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An Exploration into Extraction:  
a Comparative Institutional Analysis of Anthracite Coal Mining  
and Natural Gas Drilling in Northeastern Pennsylvania

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## ABSTRACT

Natural resource extraction has dominated the development of Pennsylvania since the founding of the Commonwealth. Yet little research exists to examine the impacts of social, political, legal, and economic institutions on extractive industries, and the effects on people, communities, and the environment. This inquiry examines how the nexus of political, social, and economic institutions have both influenced and been influenced by the prevalence of natural resource extraction throughout the history of Pennsylvania, specifically focusing on northeastern Pennsylvania. This paper will seek to gain insights into Pennsylvania's past and future through a comparative analysis of anthracite coal mining and natural gas drilling in the hopes of minimizing poor future decisions concerning Marcellus Shale.

This paper examines and analyzes the impacts of institutions on natural resource extraction, people, communities, and the economy by exploring the theory and methods of Schmid, Tan, Hurst, Boulding, and Gaventa; analyzing what we have learned about the relationship between institutions, natural resource extraction, and development from coal mining in Northeastern Pennsylvania; analyzing the current institutional relationships that are exhibited by the natural gas industry; and drawing implications of these findings for the extraction of natural gas, mainly in Pennsylvania, but also for the United States.

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## Chapter 1

### Thesis Introduction

*From Anthracite Coal to Marcellus Shale-  
The Nexus of Institutions, Natural Resource Extraction,  
and Development in Northeastern Pennsylvania*

-“Penn’s Woods”- even the origin of Pennsylvania’s name alludes to the ties the Commonwealth has had to its natural resources from its beginnings. Starting with timber and continuing today with natural gas, Pennsylvania and its political, social, legal, and economic institutions are deeply linked to natural resources and their uses. This inquiry examines how political, social, and economic institutions have both influenced and been influenced by the prevalence of natural resource extraction throughout the history of Pennsylvania, specifically in northeastern Pennsylvania.

Northeastern Pennsylvania has a long history of significant dependence on natural resource extraction as the central function of the region's economic development. In the nineteenth century, the hills of northeastern Pennsylvania were dominated by the anthracite coal industry. Coal mining subjugated the landscape of the western and eastern parts of the state. It dominated how Pennsylvanians viewed themselves and their landscapes as well as influenced political and social institutions from law enforcement to environmental regulations to unions to self-identity.

Today, much of this land area is dominated by the Marcellus Shale natural gas industry, which in turn affects extraction and development. Through historical research and literature

analysis, this inquiry seeks to understand the region's institutions and how these affected the development of the region, and examines whether any of these institutions continue to affect the extraction of natural gas today. Social, political, religious, legal, and corporate institutions have influenced natural resource extraction, while simultaneously extraction has influenced these institutions. Specifically analyzing these institutions, their recursive relationship, and their role in the development of the anthracite coal industry will help us understand the region and its past, and inform our thinking regarding the future. The region is rich with history found in its schools, churches, peoples, culture, economic opportunities, and community narratives, which have all been influenced in some way by coal mining. With the current focus on the fracking of Marcellus Shale, I feel it is critical to explore the region's past before any further major decisions about the natural gas industry are made that could impact the state's local communities and environments for many years.

This topic is especially important as the Marcellus Shale industry continues to rapidly develop. According to [explorePAhistory.com](http://explorePAhistory.com),

“At the end of the twentieth century, Pennsylvania led the nation in toxic discharges into its surface water, had the worst acid rain problem in the nation, and was the nation's largest importer of municipal waste. The state was second in the number of Superfund toxic waste sites, rate of suburban sprawl and toxic air emissions from coal mining and processing; third in toxic air emissions from coal, oil and electrical utilities; and fourth in the release of toxic chemicals from manufacturing. Pennsylvania had one-third of all abandoned mine-related problems in the country, and as many as one-third of the state's 83,000 miles of flowing water were still polluted by acid mine drainage, sewage, agricultural runoff and storm-water runoff.” (Pennsylvanians and the Environment, 2002)

The state has yet to fully recover from the damage from past extractions of environmental resources, and we do not have a clear indication of the future impacts as we dive headfirst into natural gas drilling. One of the purposes of this paper will be to gain insights into Pennsylvania's

past through anthracite coal mining to prevent making similar mistakes in the future with the natural gas drilling of Marcellus Shale.

### Extraction of Natural Resources in Pennsylvania

Pennsylvania is a state rich with natural resources. From the time of its founding, the settlers of the Commonwealth have economically benefitted from using the area's seemingly abundant natural wealth. While this inquiry will focus on the anthracite coal and natural gas industries, it is important to provide a brief overview of the other natural resource industries that have had a great impact on the Commonwealth's economy throughout its history. This history serves as a reminder that anthracite coal and natural gas are not the only resources that have played a key role in Pennsylvania's history and economy. Having some context of what these resources are will enhance the overall understanding of the Commonwealth and its people's development. These resources include our forests, oil, bituminous coal, anthracite coal, and natural gas. This paper will explore these resources chronologically, beginning with timber, the earliest resource extracted.

#### **Timber**

When Pennsylvania was first settled in 1682 by William Penn over ninety percent of twenty million acres of land was covered by forests. These forests were rich in trees of white pine, Eastern hemlock, and mixed hardwoods. Pennsylvania would prove to be ideal for foresting due to the Delaware, Schuylkill, and Susquehanna rivers and their tributaries running across the landscape. Timber could float down the rivers to the major harbors of Philadelphia and Baltimore. Williamsport, PA, strategically located on the Susquehanna River, operated 29 sawmills and was known as the lumber capital of the world. By 1880, logging had become a highly commercialized

process. By 1920, the seemingly endless forests that dominated the Pennsylvania landscape were no more. Loggers moved west leaving behind a devastated landscape (Timber, 2008).

### **Oil**

In today's global economy, when we consider oil, its importance, and its location, we often think of the Middle East or Texas or Alaska, but until the East Texas oil boom in 1901, Pennsylvania produced half of the world's oil. One of the first successful oil drills was built in 1859 in Titusville, a town in north central Pennsylvania. The spot was chosen due to the many active oil seeps in the area. The first successful well was about seventy feet deep and it only produced about twenty barrels a day, but this success led to a gold rush like boom to region with hundreds of people migrating to the era (The Story of Oil in Pennsylvania, 2011). After this initial oil rush, drilling companies moved west to extract oil in the United States.

### **Coal**

While oil may not immediately conjure up pictures of Pennsylvania and its resources, coal certainly does. Bituminous coal began to be mined in western Pennsylvania in the early nineteenth century. Anthracite coal was first mined in the eastern part of the state in 1807. Anthracite coal was used as a home heating source, it was utilized for its "cleaner" burn than the bituminous coal found in the western region of the state (Brubaker, 2002). Anthracite production peaked in 1917 when it produced 100.17 million tons (Schultz, 1999). Currently, millions of tons remain under Pennsylvania's surface, but technological advancements are needed to reach these layers (Edmunds, 2002).

### **Natural Gas**

Marcellus Shale represents the modern continuation of natural resource extraction, and the drilling of the natural gas is occurring throughout the northern and western parts of the state.



While drilling has occurred in Pennsylvania throughout its history, it has become the focus of much public debate with the advent of the drilling of natural gas in the Marcellus Shale. It has renewed discussion among land owners, company owners, politicians, educators, environmentalists, and community developers. Drilling of the Marcellus Shale is done through directional drilling or hydraulic fracking. Marcellus wells are located in fourteen counties across the state, and there are over 450 wells across the state (Marcellus Shale, 2011). Further explanation and exploration of the Marcellus Shale industry and its impact on the social, political, economic, and legal institutions will be explored later in this paper.

