all federal regulations and thereby the states are at liberty to create the regulatory scheme that suits the needs of each sub-central state. It is truly an open range of regulations. The regulatory schemes, contents, missions, and goals of the four states reviewed in this chapter – Texas, Pennsylvania, Colorado, and North Dakota – have very different regulations. These four states are amongst the top competitors of gas and oil business in the United States. Yet, there are few similarities that exist between any of the shale states when it comes to regulatory competition. In fact, all four states have very different levels of regulation, strength of regulation, and structures that frame the industry. While some states are racing to the top, like Colorado, others maintain the monolith of lax regulations, even when located in the same region. Some states have streamlined processes to make business move faster, while others have completely banned the extraction technique altogether. It does not appear that these states are in a regulatory race to capture more industry, and rather, are either seeking ways to improve the imbalance of regulatory favors to the industry and state leaders, or they allow for an ‘anything goes’ mentality.

Ultimately, the solution to the issues of hydraulic fracturing cannot be found in more deregulation, more devolution, more collaboration, or more public participation. The issues cannot be solved in a policy laboratory, with a patchwork of regulations, by a state commission, or through altering the language of a state constitution. These suggestions all exist within the pluralist paradigm and each one just shifts or expands the entry points for excessive industry donations and influence, while creating the illusion that the citizens are participating in democratic actions and processes. The pluralism that existed in the early 19th century during Alexis de Tocqueville’s observations has become so infiltrated by the aristocrats that he warned of, that a system of corruption, capital, elite control, and false hope has completely transformed the democratic republic of the people to the increasingly less shadow corporate

government. Tocqueville could not have foreseen that after democracy progressed into an aristocracy, that the next natural step in the progression would be from aristocracy to a corporatocracy.

Miliband is aware that inequalities and the corporate influences acting in democracy cannot lead to more democracy. Rather, he suggests a “fundamental change”⁸⁰⁷ that would end “welfare state capitalism”,⁸⁰⁸ while expanding equality and democracy for the periphery, not corporations. This will be the focus of the following and concluding chapter.

⁸⁰⁷ Ralph Miliband. *Socialism for a Sceptical Age*. (London, Verso) 1994: 6.

⁸⁰⁸ Miliband (1994): 8-9.

Chapter 6

Conclusion: The Corporate Colonization of the Subsurface and the Future of a Post-Capitalist State and Post-Fossil Economy

Today's world is fast paced, consumption driven, and distracted. Outside of our daily schedules and lives, the planet around us is quickly changing regardless of the attention that we give to it. As we continue to ignore these anthropogenically caused changes, events will compound and exasperate to the degree that we can no longer force our attention to stray. We are currently in the process of the sixth mass global extinction with entire species dying off at a rate 1000 times faster than normal.⁸⁰⁹ The planet is already operating at 140% of its total capacity.⁸¹⁰ What does this mean? It means that we are already living on borrowed time, borrowed resources, and borrowed life. We have already used more resources than are available. We have surpassed the dividing line between conservation and preservation on one side, and absolute destruction on the other, all in the name of capitalism.

Meanwhile, populations continue to grow – as does domestic and global political tension, pandemics, and financial crises. These populations are dealing with the compounded weather events as well - anomalies in weather patterns causing stronger and larger hurricanes, summers of wildfires, winters of record cold temperatures and historic snowfalls, and double the number of deadly tornadoes, earlier in the year than normal. The signs of the changing planet are there, one just has to force themselves to pay attention and connect the dots.

⁸⁰⁹ Margaret Robertson. *Sustainability: Principles and Practice*. 3rd ed. (London: Routledge, 2021): 9.

⁸¹⁰ Robertson (2021): 57.

The information has been there all along, too. The changes in the weather can be read through the larger climate changes over time. The climate is constantly fluctuating, but small changes cause big issues in the overall functioning of the planetary system. Throughout Earth's existence, the climate was actually about 9°F warmer at its hottest, but this was before humans during the time of the dinosaurs.⁸¹¹ The climate was only 9°F cooler than today during the last ice age when most of the cities we know today were covered in a mile of ice.⁸¹² Human beings have enjoyed living a goldilocks story here on Earth, until the boundaries were crossed. By 2100, the average global temperature is expected to be 5.4°F-7.2°F warmer than it was at the beginning of the 20th century when the Industrial Revolution had just completed in many areas across the globe. Water scarcity has become present in areas around the planet, and the symptoms of scarcity, such as "water pollution, underground aquifer depletion, and damage to ecosystems" are already apparent in many more areas around the world – including the United States.⁸¹³

In addition to the gas and oil discussed in this dissertation, other natural resources are being harvested and collected at unprecedented rates. Every ecosystem around the world is under attack. The clearcutting of forests around the world to open land for agriculture and development is not only destroying ecosystems and habitats, but it is also eliminating the carbon sinks that work tirelessly to extract the excessive carbon out of the air. Clearing these forests re-releases the carbon into the atmosphere once the living trees are cut – or burnt. Mountain tops are removed, and ecosystems are destroyed to extract the coal stored under the surface. Fish stocks in the world's waters have been overexploited at rates so rapid that "[b]iologists calculate that if current trends continue, all the major fish stocks could be in collapse by 2050."⁸¹⁴ Industrialized agriculture has increased the food supply for

⁸¹¹ Robertson (2021): 87.