### Introduction to Institutions

The extraction of natural resources in Pennsylvania was not only the result of adventurous entrepreneurs realizing money could be made from the land, but it was also influenced by what is referred to in this thesis as *institutions*. For this inquiry, the term institution is used somewhat differently than it is used in everyday language. Allan Schmid defines institutions as "human relationships that structure opportunities via constraints and enablement. A constraint on one person is an opportunity for another. Institutions enable individuals to do what they cannot do alone" (Schmid, 2004, p. 1). Institutions in this sense are different than organizations. An organization involves two or more people within a system. "An organization is a means for collective action for individual members within a boundary" (Schmid, 2004, p. 75). Often, what is often referred to as institutions, Schmid would refer to as organizations. Organizations are formed by groups of people in a structured system. Institutions are the norms, values, beliefs, and laws that structure this system. These understandings will inform and structure the analysis. Investigating the roles institutions have played can help shed light on the nature of the power relationship between powerful businessmen, such as natural gas executives

and coal barons, and the politicians and bureaucrats who shaped and implemented these public institutions that were historically dominated by prominent businessmen.

Environmental law has been an issue in Pennsylvania since 1866 when James Andrews filed a nuisance suit against a nearby factory whose smoke and acidic fumes had been ruining his orchards and grapevines for years. He won; however, the case was overturned in 1871 when it reached the Pennsylvania Supreme Court. The Supreme Court validated their decision based on “balancing doctrine”, which suggested that people subject themselves to pollution for the benefits from modern cities and factories. The Hutchinson Appeal, as it became known, would have a lasting impact on state policies and politics for decades. Economic opportunities were put ahead of social and environmental concerns (Pennsylvanians and the Environment, 2003).

The effects of the case are broad-reaching in a state such as Pennsylvania where environmental degradation and pollution have been occurring across the state through dirty water shown in examples such as coal mines leaking dirty, contaminated water into a community's water supply or private wells. Heavy smoke from steel mills, coal mines, and factories covered many city areas in thick fog. It was not until 1916 that Pennsylvania courts put public health ahead of industries when it ruled harmful wastes could no longer be dumped into the Monongahela River in Pittsburgh (Pennsylvanians and the Environment, 2003). The reluctance of the political and legal institutions and the controlling actors within them to encourage the protection of public health and the environment sheds light on the complex ties among jobs and economy, the social clout of industry, and the environmental exploitation that can occur in the absence of regulation.

The establishment of early extraction industries was inherently unequal. Workers, often immigrants who spoke little English and had few ties to society, were forced to live in company towns run by the interests of the coal executives. These towns dominated the landscape, and shaped the neighborhoods of ethnic enclaves, remnants of which are still seen today. Workers

were forced to live in these ethnically segregated areas, attend community schools, and shop at the company store, often using company script that could only be redeemed at the store where goods were sold at highly inflated prices (Miller and Sharpless, 1998) (Aurand, 2003). There were few opportunities for other jobs, and dissenting voices could quickly be silenced (Edmunds, 2002).

Aside from the innate distributive justice issues exemplified by company towns, natural resource extraction altered the spatial and regional equity of power, resources, economic opportunities, and more across the region. Boom and bust cycles that characterized the industries of mining and drilling of natural resources has greater effects on the poorer, more isolated towns where these resources have been typically and traditionally located. Cities that are well-established with more than one industry can survive, although they will suffer, and hope to rebuild after the resource is gone. Towns developed solely around the extraction of one resource often cannot due to a lack of diversification. Traditionally, these towns were socio-economically worse off. People were less educated because the jobs available in the town did not require degrees. Children, especially boys, were socialized to work in the mines or whatever industry dominated the town (Aurand, 2003) (Freese 2003) (Miller & Sharpless, 1998). Many times, opposing interests and ideas that jeopardized the dominating industry in the town were silenced before they were ever really heard. These distributive justice issues have far reaching impacts beyond the borders of the isolated communities. They contribute to an overwhelmingly ideology where the individual's interest is constantly pushed aside for the interests of the state and economy.

#### Research Question, Reasoning, and Roadmap

Natural resource extraction has dominated the development of Pennsylvania since the Commonwealth's origin. Yet little research exists to examine the impacts of social, political,

legal, and economic institutions on extractive industries, and the effects on people, communities, and the environment. Analysis and perspective are crucial in understanding the Commonwealth's past so that informed decisions can be made for the about the future. Understanding the links between cultural, social, political, legal, regulatory, and economic institutions that impact the social and political economy of natural resource extraction are vital to making and understanding policies on future development. The negative effects from the institutional decisions involving prior natural resource extraction in Pennsylvania are still evident in the state today. Mitigating these negative outcomes and externalities as much as possible should be a goal for all current and future resource extraction in the state, while still garnering the beneficial contributions afforded by Pennsylvania's natural resource wealth. This will be examined with the themes of power in mind, and how power affects issues of the economy, society, and the environment.

This paper examines and analyzes the impacts of institutions on natural resource extraction, people, communities, and the economy by first exploring the theory and methods of Schmid, Tan, Hurst, and Gaventa; analyzing what we have learned about the relationship between institutions, natural resource extraction, and development from coal mining in Northeastern Pennsylvania; and finally, drawing implications of these findings for the extraction of natural gas, mainly in Pennsylvania, but also for the United States as a whole.

As a citizen of Scranton, Pennsylvania, once the Anthracite coal capital of the world, I am proud of my connection to the Commonwealth of Pennsylvania, its people, its history, and its resources. I, like all Pennsylvanians, have a vested interest in understanding how institutional decisions made in the past are shaping environmental issues involving the extraction of Marcellus Shale in our communities today. By understanding and analyzing the past and present, through this inquiry I can work to attempt to ensure detrimental, philosophies, decisions, and actions are not repeated in the future.

## Chapter 2

### Theory and Methods

This section details the theoretical framework and concepts that I will use to analyze the nature of the political, economic, legal, social, and regulatory institutions that played a role in natural resource extraction in Northeastern Pennsylvania. The role these institutions played and their implications, specifically in the mining of anthracite coal and in the fracking of natural gas, will be explored in later sections.

#### Schmid's Explanation of Individuals and Institutions

In his work *Conflict and Cooperation: Institution and Behavioral Economics*, Schmid analyzes institutions and their role in societies. According to Schmid, institutions can be formal, exemplified through the rule of law in the legal system, or informal such as culture or family structure and dynamics. Institutions can also be public, such as voting, or private, such as a corporation. A corporation is an organization, a structured system, which is an aggregation of formal and informal institutions that inform the actions and beliefs of the corporation. Commonly these words are used interchangeably, however my inquiry uses the terms corporation and organization separately. Institutions and corporations have a continuously recursive relationship. Institutions highlight the strengths and weaknesses of inherent human interdependence (Schmid, 2004). Institutions shape how we think and behave, what we rules we follow, and we, as people, in turn shape these institutions. On the surface these norms, rules, and expectations that are at play every day in society, such as language, can seem of secondary importance. However, when we begin to think of the role that language plays, for example, in the legal system, and how it can

serve as a (sometimes intentional) barrier to justice, we then begin to recognize and realize the true power and influence associated with institutions.

Humans and institutions are interdependent with one another. Humans respond to the institutions that surround them, and institutions respond to the actions, thoughts, and beliefs of the humans affected by institutions. When individuals make decisions, these decisions are shaped, and in many ways, determined by the social, political, and economic systems that surround them. The exploration of how institutions change is incomplete without an examination of how the individuals associated with these particular institutions change as well. "**Individual → institutions → individual**" (Schmid, 2004, p. 9) is the implicit relationship demonstrated by Schmid to show the recursive nature of individuals and institutions.

This recursive nature of interactions between individuals and institutions makes for an increasingly complex study. It can be difficult to decipher which came first: did the individual change first, or did the institution change the perspective of the individual? For example, did the changing expectations of the institution of marriage change the perceived acceptability of arranged marriage? Or did the changing needs and wants of individuals force a collective change on the institution? We have a complex, interdependent nexus of individuals and institutions that evolves over time.

### Situation, Structure, and Performance

To aid in the analysis of complicated questions inherent in the recursive nature of the interactions and implications of individuals and institutions, Schmid offers a model for understanding and analyzing institutions called the SSP model, or the Situation, Structure, and Performance model. Schmid identifies three components for institutional analysis that are key for understanding the variables at play shaping institutions and individuals. These three variables are

situation, structure, and performance. In the context of impact analysis, situations are the features of the surrounding environment that affect individuals and their interactions with one another.