⁸¹² Robertson (2021): 87.

⁸¹³ Robertson (2021): 116.

⁸¹⁴ Robertson (2021): 146.

some to the degree that there is excessive waste, while others starve and struggle to find enough food for their families; all while dispersing genetically modified organisms (GMOs), nitrogen based chemical fertilizers, and pesticides that have wreaked havoc on waterways, ecosystems, and bodies of water around the world.

Moreover, we have been told that this is the reality for some time now. Plenty of information was written for academic communities and the general public in the 1960s and 1970s. Globally, though, the United Nations began addressing these issues in 1972 at the UN Conference on Human Environment (UNCHE) where the UN Environmental Programme (UNEP) was created. By 1972, the United States had already started the annual Earth Day celebrations and passed the National Environmental Policy Act (NEPA), expanded the presidential cabinet with the Environmental Protection Agency, enacted the Clean Air Act, banned the use of DDT, and passed the Water Pollution Control Act. Followed by many more pieces of environmental legislation in the years after 1972. The United States was on a path to be a global leader in environmental stewardship and conservation. What happened? How did we get from there to where we are today, just 50 years later?

Many would point the blame toward pluralism and corporate money in politics. They are not incorrect, as this is the most visible roadblock to accomplishing any monumental new pieces of environmental legislation. As was covered in detail throughout this dissertation, American citizens who are concerned about the quality of the environment around them or are directly affected by the negative externalities of hydraulic fracturing, have little recourse of action to have their voices heard. In the case of fracking, the executive and administrative apparatuses have all but washed their hands of anything dealing with the gas and oil industry and hydraulic fracturing, by design. The coercive apparatus only protects the interests of the gas and oil industry – whether conspicuously or in secret. The judicial apparatus is one function of the state that a citizen ought to have their claims heard, their rights protected, and should be able to claim some relief. However, this apparatus has proven to mostly

be a façade for the backroom secret negotiations that are equipped with legal protections and gag orders, or as an instrument of the industry to secure their interests overall. The sub-central state apparatus is where the voice of the periphery should be heard at its loudest. But the sound of money blocks out the citizen's voices of pain, heartache, frustration, and anger. The failures of pluralism are just a window into the larger wicked problem that exists in the shadows, behind the scenes, and beyond the boundaries: the corporatocracy.

This dissertation has worked to build on the line of Marxist state theory that looks at the control of capitalism and its effects on the state. When Miliband wrote *The State in Capitalist Society*, neoliberalism was in the beginning phases of changing the world's societies and relationships from anything that humans had experienced before – globalization. Marxist thinkers have pulled from Miliband's thought to explain the capitalist society in the state with the effects of globalization – such as Clyde W. Barrow, Jens Bartelson, and Bob Jessop; but none have considered the possibility that we might be moving toward a post-capitalist state and a post-fossil economy. Likewise, within the hydraulic fracturing literature, the possibility of state ownership of the subsurface has never been suggested. The hydraulic fracturing academic debate exists within the corporate realm of corruption, and the answers do not exist to be found – except to eliminate the corruption and make room for the people, for democracy. As this dissertation is a call for action, it must be a work that is accessible by the people. To this end, I pulled from Miliband's organization of the state in order to explain the dysfunction of the capitalist state that is controlled by the money of the capitalist elite, later identified as the corporatocracy, throughout every apparatus of the state machine.

The first and introductory chapter of this dissertation laid the foundation of knowledge necessary to understand the process, issues, the general role of the state and government related to hydraulic fracturing. This information is critical in order to effectively understand the depths of the colonization and destruction of the subsurface and natural resources that was referred to throughout

the work. Chapter 2 introduced the political thought behind the arguments, viewpoints, and suggested solutions contained within this dissertation. Opening with an explanation of the evolution of pluralism in America and the growing number of critiques of pluralism and capitalism that were raised with the growth of the capitalist power elite, through the dawning of neoliberalism, and on the other side of the new imperialism of globalization; Chapter 2 explored the ways in which democracy has been decreased, or even eliminated altogether. Building to the base of this dissertation, the chapter also introduced the state as conceived by Ralph Miliband and other Left thinkers. Finally, Chapter 2 introduced the case study of hydraulic fracturing and the capitalist state, which is the bulk of this dissertation.

The following three chapters contained the hydraulic fracturing case study, which utilized the organizational structure of Ralph Miliband's state to explore the various apparatuses and their involvement with the gas and oil capitalist elites in the United States. Chapter 3 explored the executive, administrative, and coercive apparatuses. The chapter began with an explanation of the physical, spatial state in order to explain the concept of split estate – the legal concept that stratifies the spatial state into federal land and private land. It is this concept which creates the subsurface, and thereby places value on the subterranean property contributing to the opening of a new underground shale frontier. The chapter then reviews the effects of the gas and oil elite, driven by greed and campaign contributions, and their effects on the ideological state – the executive, administrative, and coercive apparatuses. Chapter 4 looked at the judicial apparatus, where the people hope to find some protections from the law, only to find that the protections for corporations and resource depletion exist, and the courts do not provide much of a route for recourse and redemption for the citizens of the United States. The final chapter of the case study reviews the largest apparatus within the issue area of hydraulic fracturing, the sub-central states. Here is where the locus of power is currently sanctioned by declaration of the federal Energy Policy Act of 2005 and the Halliburton Loophole found within. This is also the location of the periphery: the people. Deterred from taking their grievances to the courts, the

people use their democratically given powers to vote for moratoriums and bans, only for the corporatocracy to overrule these decisions made by the people. For most people in shale states, their representatives have already been captured by the industry, so these *representatives* are not a path for recourse either.

21st Century Tyranny: The Rule by Corporations

Economic hit men (EHMs) are highly paid professionals who cheat countries around the globe out of trillions of dollars. They funnel money from the World Bank, the U.S. Agency for International Development (USAID), and other foreign “aid” organizations into the coffers of huge corporations and the pockets of a few wealthy families who control the planet’s natural resources. Their tools include fraudulent financial reports, rigged elections, payoffs, extortion, sex, and murder. They play a game as old as empire, but one that has taken on new and terrifying dimensions during this time of globalization. I should know; I was an EHM.

- John Perkins⁸¹⁵

John Perkins coined the phrase corporatocracy to explain the corporate dominance and control of the planet, of which he imposed and experienced firsthand as a former economic hit man. He explains that a corporatocracy “refers to the powerful group of people who run the world’s biggest corporations, the most powerful governments, and history’s first truly global empire.”⁸¹⁶ This new type of global governance includes the converging of “corporations, banks, the media, supranational regulators, controlled governments, parliaments, special services, etc.,” who accumulate power in order to accomplish global “severe exploitation of countries’ national resources (labour, natural, etc.) for the corporation’s benefit, the constant expansion of territories and spheres of influence, and maximization of various forms of profit-making.”⁸¹⁷ Corporatocracy has developed as a “political manifestation of

⁸¹⁵ Ravi Bhandari. “Rise of the Global Corporatocracy: An Interview with John Perkins.” *Monthly Review*. (March 2013): 34.

⁸¹⁶ Bhandari (2013): 35.

⁸¹⁷ Mykola Kovalenko, Dmytro Zuiz, Olena Smihunova, Natlia Bondar, and Halina Omelchenko. “Implementation of State Economic Policy under Corporatocracy: Financial and Credit Aspect.” *Public Policy and Administration*. 19, No. 3 (2020): 40.

neoliberalism.”⁸¹⁸ The threat of corporatocracy lies in the ideology of the “primacy of property rights over human rights” while working to expand the rights of corporations and determining “how resources will be used, by whom, and to what ends.”⁸¹⁹ Further compounding this issue, is that “nations are not all that important. We have moved from religious organizations ruling the world to different types of governments to now multinational corporations that rule the world. Nowhere is this more evident than the United States where no one is elected into a high-ranking position until they receive large support from these multinationals.”⁸²⁰

John Perkins has suggested that shrinking the government, rather than expanding it through new agencies in the bureaucracy or cabinet, lends itself to the formation of this “new brand of corporate imperialism.”⁸²¹ A shrinking of government, a slashing of red tape, a decrease in the bureaucracy, the defunding of agencies, departments, and programs all lead to less regulations, less oversight, and more freedom. But freedom for who? Former President Donald Trump cut more regulations and decreased the staffing of cabinet level departments more than any president in history. After signing the executive order named “Reducing Regulation and Controlling Regulatory Costs”, the Trump cuts have been deemed as “unprecedented” and “unparalleled”, with over \$50 billion in decreased costs.⁸²² The presidential directive was enacted in practice through the elimination of two existing rules for each new regulation written.⁸²³ Why would Trump, a businessman, be so interested in cutting existing regulations? Perkins argues that it is rooted in the idea of predatory capitalism, and it

⁸¹⁸ Christine E. Sleeter. “Teaching for Democracy in an Age of Corporatocracy.” *Teachers College Record*. 110, No. 1 (2008): 139.

⁸¹⁹ Sleeter (2008): 144.

⁸²⁰ Bhandari (2013): 40.

⁸²¹ Bhandari (2013): 37.

⁸²² Clyde Wayne Crews, Jr. “Donald Trump Showcases Four Years of Red Tape Reduction at White House Event.” *Forbes.com* (July 20, 2020) <https://www.forbes.com/sites/waynecrews/2020/07/20/donald-trump-showcases-four-years-of-red-tape-reduction-at-white-house-event/?sh=44fc055277b4>.