The situation is a complex concept. It not only encompasses the social, environmental, and political context of the surroundings, but it also takes into consideration that humans are increasingly interdependent. Actions do not occur inside a vacuum. What one person or institution does affects another. For example, externalities, the impacts of an individual's decisions on another who had no voice or decision on the matter, are a very real part of today's world. A classic example of an externality is pollution. A local factory decides to dump its waste into the local river to get rid of it. This decision impacts everyone's water supply even though they had no choice nor no voice in this decision. Through the tensions of incompatible uses, a power dynamic begins to be exhibited. Who has and who controls the power and voices in the decision-making process will have the role in deciding who receives positive benefits from these externalities, and who is negatively impacted (Schmid, 2004, p. 16). How a situation is defined and by whom is critical to how we act. People can define the same situation differently and will forge different plans of action depending on how they define the situation. This power dynamic affects the definition of the solution as well. If those with power define pollution in terms other than an externality, then it will not be treated as an externality. Power affects how certain individuals can be excluded through a high cost to join or barrier to entry into a situation. Technology and advances in society also change the situations of institutions and society (Schmid, 2004, p.199). For example, email communication has greatly affected how students and professors communicate, which has brought about a great change in what is expected in the interactions between the two.

Structure is the framework shaping people's choices on how to respond to *situations* in society. These choices may be predetermined or influenced by a set of norms in society. These structures may be formal or informal. Structure also includes the transactions that occur between

individuals as a result of human interdependence. A structure can be something like how a teacher is treated by a student. While sometimes seemingly informal and intrinsically understood, they are incredibly important for how institutions operate. For instance, disrespecting a teacher not be responded to well in a classroom (Schmid, 2004, p. 17).

The outcome from these situations and structures is the performance. According to Schmid, “Performance refers to who gets what” (2004, p. 13). Conflicting underlying interests, structures, and situations have a part in deciding how goods, services, and wealth in society are distributed among certain players. Performance is also influenced by power. Often, the individuals who may benefit from a situation or structure that provides them with the upper hand have a greater role in determining the performance, or “who gets what” (Schmid, 2004, p. 13). In the courtroom, performance is more than a simple guilty or not guilty verdict; it is also affected by the overall fairness and validity of the trial and the terms of sentencing, which can be influenced by how qualified and experienced of lawyer the defendant could afford. Or, depending on the powers at play, whether or not the case was even brought to trial in the first place (Schmid, 2004, p. 19).

### Impact Analysis of Institutions

Schmid further explores the institutions using the SSP model by analyzing formal and informal institutions through two different lens: impact analysis and change analysis. Schmid explains that there is a difference between understanding institutional impact and institutional change.

Impact analysis explores the effects of formal and informal institutions on economic outcomes, on the varying distribution of wealth, and on human preferences and social interactions. The level of impact analysis “attempts to explain how alternative internal structures of economic, political, and social organizations and contractual arrangements affect performance”



(Schmid, 2004, p. 13). Impact analysis can include considering the current institution that is in place while comparing and contrasting expected outcomes with a hypothetical alternative. Impact analysis refers not to understanding how the institutions themselves change and evolve over time (that is change analysis according to Schmid), but rather to exploring the 'impact' an institution can cause to the changes of human outcomes. For instance, a current example of impact analysis would be examining how the repeal of the Don't Ask Don't Tell policy has affected individuals in the military and the military as an organization overall.

### Impact Analysis and SSP

Impact analysis can also be used in terms of Schmid's Structure, Situation, and Performance model to examine the impacts and changes to the performance due to changes in the structure and situation. "For impact analysis, institutional alternatives are an independent variable. The dependent variable is some measure of substantive performance" (Schmid, 2004, p. 12). In understanding the impact of institutions, it may be helpful to think of the analysis in a sequential order. Again Schmid helps us to understand impact analysis by visualizing: "**situation** -> **institutional structure** --> **performance**" (2004, p. 13). Furthermore, we can understand performance by thinking of it in terms of an equation: "**Performance = function of institution X, or institution Y, holding technology constant**" (2004, p. 13). These patterns help one to clearly visualize what impact analysis covers.

### Change Analysis and SSP

For change analysis, the dependent variable is considered differently than in the impact analysis. The dependent variables are institutions. Rather than examining how institutions change variables that exist in society, we examine the impact society has on institutions (Schmid, 2004, p. 14). Thinking of change analysis in terms of an equation may help understanding, "**Change**

**in everyday formal institutions = function of rules for making rules, change the situation"**

(p. 14).

An example of change analysis would be examining how society's changing views on the situation of gay marriage has shifted the institution of marriage and the role of the state in the organization of marriage to determine what is legal. A relationship exists between both the impact and change analyses. We can theoretically invent a new institution and evaluate how it will affect a current institution (change analysis) while also theorizing how it will affect current policies, laws, and individuals' livelihoods (impact analysis).

#### Theory of the State- the Legal-Economic Nexus

Useful for our research is Schmid's understanding and analysis of the role of the state and its involvement in structuring our human interdependence. The SSP model is key to understanding the theory of the state, especially in understanding the interactions between the government and power. Schmid highlights the intersection of our legal and economic institutions. "The state is a name for some of the necessarily collective processes that define formal rightful opportunities that are antecedent to the market" (Schmid, 2004, p. 26). Schmid quotes Callon (1998:41) as stating "the state constitutes, rather than intervenes, in the economy." It is key to understand that the state does not become involved in the economy after the system has already begun, but rather is a critical part from the onset. "Power and opportunity in access to the state are used to obtain power and opportunity in the everyday economy ... There is a power play between those who find the informal rules to their liking and those who wish to use the state to override them" (Schmid, 2004, p. 26). This understanding of the role of power and its intricate web of connections between our legal, economic, and governing institutions can help shed light on connections between who benefits from what and why only certain people or organizations benefit. As certain, often biased, interactions become normalized within our institutions, the

theory of the state can help explain many path dependent decisions that favor or benefit the same people time and time again. This framework can also help to understand how these outcomes and recursive relationships become normalized and taken for granted.

There is an additional behavioral dimension to law and economics that cannot be ignored. Humans respond to the structures faced in everyday life. Furthermore, humans have “limited information processing capacity” (Schmid, 2004, p. 28). Schmid uses this concept of bounded rationality to explain and inform the human decision making process. It is too easy to dismiss a bad human decision as an irrational one, or a series of choices as foolish. However, humans have a limited amount of time, money, and resources to devote to a decision. Furthermore, humans have a limited brain capacity to truly analyze each and every consequence of every choice. They use the best information they have at the time they choose to make their decisions (Schmid, 2004, p. 28). While it may appear irrational to those observing their decisions, typically it was the most rational and informed decision the individual could make at that time.

This bounded rationality can help inform decision-making processes; it can also help illuminate why humans tend to make the same choices or mistakes over and over again. Faced with seemingly endless decisions from common choices like what to wear or eat to less frequent choices such as what educational or career path to follow, there is an eventual impetus to decide even if an individual has imperfect information. Often, humans stick with what they know. People look for choices that confirm their own experiences and biases. These path dependent decisions help explain why some communities continue to rely on boom and bust methods of economic development. It is all they have ever known as a stimulus for economic growth. This experiential element sets boundaries on what people even think is within the realm of possibility in relation to thinking of things such as alternative development strategies. Or, why the law and lawmakers continue to side with economic progress over environmental preservation. Once an

initial decision is made, it can be hard for individuals and institutions to change the framework used to arrive at a decision down the road.