⁸²³ Crews, Jr. (2020).

has been practiced by every US president since Ronald Reagan.⁸²⁴ The concept of predatory capitalism is that people and nations can be controlled through debt. The idea was embraced by both parties, the leading corporations in the world, and multinationals to the extent that “they have highly paid lobbyists and others to make sure that laws are written in a way that will support the goal of maximizing profits regardless of the social and environmental costs.”⁸²⁵ In a society with so many polarizations and so much hate, how can that many people truly come together to work out such a solid and powerful plan without the entire world knowing? Capital. Money. Greed. Perkins argues that these ultimate capitalist elites “have been able to control politicians and the laws they implement, legally, and they achieve this through campaign financing.”⁸²⁶ Why would a group of people, ultimately, be willing to accomplish such a selfish plan that would destroy an entire planet and its people? John Perkins argues that these capitalist elites “are people to whom nations are as meaningless as they are to the global corporations and to the international aristocracy that they serve.”⁸²⁷

Corporatocracy and the Broken Democratic System

The financial effects to our electoral system with the US Supreme Court’s 2010 opinion in *Citizens United* exasperated an already broken system. It was the floodgate that allowed the capitalist elite’s plans of global governance to proceed. Politicians would be chosen, funded, and personally selected despite election outcomes, to rule over key decisionmaking positions throughout the government of the United States. Corporatocracy presents a crisis of democracy. In fact, it dissolves legitimate democracy into a memory, as the people wonder why government is inefficient, why it is not addressing the needs of the people, and why it is not working anymore. The division of power between opposing interest groups has grown so wide, there is not a seat at the table for any groups that do not

⁸²⁴ Bhandari (2013): 37.

⁸²⁵ Bhandari (2013): 37.

⁸²⁶ Bhandari (2013): 38.

⁸²⁷ Bhandari (2013): 34.

support the overall growth of the corporatocracy. People feel the government is not working for them, leading to low political efficacy, while political apathy also grows. Even where millennial involvement in elections is expected to be high, disenfranchisement is also high. In reality, it feels like a game that is hostile, polarized, and rigged.

The idea of corporatocracy is not new. It is a neologism, however, for corporatism and the various versions found within the academic literature. Sheldon S. Wolin considers it as a state of inverted totalitarianism. For Wolin, inverted totalitarianism “represents the *political* coming of age of corporate power and the *political* demobilization of the citizenry.”⁸²⁸ Unlike the totalitarianism known in history, such as Nazi Germany, Mussolini’s Italy, or Russia ruled under bureaucratic communism, Wolin explains that inverted totalitarianism within the United States, rather, exploits “the authority and resources of the state, gains its dynamic by combining with other forms of power, such as evangelical religions, and most notably by encouraging a symbiotic relationship between traditional government and the system of “private” governance represented by the modern business corporation.”⁸²⁹ In other words, the domination of society comes through American society’s unrelentless devotion to, or our repulsed reliance on, corporate consumption. Wolin further explains that inverted totalitarianism’s tactic is to create division and “promoted predomination” wherein various interests combine to dominate in power, such as “corporate capital, the very rich, small business associations, large media organizations, evangelical Protestant leaders, and the Catholic hierarchy.”⁸³⁰ The reality of the situation, for many, is obscured by the translation of inverted totalitarianism in society – managed democracy, the “smiley face of inverted totalitarianism.”⁸³¹ For Wolin, this systemization of democracy has “centered on containing electoral politics” while being cool or “even hostile toward social democracy beyond

⁸²⁸ Sheldon S. Wolin. *Democracy Incorporated: Managed Democracy and the Specter of Inverted Totalitarianism*. New Edition (Princeton UP: Princeton), 2017: xviii. Italics in original.

⁸²⁹ Wolin (2017): xxi.

⁸³⁰ Wolin (2017): 185.

⁸³¹ Wolin (2017): xxiv.

promoting literacy, job training, and other essentials for a society struggling to survive in the global economy.”⁸³² Wolin suggests the starting point for rescuing democracy from inverted totalitarianism is to break the privatization of the media, reclaim the airwaves to the ownership of the people, and promote the broadcasting of non-commercial media.⁸³³

Ralph Miliband, however, argues that society must go much further than that to even begin to solve the issues of corporate elite control and domination. In *Socialism for a Sceptical Age*, Miliband argues that we need a “fundamental recasting of social order”.⁸³⁴ Miliband argues for a social democracy that is not an alternative to modern day capitalism, but rather, something that “represents both an *extension* of capitalist democracy and a *transcendence* of it.”⁸³⁵ In explaining his personal conception of social democracy, he clarifies what socialism is not. First and foremost, socialism is not the historical Communist regimes with a centralized economy, state planning, with a “cult of personality” who maintains a “monopoly of power in political life and beyond it throughout society” which “sought to stifle and suppress all manifestations of life that could not be closely controlled by the Party and the state.”⁸³⁶ Nor is Miliband’s social democracy akin to Joseph Schumpeter’s institutional or “Centralist Socialism” that is defined with production under the control of the central authority, or state.⁸³⁷ The social democracy that Miliband envisions has three primary pillars – “democracy, egalitarianism, and socialization of a predominant part of the economy.”⁸³⁸ Democracy would expand beyond the act of voting in central elections, where there would be universal suffrage that would extend to “all aspects of the social order.”⁸³⁹ An egalitarian society would eliminate the inequalities which permeate today’s

⁸³² Wolin (2017): 47.

⁸³³ Wolin (2017): 291-292.

⁸³⁴ Ralph Miliband. *Socialism for a Sceptical Age*. (London: Verso), 1994: 1-2.

⁸³⁵ Miliband (1994): 68-69. Italics in original.

⁸³⁶ Miliband (1994): 46-47.

⁸³⁷ Miliband (1994): 51.

⁸³⁸ Miliband (1994): 51.

⁸³⁹ Miliband (1994): 52.

society, dividing those “on the grounds of income, wealth, power and opportunities.”⁸⁴⁰ The third pillar, the socialization of the economy, will facilitate an equality of condition which will usher in “true citizenship” for the people.⁸⁴¹

Yet, in order to attain this condition of social democracy, Miliband does concede that a strong government must initially exist to thwart off the threat of neoliberal takeover, and that this “need, regrettably, would remain for a long period of time.”⁸⁴² A strong government, though, does not necessarily translate to a strong leader, as Miliband’s state would still maintain a separation of powers, but with the courts having less power of judicial review than exists today in the United States.⁸⁴³ Like in US federalism, there would be devolution to the sub-central government, but with a sense of “collective leadership”.⁸⁴⁴ There would still be a legislature that would pass decisions upward to the central leader – president, prime minister, etc. – but it would be more representative of the people’s democratic choices and it would be reduced to a unicameral body.⁸⁴⁵ Miliband’s strong government would also be highly involved in the intervention of the economy to successfully transfer private industries into the public domain.⁸⁴⁶ The economy would be divided into three areas – the public, cooperative, and private sectors – all of which would be held under different levels of democratic control. Like Wolin, freedom of a free press is critical for Miliband, as he proposes a specific and detailed vision of a new media regime that mirrors the restructuring of the economy, and would contain a public, cooperative, and private sector of media outlets with strict controls against monopolies, thereby freeing the “media from the capitalist fetters”.⁸⁴⁷

⁸⁴⁰ Miliband (1994): 54.

⁸⁴¹ Miliband (1994): 55.

⁸⁴² Miliband (1994): 74.

⁸⁴³ Miliband (1994): 76.

⁸⁴⁴ Miliband (1994): 81.

⁸⁴⁵ Miliband (1994): 83.

⁸⁴⁶ Miliband (1994): 99.

⁸⁴⁷ Miliband (1994): 95.

Miliband recognizes three challenges to the creation of a socialist democracy and the optimism required to maintain it, specifically in the United States. The first of which is the overall sentiment of socialism, in light of the 20th century communist regimes that were described as socialist that were “at best a total deformation of socialism and at worst its total repudiation.”⁸⁴⁸ The second challenge for socialism is the “iron law of oligarchy” and the argument that “in any organization, power will inevitably come to be concentrated in relatively few hands; and that those who enjoy this power will want to keep and enlarge it, and use all the resources at their disposal to fend off any challenge to their predominance.”⁸⁴⁹ The third challenge to “socialist optimism” is the ideology that has “made its way to the top of the political agenda in recent decades, namely a ‘neo-Malthusian’ reading of the ecological dangers which threaten humankind.”⁸⁵⁰ Miliband does not deny that there are ecological dangers that threaten humanity, however, he tends to disagree that the climate issues are uncontrollable by humans and feels that socialists should take issue with this. Importantly, Miliband does see how capitalism and the need to consistently increase profit is the main driver for “ecological vandalism.”⁸⁵¹ Miliband recognizes that socialists and ecosocialists are striving for the same end, yet he does not feel that socialism can provide an immediate fix to the environmental issues. Rather, he considers this feat to be “for the long term.”⁸⁵²

Ecosocialists of all varieties would disagree with Miliband that ecosocialism presents a *challenge* to the ideology, instead, it is more of an evolution, or paradigm shift, of socialism where it “retains the emancipatory goals of first-epoch socialism, and rejects both the attenuated, reformist aims of socialist democracy and the productivist structures of the bureaucratic variations of socialism.”⁸⁵³ The basic

⁸⁴⁸ Miliband (1994): 57.

⁸⁴⁹ Miliband (1994): 62-63.

⁸⁵⁰ Miliband (1994): 64.

⁸⁵¹ Miliband (1994): 64.

⁸⁵² Miliband (1994):65.