### Law and the Conditions of Freedom and the Control of Environment

James Willard Hurst examines the history of the United States in terms of how the law has shaped both the control and the development of the environment over time. In the nineteenth century, the law was used to determine how environmental resources were distributed, how their economic values were determined, and how the corresponding negative externalities were allocated and accounted for. Law was used to regulate individuals' and corporations' behaviors in terms of viewing the environmental resources as economic commodities. The law and legal institutions were used to formally define the situation in a particular way. This way set very clear boundaries around how natural resources were conceptualized and utilized as commodities. Law had a far-reaching influence as it could impact how people viewed behaviors relating to the use of the environment. Because the allocation of resources is a very powerful form of regulation, those who held the power to shape these laws held a great deal of influence (Hurst, 1956, p. 39).

Beginning in the nineteenth century, the law was used to decide how to allocate these natural resources. There was a noticeable change during this time because during the seventeenth and eighteenth centuries the law had been used to increase community security and wealth, whereas in the nineteenth century, the law was used to open up the use of these resources to the individual and private industries (Hurst, 1956). This pattern of choosing corporate and individual interests over those of society as a whole is a pattern that has been continued to the present day. Hurst's argument is important because it is an example of the type of institutional and theoretical framework that will be used in subsequent sections to understand the impact of natural resource extraction in northeastern Pennsylvania. Schmid provides the framework I use to explore the how and why, and Hurst's work delineates a key topical pattern that we look for in this analysis.

Tan

In the article "Ideology, interest groups, and institutional change: the case of the British prohibition of wages in kind", Elaine Tan theory aligns with Schmid's work. Her paper analyzes the role of ideology as an institution and how this can affect economic outcomes. Tan views institutions as the larger, prevailing structures which govern our daily lives and affect our habits. "Institutions are rules that govern human interaction which can embody and reinforce ideology" (Tan, 2005, p. 176). Tan defines ideology as "a set of prevailing meta-rules which frame the social consensus on acceptable, expected and just behavior. It refers to the dominant 'mental model' of the collective, rather than beliefs held by individuals, political parties, or schools of thought, although one need not exclude the other." (Tan, 2005, p. 176).

Tan's work analyzes how the prevailing ideology about the poor in Britain changed in the nineteenth century, and how this change in ideology enabled the passage of the Truck Act of 1831, which prohibited workers from being compensated for their work through in-kind wages. Until this time, it had been fairly common practice to compensate laborers with the goods they produced rather than with money. Tan explores how the changing view of the poor evolved from viewing them as an undeserving, slothful group, into viewing them as an industrious group who needed the aid of the government. Without this ideological shift, Tan argues the Truck Act would not have been passed.

With this in mind, Tan argues that in order to make change in an institution, a change in ideology must occur as well. The laborers and their views on wealth and what constitutes being poor was shaped by a particular view of their surrounding institutions. Including ideology in our understanding of institutions' and individuals' motives is critical because this inclusion "envisions the political market as different agents maximizing returns, subject to the constraint of legislators winning reelection" (Tan, 2005). This statement highlights some of tension that has been felt in our institutions. When those in power have the opportunity to benefit from the very institution

they are controlling, often their own ideologies, and the ideologies of those around them, can have a heavy role in determining which way the institutional ideology shifts. Tan also emphasizes that we cannot solely rely on examining ideology for how institutions operate, other factors play a key role as well: “Just as an ideology-free explanation of institutional change is deficient, so is a hypothesis based solely on ideology” (Tan, 2005, p. 178).

### Three Dimensions of Power

Important too for examining institutions and individuals is understanding who holds the power in the decision-making process that informs the institutions’ actions. Traditional power views have been more of an examination of a “relationship of ‘A over B,’ that is, power is the ability of A to get B to do what B might otherwise not” (Gaventa & Cornwall, 2001, p. 173). In their work *Power and Knowledge*, Gaventa and Cornwall take this concept further. They account for the earlier works of Lukes (1974, 2005) and Gaventa (1980) in understanding that power is a more nuanced concept. It is not enough to look at the power dynamics and conflicts on the surface, but rather we need to examine the forces and various dimensions that have shaped these roles and relationships. Boulding explains power as “the ability to get what we want” (Boulding, 1989, p. 15). This ability, however, is different than force, which is just one aspect of power. Power comes in many forms and ways to affect decisions and achieve an end (Boulding, 1989).

Gaventa and Cornwall discuss three dimensions of power that will be useful in our examination and analysis of natural resource extraction in Pennsylvania. The first dimension places “its emphasis on observable conflict in the decision-making arenas, power may be understood primarily by looking at who prevails in bargaining over the resolution of key issues” (Gaventa, 1980, p. 13-14). The first dimension of power is often visibly seen in the political arena. It is important to observe how control over resources can be used to help certain individuals have bargaining power.

The second dimension of power examines knowledge as a vessel of power. Not just who has knowledge, but how they have it, and who was providing this information. Knowledge is not really power if the knowledge is being manipulated by those in control. Furthermore, knowledge is often limited to certain views and perspectives: "Power is exercised not just upon participants within the decision making process but also towards the exclusion of certain participants and issues all together" (Gaventa, 1980, p. 9). Controlling knowledge and the way it is disseminated can be a way to exert influence over one group or another (Gaventa & Cornwall, 2001).

Within this second face of power, mobilization bias has an effect on what issues are discussed. Sometimes power is used to continue or foster conflict that may benefit a certain group. "Some issues are organized into politics while others are organized out .... It is important to understand who gets what, when and how and who gets left out and how, and how the two are interrelated" (Gaventa, 1980, p. 9).

Finally, the third dimension of power examines the notion that often people who are powerless may not even recognize they lack control. Or, they may not feel empowered enough to try to take back what once was theirs. Gaventa famously examined this notion of quiescence in his work *Power & Powerlessness* in the Appalachia Valley. Workers in the region had been taken advantage of, and lacked power in their communities for so long, that they had acquiesced. It is key to raise consciousness of these issues, often through social movements and mobilizations, to be able to make meaningful changes (Gaventa & Cornwall, 2001).

In terms of our work, it will be helpful to understand how these concepts of power and knowledge interact to encourage people to participate in communities. Gaventa discusses the interconnectedness of action, knowledge, and consciousness. Structures and institutions shape and change power and power dynamics. When communities possess knowledge and view it as a valuable resource, their consciousness and awareness of their own situations and institutions is raised. This encourages them to act and make change (Gaventa & Cornwall, 2001, p. 179).

## Research Methods

For this paper, the primary research method will be historical research through a review of secondary literature, legal documents, and government documents. A thorough analysis of these documents will be conducted through the lens of the theoretical frameworks discussed above, specifically focusing on the institutional roles of law, economics, culture, and the state and their impact on both individuals and other institutions. An historical approach to research was chosen in light of the research questions. Through examining historical writings, perspectives, accounts, and events, there is the possibility of gathering and gaining greater insight into current situations and policies (The Historical Approach to Research, n.d.).

There are six steps that are detailed for conducting historical research:

1. the recognition of a historical problem or the identification of a need for certain historical knowledge.
2. the gathering of as much relevant information about the problem or topic as possible.
3. if appropriate, the forming of hypothesis that tentatively explain relationships between historical factors.
4. The rigorous collection and organization of evidence, and the verification of the authenticity and veracity of information and its sources.
5. The selection, organization, and analysis of the most pertinent collected evidence, and the drawing of conclusions; and
6. the recording of conclusions in a meaningful narrative.”  
(The Historical Approach to Research, n.d.)

Guided by these steps, this inquiry will explore key historical events associated with anthracite coal mining in Northeastern Pennsylvania. However, due to the nature of this work, the information presented will be more of an overview than an in-depth analysis of each historically significant event. The information will be analyzed through the theoretical and conceptual framework detailed above, with an eye on shedding light on current-day institutions and their performance implications .

There are limitations to this type of research. Much of the work and information will come through secondary sources of research. While not ideal, due to time constraints and the



availability of resources from the time period, these sources will be the most feasible to use for analysis. Furthermore, it can be said that “history is written by the victors.” This bias is critical to keep in mind when reading and examining historical accounts. Knowing that all perspectives and viewpoints may not be included, and that one side of the story may not be told can alter how we reach our conclusions. Understanding that power plays a role in how history is told will help us a search for a more thorough and balanced account. Certain cultural norms and expectations may necessitate an examination through a different lens than one that would be more relevant today (The Historical Approach to Research, n.d.). In situations such as natural resource extraction, in which power and conflict dynamics play an important role, it is also critical to consider whose perspective is *not* represented and why.