⁸⁵³ Michael Lowy. *Ecosocialism: A Radical Alternative to Capitalist Catastrophe*. (Chicago: Haymarket Books), 2015: 81.

argument of the limits to growth discourse is simply that “exponential growth cannot go on forever in a finite system”,⁸⁵⁴ which is in direct conflict with the requirement for consistent growth in capitalism and neo-liberal economics. Where Miliband’s socialism is “an *extension* of capitalist democracy and a *transcendence* of it”,⁸⁵⁵ the ecosocialist conception explained by Michael Lowy, is a denial of the capitalist system with the goal of transforming “needs and a profound shift toward the qualitative dimension and away from the quantitative.”⁸⁵⁶ In other words, goods and other items should be valued at the level of use, rather than the value of exchange as the capitalist system relies on. Like Miliband’s socialist vision, Lowy’s ecosocialism also describes a life of democracy and egalitarianism but denounces the market economy that Miliband hopes to adapt and transcend from. It is critical for Lowy, as with all ecosocialists, that the present form of production and consumption in society must cease, as “[c]ompulsive consumption is one of the essential driving forces for the process of expansion and unlimited “growth” that have always characterized modern capitalism and now are driving us, with ever-increasing speed, toward the abyss of global warming.”⁸⁵⁷ Although many ecosocialists present ideal conditions in their notions of ecotopia, there is a noticeable absence of discussion regarding *how* this egalitarian and democratic ecosocialism will arise.

Michael J. Albert raises this issue in charging the ecosocialist thinkers with devoting “rarely little attention to the questions of strategy, such as: how might ecosocialist transitions take place? What are the challenges, trade-offs, and risks they would likely confront? And how should ecosocialists and allied movements best strategize to navigate them?”.⁸⁵⁸ In an attempt to fill this void in the literature, Albert combines the ideas of ecosocialism and degrowth to explore a “realist utopian” approach to usher in the

⁸⁵⁴ John S. Dryzek. *The Politics of the Earth: Environmental Discourses*. 3rd ed. (Oxford: Oxford University Press), 2013: 31.

⁸⁵⁵ Miliband (1994): 68-69. Italics in original.

⁸⁵⁶ Lowy (2015): 81.

⁸⁵⁷ Lowy (2015): 49.

⁸⁵⁸ Michael J. Albert. “Ecosocialism for Realists: Transitions, Trade-Offs, and Authoritarian Dangers.” *Capitalism Nature Socialism*. 34, no. 1 (2023): 12.

new ecosocialist age.⁸⁵⁹ The theory of degrowth “calls for the social and economic organization to be based on ecological sustainability and social justice, instead of the dictate of the market.”⁸⁶⁰ Albert combines the Green New Deal (GND) with ecosocialism to present three possible scenarios and outcomes to this collaboration to suggest the possible risk that once an ecosocialist regime has been elected into political power, in the face of “unprecedented climate-energy-economic crises [the regime] may be forced down an authoritarian path in order to enforce carbon rationing, enact rapid and far-reaching transformations in land-use, break through the gridlock of dysfunctional and polarized legislatures, and defend themselves against violence and sabotage from capitalist elites and the far-right.”⁸⁶¹ Herein is where the disconnect of eco- and -socialism exists.

In denouncing the socialists of earlier times due to their drive for productivism, excluding the voices of Marx and Engels, the ecosocialists have disregarded those who have mapped out the pathway to the socialist utopia in the past – whether that vision was eco or not. Albert argues that no one has assessed the risks, but Ralph Miliband alerted the socialists of the risks, dangers, and options that states will face decades ago. While Miliband paints a hollow vision of what the socialist utopia will look like *after* it has been created, he is very clear and detailed in the risks that any socialist order will face during and in the immediate aftermath of the transition of power, in *Socialism for a Sceptical Age*. Miliband recognizes that the moment a socialist government is democratically elected into a position of executive power, the opposing party or parties “would increasingly resort to violence and thus create conditions approximating to civil war; and the further danger is that they would find allies in the state apparatus

⁸⁵⁹ Albert (2023): 12.

⁸⁶⁰ Ekaterina Chertkovskaya and Alexander Paulsson. “Countering Corporate Violence: Degrowth, Ecosocialism and Organising beyond the Destructive Forces of Capitalism.” Special Issue: Theoretical Perspectives on Organizations and Organizing in a Post Growth Era. *Organization* 28, no. 3 (2021): 415. There is a coupling of degrowth and ecosocialism through a portion of the ecosocialist literature. This is partially due to the realization that both schools of thought strive for the same general ends and should therefore join forces. Yet, the two ideologies clash on many topics, tactics, and methods overall. These points would need to be reconciled to be effective for the separate ideologies to become more cohesive.

⁸⁶¹ Albert (2023): 23.

and among conservative politicians hitherto committed to constitutionalism.”⁸⁶² In order to subvert this neo-fascist attempt to rise into power, it would be necessary, Miliband suggests, and “it would be right for a socialist government to involve emergency powers and suspend the normal workings of institutions until civil peace had been restored.”⁸⁶³ Further, Miliband explains that with the rise of democratic organizations, there is the danger of oligarchy arising within. He explains that only participatory, democratic, accountable, and effective decisionmaking processes within each institution and organization will prevent the oligarchies from taking over.⁸⁶⁴ With the ending of the capitalist market and with de-privatization, Miliband warns that any socialist government will need to “decide how to deal with the issue of compensation to shareholders for firms taken into public ownership.”⁸⁶⁵

Regardless of how thoughtful and careful any new socialist government is while traversing their way through the political landscape, whatever policymaking decisions are made, “its measures would be certain to produce strong internal opposition, and also opposition of an even more formidable character from governments committed to neo-liberal policies, and from international institutions like the IMF, the World Bank, the European Commission and other international institutions, for all of which economic interventionism and socialization constitute mortal sins.”⁸⁶⁶ He further warns that even when a new socialist government may seem to have everything under control, many on the Left have failed to accurately account for the “structure of power in capitalist democratic regimes, and the lengths to which people will go in order to preserve it.”⁸⁶⁷ There should be high expectations that many media outlets will be critical of the new socialist government as well. It is important to note the risks and dangers to a new socialist government do not only exist externally to the government. Opponents of the

⁸⁶² Miliband (1994): 86.

⁸⁶³ Miliband (1994): 86.

⁸⁶⁴ Miliband (1994): 90-91.

⁸⁶⁵ Miliband (1994): 109.

⁸⁶⁶ Miliband (1994): 110.

⁸⁶⁷ Miliband (1994): 163.

new socialist regime would likely still persist within the existing government itself, the most dangerous being within the judiciary, military, and intelligence communities. These entities could find the socialist regime's policies – including emergency measures – to be in conflict with the national interest and could combat the new government.⁸⁶⁸ Miliband goes into detail regarding the creation of a new judiciary to alleviate these risks. Ultimately, his insights from lived experience with historical communism has provided him with the foundational knowledge for the -socialist part of ecosocialism. While many ecosocialist focus on the eco-, Miliband can supplement this information with the -socialist.

Make the State Relevant Again

Regardless of whether or not there is a corporatocracy attempting to subvert the world, or just the state, there is a tension between what is and what might be. We are at a juncture between history and the future. We can continue our path and blindly allow the corporations to take over, more than they already have; or we can come together as the mass of citizens that we are to demand a change. If we value democracy, freedom, our rights, our families, and our daily lives – we must stand up against the corporatocracy.

We need to make democracy relevant again. The two primary routes people interact with the government are voting and through lobbying. Americans must use other forms of democracy as well – the ones that do not require large sums of money to have a voice, the ones that we can accomplish in our daily schedules, the ones that do not have much of a cost compared to the potential benefit, and the ones that have been forgotten about. We need to demand that *Citizens United* be overturned. Every American should write their representatives, write the leaders of Congress and the executive, write to their local media, and write on social media to get corporate money out of politics. An amendment must be added to the Constitution that ends corporate investments in politicians and parties. The American

⁸⁶⁸ Miliband (1994): 170.

people must overcome the polarization and let the government know that we will only elect politicians who agree to work for the people and not the corporations. Corporate personhood is a farce, by allowing the corporations to have a voice, certain people get more than one vote. If corporations are simply associations of people, those people have more of a say and their vote counts more than others who are not a part of that association, due to influence alone. That is not democracy, that is corporatocracy, and it cannot be allowed to continue in its corruption and violations of the will of the people. For this reason, when *Citizens United* is overturned, so too should be *Santa Clara County v. Southern Pacific Rail Road* overturned, as this case granted corporations the same rights as humans under the 14th Amendment in 1886, the dawn of America's industrial revolution, and 50 years after Tocqueville witnessed American associations and issued his warnings of Aristocracy.⁸⁶⁹ Once these are repealed, democracy will become less hampered by corporate domination, and we can focus on other changes that must occur. Beginning with the gas and oil industry.

The Future of Gas and Oil in the United States

A decision must be made. Do we allow a dying industry to continue to control the politics and politicians in this country, or do we finally put an end to the destruction, corruption, and lies and move on with all of our lives? We are on the brink of a post-oil society and economy. Fossil fuels are becoming a way of the past, and the United States needs to break that attachment and reliance on the gas and oil industry. The most drastic solution, and what needs to be accomplished, is the end of the corporate colonization of the subsurface. With the federal power of eminent domain and actual state power, the government needs to reclaim control and possession of the subsurface. If corporatocracy is corporate control and depletion of resources, then that is an act of aggression on the state and its peoples, and it

⁸⁶⁹ *Santa Clara County v. Southern Pacific Rail Road*, 118 U.S. 394 (1886).

must be contained. As climate stability requires this, and has for decades – state control, conservation, rehabilitation, and preservation of resources is necessary.