## Chapter 3

### Institutional Analysis of Anthracite Coal Mining

#### Anthracite Coal

Coal, rock formed underneath the ground from the fossilized remains of plants, has been a source of fuel for centuries. Pennsylvania's coal, bituminous and anthracite, was formed more than 250 million years ago during the Paleozoic era (Miller & Sharpless, 1998, p. 5). People have dug deep into earth to extract this natural resource and use it to light their stoves, and fuel their power plants. The Industrial Revolution was possible in both Great Britain and in the United States during the nineteenth century through using coal as a power source. Coal was first utilized and discovered in Great Britain, then it was found and used in the United States, and now it continues to be an important resource in the rapid industrialization of China (Freese, 2003).

In the natural resource rich country of the United States, Pennsylvania was home to a variety of natural resources. Its forests were full of timber, it had many streams and rivers, and underneath its surface were coal, oil, and natural gas. In particular, coal fueled the development of Pennsylvania in the nineteenth century. There were two types of coal in Pennsylvania, the soft, dirty bituminous coal, located in the southwestern area of the state, and hard, clean anthracite coal, which was found in the northeastern region of the state. This anthracite coal was able to burn incredibly hot and clean because it was almost pure carbon, while the bituminous coal found in western Pennsylvania contained many more impurities such as sulfur. Their extraction would fuel the economy of the state and revolution of a nation (Freese 2003, p. 112). This paper focuses on the pocket of anthracite coal in the northeast region from the beginning stages of its extraction in the mid-nineteenth century until the beginning of its decline in the 1920s: "The area is small

piece of America; yet [at one point in time] it contained three quarters of the earth's hard coal deposits" (Miller & Sharpless, 1998, p. 3). This cleaner burning, longer lasting, hard coal would fuel an economic boom in the region, followed by a subsequent long decline as the popularity of coal decreased in the twentieth century.

### The Development of the Anthracite Region

In 1749, the Pennsylvania government bought the anthracite coal region from the Iroquois Confederation for 500 pounds sterling. The Iroquois Confederation had been aware of the black rock beneath the surface, but had seemingly not used it for fuel (Freese, 2003). The settlers and the Native Americans lack of knowledge regarding the value of land highlights the problems that can occur when there is asymmetry of information. This undervaluing of the land as it was purchased by outsiders would be a pattern that would repeated throughout the history of Pennsylvania, especially in the northeast region.

From the beginning of the anthracite region's founding, we see glimpses of institutional manipulation of power. The English settlers were able to manipulate the purchase of the land in their favor. The Native Americans, who had worked and lived on the land for centuries, were neither aware nor accustomed to the idea of land treaties, nor the buying of land for money. In this clear demonstration of the second dimension of power, knowledge of customs and significance were withheld (Aguirre & Turner, 2011). The English held the knowledge of land values and treaties and were able to use the Native Americans' unawareness to their advantage.

While later settlers of Pennsylvania were aware of hard coal underneath the lands' surface, it was unused because stoves at the time could not convert coal to fuel. It was not until 1808, with the invention of an L-shaped grate for stoves by Judge Jesse Fell of Wilkes-Barre, that it was discovered how the coal could be used efficiently as a fuel source. This L-shaped grate was discovered after many trial and error experimentations. Its simple design was "iron bars spaced

several inches apart, which he inserted in his fireplace. On it, he placed wood, which he ignited and then a quantity of coal" (Miller & Sharpless, 1998, p. 11). He went to bed, and when he awoke the next morning the stove still was still give off warmth. This invention quite literally ignited the booming industry of anthracite coal extraction that would follow. Venture capitalists and investors from outside of the region quickly began to stake their claims on the lands of the anthracite region (Miller & Sharpless, 1998).

“Many of the ‘independent’ operators who leased lands in the Schuylkill were Philadelphians; others were backed by Philadelphia financiers. As a result, the field, even in its earliest years became to a large degree an internal colony exploited by outside interests. Profits made in the field, like coal, went elsewhere.” (Miller & Sharpless, 1998, p. 49)

The development of a canal system in the 1820’s opened the gate to allow the anthracite coal to be transported to the bustling hub of Philadelphia in the southeastern tip of the state. Before the canals it had been nearly impossible to traverse through the narrow turbulent waters of rivers and streams such as the Schuylkill, Lackawanna, and Delaware (Freese, 2003, p. 119). The canals in Pennsylvania became the first major transportation system, and much of what was being transported to the port of Philadelphia in the south was anthracite coal from the north.

Not just the canals, but also the railroads allowed the region to be opened up for development and expedited the extraction of coal throughout the region. The need for a means to transport the coal from the region is a contributing factor to why the region is sometimes called the birthplace of the railroad systems. On January 1, 1842, the final tracks were laid on the Reading Railroad to connect Philadelphia and Pottsville, officially opening up the coal seams of the north to the capitalist wants and needs of the Philadelphian south and beyond (Miller & Sharpless, 1998, p. 53). This rapid construction of canals and railroads in Pennsylvania was representative of the larger, macro level institutional forces shaping and changing how Americans

lived, worked, and traveled. The Industrial Revolution in the United States, which is the time period from 1820-1870, and its effects on the economic development of American and on natural resource extraction cannot be underestimated. The Industrial Revolution, which was occurring nearly simultaneously in Europe, planted seeds for mass production, high usage of energy inputs, and the beginnings of modern day capitalism (Kelly, 2013).

In terms of the Industrial Revolution and the mining of anthracite coal, technology was key in both shaping and driving these forces. Schmid explains how "changes in technology produce changes in institutions, as well as the other way around" (Schmid, 2004, p. 210). Technological advancements, like the L-shaped grate, better railroads, and a connected canal system, dramatically reshaped relationships among people and interests; in effect, these advances reshaped human interdependence and are a powerful institutional force in that regard. In turn, "institutions surely affect the adoption of technology and accompanying organizational changes" (Schmid, 2004, p. 211). Because the American mindset and ideology had evolved and was more accepting of radical technological changes, the Industrial Revolution encouraged both institutional and organizational acceptance of the rapidly changing technology. Furthermore, there were forces in society that fostered and supported technological development, so instrumental in reshaping human interdependence.

### City/Place Development

The commercial centers of coal during the nineteenth centuries, Scranton and Wilkes-Barre, have long been the anthracite region's most important cities. They began to develop in this previously uninhabited land during the coal rush of the nineteenth century. They have continued to be an important part of the landscape, surviving the bust of the coal cycle better than other cities in the region like Pottsville, Reading, Lehigh, and Hazelton (Miller & Sharpless, 1998, p. 3).

The city of Scranton was founded by Seldon Scranton and his son-in-law George Scranton. After a few false starts and mishaps, the Scrantons began to successfully own and operate the Lackawanna Iron and Coal Company, which was incorporated in 1853. This company produced rails, which previously could only be shipped from England. However, the Scrantons took advantage of the ore located in the region (Miller & Sharpless, 1998, p. 62). The Scrantons and their descendants would retain an important and prominent part in businesses and governments across the state for decades to come.

The success of the Scrantons helped encourage the development of the region by other industries. Good quality iron was inexpensive and abundant and was used in the metalworking and railroad industries. Because of the anthracite coal in the region, industries were no longer dependent on wood or rivers for fuel. The ease with which anthracite could be transported through first canals and then railroads allowed for a quick, dependable, and seemingly abundant supply of anthracite coal as a fuel source to factories and mills throughout the region and across the rapidly developing nation (Miller & Sharpless, 1998, p. 63).

“Outside financial industries, which originally made money in coal, developed major industries, which in turn spurred growth” (Miller & Sharpless, 1998, p. 74). Towns like Scranton, Lehigh, Easton, Allentown, and Bethlehem which developed industries other than coal (such as in education and in hospitals) were able to continue to develop and have sources of income other than extractive industries. These major cities were the centers of urban growth with industries and transportation hubs for railroads. Immediately outside of these cities were smaller manufacturers and service activities, which were heavily dependent on the main industries. The actual mining and agricultural activities were outside in the third ring, and supplied the inner areas with goods. This pattern is typical of development, however, over time, growth and development was centered in the core, and the outer areas were left to fend for themselves. As the mining industries declined and there were fewer job opportunities, outlying towns were left out.

However, this type of development was left vulnerable to the whims, wills, and interests of financial backers who typically lived outside of the area and had little connection to the region. This was especially dangerous because this money typically supported the urban core, and if this center faltered, the outer rings which were dependent on the center, would fall apart as well (Miller & Sharpless, 1998, p. 75). This dynamic produced a domino effect in the region which would leave its residents poor and lacking resources and job options. Today, the problematic nature of this pattern is evident in the rust belt areas of the country, which were once dominated by certain industries. Now there are now groupings of cities and communities that have been economically, socially, and culturally devastated.

#### Coal Company Towns

A unique aspect of coal mining was the development of company towns because the coal company owners needed to build places where growing numbers of workers who came to work in the mines could live. Immigrant populations were rapidly growing in these previously undeveloped areas of wilderness. Coal barons built cheap housing accommodations, typically row homes, where miners could move with their families (Aurand, 2003). These towns were far from luxury accommodations. They were built quickly without much regard to human preferences, but rather to fit as many people into a small area as possible.

These company towns were truly run by the executives external to the region. Local governments, newspapers, and schools were run by company interests. In some company towns, the workers' did not receive wages for their work. Rather they received credit at the company store, forcing the workers to buy their supplies for work and home from the company where the prices were fixed high above the market price. This effectively made the miners and their families like indentured servants to the coal companies (Aurand, 2003). The miners and their families,

many of whom were immigrants from Europe, who had come to America to find a better life, were relegated to some of the worst working and living conditions in the nation at that time.

Examining the coal company towns through Schmid's SSP model (Situation, Structure, and Performance model) (Schmid, 2004), we can have a better understanding of the institutional structures and power dynamics of the day. The formal and informal culture structured human interdependence and power, and thus, performance. There were many factors and externalities affecting the *situation* of the company towns. First, most of these immigrants moved to the United States with few family members or friends. They arrived in the coal country with not much money. Many could not speak the language and often did not have close ties to established settlers. They needed a place to live, which the company, to incentivize them in working, provided, at a cost. The coal companies looked at this need for housing for their workers, and quick, cheap housing was built surrounding the coal mines so that it would be easy to get to work (Aurand, 2003).

Concerning the structure of this arrangement, coal companies began to manipulate this situation. Because the housing was provided by the coal operators, if a family no longer had someone working in the mines, they were quickly uprooted from the community and left on their own to find housing elsewhere. The people who lived in these housings often separated into their own ethnic enclaves where they could interact with people who shared their same customs and languages. Coal companies encouraged this ethnic separation and hostility to prevent unionization. The incompatibility of this structure and dynamic with the formal and informal cultural norms and expectations of the immigrants greatly disadvantaged their assimilation into American life (Miller & Sharpless, 1998).

Structurally, coal operators often set up company stores where workers wages would be deposited directly, forcing the miners to shop in the overpriced company stores. This example of an exclusion cost prevented the miners and their families from moving out of poverty and into a



more stable lifestyle. Mining was a very distinct occupational category; the supplies they needed such as explosives and picks were not sold in many places aside from the company store.

Furthermore, this situation excluded many children from attending school or finishing their education, which was legal and common due to the absence of child labor laws until the early twentieth century. Because pay was so low, and often tied up in debt and in the company store, many children left school before they completed it to work to try to increase a family's earnings (Miller & Sharpless, 1998). There were stories of miners whose wages would be docked for mining supplies leaving no money for food or household necessities. This would mean that families would need to take out a loan from the company store, pushing them further into debt (Aurand, 2003).

In the performance lens of the model, we begin to see how the coal miners became to be viewed and treated as nearly indentured servants of the coal companies. Because where they could shop and live was unfairly manipulated by those who provided their wages, it would be difficult to find work elsewhere. Furthermore, many coal and railroad operators joined forces to have control over not only the production of coal, but also the transport. They were able to use their money, power, and influence to prevent other industries from entering the area which could have provided other job options for the area's labor force (Miller & Sharpless, 1998). This would continue to affect the coal mining towns in Northeastern Pennsylvania in later years. This lack of diversification in the local economies did not leave other job options for residents when coal mining production began to decline in the 1920s (Dublin & Licht, 2005).

Life in coal towns was often ruled by company operated security forces. These forces later became formally recognized as the Iron and Coal Police. Because they were privately hired, they could rule without as much oversight as a normal police force. They patrolled the towns and could enter into company houses to check on things. Many of the Iron and Coal police were Pennsylvania Germans from outside of coal country, who clashed with many of the varying

ethnic groups, especially the Irish. The Iron and Coal Police later came to play an important role in controlling labor disputes. Their first commitment was to the coal operators and their wants, not necessarily to justice nor the law. Many miners felt the police was unnecessarily brutal and unjust, and added another cruel dimension to their already tough and demanding lives (Miller & Sharpless, 1998, p. 143).

Immigrant populations:

*Forty years I worked with pick and drill*

*Down in the mines against my will*

*The Coal King's slave but now it's passed*

*Thanks be to God I am free at last*

-epitaph on miner Condy Breslin's grave in 1880

in Saint Gabriel's Catholic Cemetery in Hazelton, PA (Aurand, 2003, p. 122)

In the discussion of the immense industrial progress that occurred in the region, the actual people who worked in back-breaking conditions for years on end can be overshadowed by the sheer enormity and economic influence of the industry. While technological advances allowed for the boom of the anthracite industry, it was the men and boys who toiled below with an pick axe who actually mined the coal. Many of these men and boys were European immigrants.

These immigrants flooded into Pennsylvania during the Industrial Revolution in the nineteenth century, many of them moving to the Northeast region to find work in the coal mines. These men came to do the hard labor beneath the Earth's surface, spending their days toiling below the surface in danger conditions without sunlight. These immigrants came from across Europe, each with their own language, religion, culture, and customs, often after being recruited by labor agents in their homelands who advertised a life of riches (Miller & Sharpless, 1998). Each of these groups helped to shape the region into what it is today. Their imprint remains on

the region and can still be seen in various ways throughout the region, whether in ethnic food festivals, local parades, or the dozens of local churches located throughout the regions.

### **Great Britain- England, Scotland, & Wales**

Immigrants from Great Britain, countries like England, Scotland, and Wales, were some of the first groups of immigrants to Northeastern Pennsylvania after the discovery of anthracite coal. They were familiar with the latest mining techniques and practices and could adapt their skills and knowledge to be useful in the new land (Miller & Sharpless, 1998). These immigrants, with their English language skills and prior knowledge of the mines, would be the first to move up through the ranks to positions of power. This advancement would affect how the English interacted with the immigrants who followed. Despite having once belonged to an immigrant group themselves, the British, Welsh, and Scottish often treated the later-arriving groups with disgust, and were abusive, unfair, and intolerant in their actions and words while in positions of power. Subsequently, later groups of immigrants from Ireland, Italy, and Eastern Europe resented and sometimes tried to undermine the ancestors of British, Scottish, and Welsh immigrants who operated the mines and whose decisions operated their lives (Miller & Sharpless, 1998).

### **Ireland**

The Irish immigrants remain some of the most notorious immigrants to the region. Despite their ability to speak the English language, this group was easily identifiable (and vilified) not only by their physical characteristics and their thick accents, but also by their religion. Catholicism was new and cloaked in mystery, superstitions, and misgivings. They left Ireland in the second half of the nineteenth century in droves to escape the potato famine under the oppressive British rule (Freese, 2003). When they arrived in Northeastern Pennsylvania, they were confronted with similar oppressive tactics and rules. They were demonized, characterized,

and stereotyped in the newspapers as drunk men who loved to fight, did not like to work, and were ruled by a pope in some foreign land. They had big families with many children. In local newspapers of the day, the Irish were drawn in political cartoons as chimpanzees or monkeys, symbolizing their status as less than human (Aguirre & Turner, 2011).