With the absence of corporate funding in politics, this could be accomplished more easily and more expediently than incremental changes that are not satisfactory solutions in this rapidly changing environment. The other, slower, less authoritarian or less communist route to achieving this goal would be to end the government subsidies of hydraulic fracturing. Fracking would not have been able to exist without the assistance from the US government. It has been said that “fracking is the poster child of the corporate welfare state.”⁸⁷⁰ According to Gage Counts and Walter E. Block in 2016, the government had already spent nearly \$500 billion to invest in the startup costs and maintenance of hydraulic fracturing, which is fraught with risky and speculative investments.⁸⁷¹

The alternatives already exist and can be transitioned to without the hurdles of corporate political dominance and working together as a nation. Like the Green New Deal analyzed by Albert, many programs have been suggested to accomplish this great task of modernizing the infrastructure in this country through state owned green energy and green state planning, such as the Works Green Administration proposed by former US Representative Dennis Kucinich. Similar to Franklin Delano Roosevelt’s Works Progress Administration from the New Deal, Kucinich’s WGA would not only employ millions of Americans, but Americans would be personally contributing to the rebuilding of a green America. Again, the alternatives already exist, but the infrastructure is not complete. According to some reports, a global conversion to renewable energy could be nearly complete within about 20 years.⁸⁷² The energy exists as the “sun strikes the planet with more energy in a single hour than humans consume in a

⁸⁷⁰ Gage Counts and Walter E Block. “Fracking: A Creature of Government?” *Energy & Environment*. 27, no. 8 (2016): 936.

⁸⁷¹ Counts and Block (2016): 936.

⁸⁷² Mark Z. Jacobson and Mark A. Delucchi. “Providing all global energy with wind, water, and solar power, Part 1: Technologies, energy resources, quantities and areas of infrastructure, and materials.” *Energy Policy*. 39 (2011).

year”,⁸⁷³ we just need the infrastructure to distribute it and the brilliant innovation to continually enhance the power that we harness from the sun, the wind, and the water. Technologies have made solar as easy to install as a new window, or a shingle roof.

The spatial state determines the physical boundaries, but the environment should determine the structure within. The structure of the landscape and the systems functioning across that landscape will shape regional boundaries within the state. These regional boundaries would be shaped with the watershed basins, to properly manage the water resources and distribution to the people within. These regions are not new, however, as watershed management in the United States already functions through these divisions. There are government entities already governing the watershed districts throughout the United States. The environment and the structure of the spatial state have preexisting boundary agreements; society, government, and the economy should realign into these divisions. Bioregional organization of the environment must occur for Americans to become reacquainted with the nature that we are a part of. The alienation of humans and nature must end. A reintegration must occur in order to build those bonds of place which increase stewardship, respect, and care. These are all the necessary components that lead to sustainability, rehabilitation, and preservation.

The future of gas and oil in the United States and around the world is bleak, fading, and antiquated. It is time to move on from the addiction to the gooey remains of dead plankton. There are other ways to achieve even better results, that do not equate to scraping the last remnants of brownie batter from the bowl, or the subsurface in this case.

⁸⁷³ Andreas Malm. *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. (London: Verso), 2016: 367.

Conclusion: Miliband and the Post-Capitalist State in a Post-Fossil Economy

The state's relevance absolutely remains, as it is the superstructure, the machine, and the spatial boundaries that surround and protect the base of the interior within. Corporations cannot determine the shape of physical human organization, it is only the government of the state with the mutual assistance from the people within, that can reshape and reorganize the future of American society and state. Restricting the capitalist elite's influence and capture of government and severing the relationships between, would bring the demos – the periphery – the people, back into the state.

The lack of true and meaningful participation of the people in government is at the root of the Marxist complaints of governmental structures. The core cause is not the capitalists. It is not the special interests in pluralism, it is not the campaign contributions and careful placement of business-friendly politicians, and it is not the fact that the corporatocracy can outspend the people. The primary reason these issues have persisted throughout time is because of us, and the permissions granted to the government to allow this corruption, predominance, and capture of the people's government by capitalists. The people have held the power all along, the people have the tools – they just do not know how to use them properly and are lacking the confidence to try. It is time to try. It is time to solve the problem of Marxism. The revolution does not have to be bloody, the revolution does not have to be violent, and the revolution does not have to require entirely new tools. The revolution requires a new way of thinking, a new way of acting, and a new way of building a community, a government, and an economy based on what is right. We must build from what we already have, develop what we need, and work to build a better world for us and the future of the planet. It is based on mutual assistance, cooperation, and place; not domination, corporation, and depletion of natural resources. It must begin with overturning such ridiculous capitalist ideologies set into law, like corporate personhood, by amending the laws accordingly. The government must then reclaim the spatial state to end the

corporate colonization of the subsurface. Only then can the process of conservation, rehabilitation, and preservation begin.

Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.

- Aldo Leopold⁸⁷⁴

⁸⁷⁴ Aldo Leopold. *A Sand County Almanac: and Sketches Here and There*. (London: Oxford UP), 1949: 224-225.

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Chapter 2 - Ralph Miliband, the Critique of Pluralism, and the State Under Capitalism

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- Chapter 6 - Conclusion: The Corporate Colonization of the Subsurface and the Future of a Post-Capitalist State Post-Fossil Economy**
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