The Irish were also known for their resistance to acquiescing to these types of practices and treatments. One of the most notorious groups to rise up in response to the brutal treatment of the coal barons were the Molly Maguires. Named for a woman of their homeland who fought back against the British, the Molly Maguires were a fearsome group who took matters into their own hands against the coal barons and corrupt town law enforcement and government officials (Freese, 2003).

### **Eastern Europe**

Immigrants, hailing from Eastern European countries such as Poland, Ukraine, Czech Republic, Slovenia, Croatia, Serbia, Hungary, Austria, and Lithuania were grouped together as one large cohort called Slavs, or more informally described as “Hunky”, by the English-speaking, American-born citizens. The ‘Slavs’ represented a large, diverse group of immigrants who were typically illiterate peasants from the ‘old country’. They spoke a foreign language which was especially foreign to the English speaking bosses in the coal mining towns. Typically they followed a Greek Orthodox or Roman Catholic religion. Due to poor agricultural conditions, lands controlled by a scheming aristocracy, and powerful feudal overlords who ruled their lands, many Slavs left their homelands searching for a better life in America. This search led them to the Anthracite region because of the promise of a good job and steady work. (Miller & Sharpless, 1998)

The Slavs received some of the worst treatment of any immigrant groups when they arrived on American soil. Their first welcome to a coal patch town was typically one of young

boys throwing sticks or rocks at them. While the Irish were treated poorly, at least they could speak English and communicate. The Slavs, with their foreign language, were completely ostracized from many of the communities. Those first arrivers were left to fend for themselves, many of them nearly starving to death if they could not find work in the mines (Miller & Sharpless, 1998).

Soon, the Slavs became known for their willingness to work longer hours for less pay and the coal barons quickly began to take advantage of this new immigrant population. Labor troubles with English-speaking miners made the coal bosses eager to employ people with a lack of language skills who would be unable to band together and fight back (Miller & Sharpless, 1998). Controlling language skills and knowledge was one way that those with power in the communities were able to exert their influence through the second face of power (Boulding, 1989). By controlling and limiting their interactions, awareness, and knowledge of the outside world around them, those in power were able to remain in power, with the immigrants lacking the skills to communicate and learn remained in the bottom rungs. Coal operators could control who had power because if people could not communicate with those who were making the rules and regulations, then the power structure could not be altered.

### Ethnic Divisions

Another dimension of the anthracite coal region, was the very real ethnic divisions in the area at the time. Many immigrants were moving into the northeast region from Ireland, Wales, Italy, and Slavic countries like Poland. These people arrived with their own languages, religions, and cultures. They tended to settle in ethnic enclaves throughout the region where they attended mass and school in their native tongue (Miller & Sharpless, 1998).

This division among ethnic groups was, in many cases, encouraged by the coal company operators. If the various ethnic groups did not talk nor trust one another, they would not be able to

organize and challenge the dominating interests of the coal companies. By fostering hate among the various groups, coal barons were able to prevent, for a time, the organization of miners into unions to fight for their rights (Aurand, 2003).

Examining these company sponsored ethnic divisions through the SSP model, we again can gain greater insight into how power and control were manipulated institutionally, and the ways they structured human interdependence. The situation of the those who worked in the coal mines at this time is fascinating. Immigrants from all over Europe came to this small region of the United States looking for work and a chance for a better life. Each brought their own cultures, customs, and beliefs. When they arrived, this was hardly the land of promise that they had been hoping for. Rather than the coal operators providing a chance for these immigrants to learn the language, become independent, or feel truly welcomed by all, the institutional circumstances took advantage, and manipulated the structure, so that the power was completely centered in those who owned and operated the coal mines (Aurand, 2003).

Structurally, these sentiments of hate and misgiving between ethnic groups were enhanced by hard feelings and misgivings between one another. The coal operators continued to have people live among their own ethnic groups so that mutual understandings and respect among groups would be harder to reach. Furthermore, the coal operators often chose managers and bosses from certain ethnic groups who were disgracefully known for mistreating certain other immigrant groups. The Germans and Pennsylvania Dutch became well known for this as members of the Iron and Coal Police (Miller & Sharpless, 1998). The performance outcome of these divisions, allowed the coal operators to maintain control and prevent workers from organizing. The coal miners and laborers could only have strength in numbers, and if they could not see past their perpetuated differences, it would be more difficult for them to unite and strike against the coal operators for better labor conditions.

While these ethnic enclaves did often prove to be a source of division between different groups, among a certain ethnic group themselves, their local ethnic neighborhood provided a source of strength and comfort. Often, it was the local religious institutions and fraternal organizations that provided hospitals and schools when local governments and state organizations failed. If a miner died on the job, the miner's widow and family would be forced to leave their house in the company town within a few weeks. It was the local community who stepped in to provide whatever little help they could whether it be a collection, food, or even finding a miner who would board in the widow's house and to help contribute to rent, because only with a mine employee in the house would the widow and her children be allowed to stay in the coal town community (Miller & Sharpless, 1998).

### Corporations and Labor

Anthracite coal miners experienced some of the worst working conditions in human history. Their hours were long and the pay was less than minimal. Child labor was widespread throughout the region, and many coal operator ignored the requirement that children needed to be twelve years of age. Boys as young as six years old would work picking coal from the culm dumps or other tasks. Accidents in the mine were frequent, and they could often be deadly. Wages had not improved with time. The average miner did not make enough to support a family, forcing their wives and children to scrounge for work wherever they could find it (Miller & Sharpless, 1998).

Furthermore, work was not guaranteed every day. Mines would often halt production in order to not overproduce the coal. Mine owners and operators would collude with other companies to fix the coal prices and only produce enough coal to be profitable. This unequal distribution of power often left miners without a secure work schedule, and the days they could

work was at the discretion of the mine operators and owners. This unreliable paycheck pushed the miners further into poverty (Aurand, 2003).

By the beginning of the twentieth century, more than ninety-six percent of all the anthracite coal fields were under the control of the same executives and companies who controlled the railroads. Independent coal operators had come under control of the railroad owners and operators, or they were under contract to come under control in a few years (Miller & Sharpless, 1998).

"As a result of the combination, the railroad companies were able to fix the price of coal, determine production levels, and establish tonnage quotas. The entire anthracite region became, in effect, an economic colony of the power financial interests located in New York and Philadelphia. Both coal and profits flowed out of the region to immensely wealthy absentee owners." (Miller & Sharpless, p243)

Analyzing this locus of control through Schmid's SSP model, the concentration of power and control in the decision-making process to wealthy businessmen, many of whom lived outside of the region, influenced how the mines were run and affected the performance outcomes. With owners and operators living outside of the coal region, they did not see the daily effects of life in the mines. They were not reminded of the poverty, illness, and hardships that affected those living and working in the mines. Structurally, there were few ways for miners to voice their concerns to those who controlled the corporations. This affected the performance outcomes of 'who gets what' (Schmid, 2004, p 13), with the laborers and their families getting very small wages, an unreliable paycheck, and deplorable working and living conditions. The owners and bosses of the mines were the ones who received the profits.

The corporate control and monopoly over the coal fields would later affect the outcome of strikes. This situation and performance would directly impact and influence the rise of unions and prevalence of strikes in the mine. With the structures in place, there were few options for



workers to voice their concerns or speak on their own behalf. This all began to change when miners began to overcome ethnic divisions and began to organize into labor unions (Miller & Sharpless, 1998).

Wages had not improved for the miners in twenty years. However anytime miners tried to organize, ethnic divisions separated the group. Led by the United Mine Workers and John Mitchell, their young, fearless president, miners organized across the coal fields in order to take on the conglomeration of control by the railroads. Strikes had broken out across the fields in the past, but they were often by separate factions of various ethnic groups (Miller & Sharpless, 1998). When John Mitchell arrived in the anthracite region at the end of the nineteenth century, he recognized any type of institutional change could only happen when the various ethnic groups united. Across the region, he reminded the miners that "The coal you dig isn't Slavish or Polish or Irish coal, it's coal." (Miller and Sharpless, 1998, p. 249). The institutional changes of how workers began to organize across conflict-ridden ethnic divisions, in both formal and informal ways, is exemplary of Tan's theory that ideological shifts often precipitate institutional shifts. Mitchell's message and shifting the ideology to focus on unity, precipitated the institutional shift of the unions to be more inclusive and less divisive among divisions.

After this shift in ideology and institutions, the United Mine Workers, under the direction of John Mitchell, began to have more clout. Now with a larger contingent of workers, the union possessed more power. At the beginning of the twentieth century, tensions had been mounting among the miners. With no corresponding increase in wages, costs of living had risen twenty to fifty percent. Some miners were still being forced to shop at company stores and buy their own supplies. Wages would be docked for 'impurities' in the coal that were beyond the miners' control (Miller & Sharpless, 1998, p. 250).

Despite these valid complaints, which had been voiced for many years, coal operators still ignored the UMW and John Mitchell speaking on their behalf. However, tides began to turn

as national politics became involved. The leader of the republican National Committee, Senator Marcus Hanna of Ohio, was sympathetic and supportive of the UMW cause, however, he was worried about how the public perception of the fight would affect the national elections. The public was becoming more sympathetic to the miners' plight and would not look favorably on politicians who appeared to be exploiting the common man. The anthracite coal miners' plight would continue to be influenced and impacted by national politics as time continued (Miller & Sharpless, 1998, p. 251).

When the miners did strike on September 17th 1900, over 125,000 workers took part, which surprised both the union organizers and the mine operators. While the strike was not successful in meeting the union's and miners' demands, it did give credibility to the UMW organization. Over the next two years there continued to be many contentious interactions between the miners and operators leading up the strike of 1902. The causes and reasons for the strike of 1902 were for basically the same reasons that the miners had struck in 1900, with a focus of their demands also exerting pressure on the railroad companies who held enormous influence in the region by charging incredibly high tariffs to ship the coal. However, this strike was different because miners and organizers had learned from their previous mistakes and were prepared to remain on strike, not matter how long it took. The strike dragged on and took an enormous toll on the region's economy. The strike was tough on women, children, miners, and businesses. Many people were hungry, and young teenagers often left the region to look for work (Miller & Sharpless, 1998, p. 264).

As the strike dragged on, violence broke out in the region between the miners who stayed and the miners 'scabs' who returned to work (Aurand, 2003). Union leaders and organizers began to worry, but in August just as the miners' morale really began to wither, the views of many in the United States began to change due to a letter written by a spokesman for a coal company that was accidentally published nationwide. The letter, published in newspapers across the country,

demonstrated the coal operators for what they really were, out of touch, arrogant, and only concerned with accumulating their own wealth. The public was outraged, and the publication of this letter helped to shift the ideology of the American people and made them more sympathetic to the coal miners (Miller & Sharpless, 1998).

President Theodore Roosevelt began to make his worries about the strike known. While he was somewhat sympathetic to the coal miners, his real concern was that there would be fuel riots across the country if the strike continued. He began to voice his concerns to representatives of J.P. Morgan and Company, who held many investments and exerted much control over the scenes in the region. Finally, in October after mounting pressures and fears of riots if the strike continued, Roosevelt organized a meeting between Mitchell and the heads of the railroad companies. The reception between the opposing sides was less than ideal. No agreements were reached (Miller & Sharpless, 1998).

As a result of this failed meeting, a commission was organized to hear both sides of the dispute and listen to the claims. The hearings for the commission were held in Scranton and Philadelphia. The representatives at the hearings heard from miners who were hurt on the job and never received any compensation, from widows who continued to pay rent on the company's housing, and from men who had never received a wage because their salary was continually docked by company charges. Their stories were heart-wrenching and horrific. After weeks of testimony and questioning, the commission decided to side with the miners' requests for an eight hour work day and a sliding wage scale, however the UMW was not officially recognized (Miller & Sharpless, 1998).

In the eyes of the press, J.P. Morgan was not hurt by the strikes, but rather his image was enhanced as a wealthy businessman who would use his power and wealth for the greater good. He was credited with helping to get the companies to the discussion tables to even listen to the miners' grievances in the first place. President Roosevelt truly benefitted from his involvement in

the strike. He solidly won re-election in 1904, and was seen as someone who took the side of the working man and got the people a "square deal" (Miller and Sharpless, 1998). Coal companies, however, were hurt by the strike and the public perception of their businesses. Following the commission, numerous anti-trust lawsuits were filed against them.

The interactions between the President Roosevelt, J.P Morgan, John Mitchell, coal miners, coal operators, and business owners demonstrates Schmid's theory on the legal-economic nexus of the state. The state (meaning the government) played a large and pivotal role in the outcome of the strikes. As the strikes began to play a larger role on the national stage, the state began to play more of a public role in determining the outcome of the conflict. Furthermore, the relationship between Roosevelt and J.P. Morgan affected the role of power of these two men, and their interests, in the conflict. Schmid writes, "Power and opportunity in access to the state are used to obtain power and opportunity in the everyday economy" (Schmid, 2004, Section 2.4.3) . J.P. Morgan was one of the wealthiest men in the country, his political connections and clout helped to ensure that decisions and that the perceptions of these decisions aided his best interests.

### Environment

After the Civil War, Pennsylvania resident James Andrew had filed an nuisance suit against a neighboring brick factory in 1866. Smoke and fumes from the factory had been destroying trees and plants on his property for years and he had enough. In the initial suit, Andrew was successful and won. However, the owner of the brick factory fought to have the case overturned and it went all the way to the Pennsylvania Supreme Court where the ruling was overturned. The Pennsylvania's Supreme Court would affect environmental decisions and cases in the state for decades, and its decision would ensure that the degradation of the environment continued (Pennsylvanians & the Environment, n.d.).

The decision in 1871 to overturn was:

"based upon "balancing doctrine," the Supreme Court ruled that Andrews's suffering had little legal merit, for it was the type of discomfort to which people "voluntarily subject themselves" for the great benefit they think they derive" from living and doing business in and near modern cities. The Court was reluctant, it explained, to bring "crushing force upon the every-day business of men," or to destroy "the value of his property for legitimate uses." (Pennsylvanians & the Environment, n.d.)

The decision aligns with Hurst's findings that beginning in the nineteenth century, the legal system began to determine how resources were allocated and distributed in private and corporate industries. The legal system had a say in how externalities were distributed, and on what interest took precedence (Hurst, 1956). The Hutchinson appeal is aligned with Hurst's finding that the law would take the side of economic progress over the environment. As a result of this decision, cases continued to be decided in Pennsylvania that supported economic interests and development at the expense of the environment.

It was not until 1913 that it was made illegal to dump anthracite coal, discharge, culm, or refuse into bodies of water. By then, the damage had already been done. The recitation of the damage was written in Chapter 1 of this inquiry, but it bears repeating again here:

"At the end of the twentieth century, Pennsylvania led the nation in toxic discharges into its surface water, had the worst acid rain problem in the nation, and was the nation's largest importer of municipal waste. The state was second in the number of Superfund toxic waste sites, rate of suburban sprawl and toxic air emissions from coal mining and processing; third in toxic air emissions from coal, oil and electrical utilities; and fourth in the release of toxic chemicals from manufacturing. Pennsylvania had one-third of all abandoned mine-related problems in the country, and as many as one-third of the state's 83,000 miles of flowing water were still polluted by acid mine drainage, sewage, agricultural runoff and storm-water runoff." (Pennsylvanians & the Environment, n.d.)

More than 130 years after the Hutchinson Appeal, the state is still suffering because environmental pollution costs have been seen as "trivial" and unimportant compared to the industrialization at the time. Uninhibited economic growth was the philosophy of the time, although this was often at the expense of the environment and the laborers.

### Decline of Anthracite Coal Mining

In 1890, the anthracite region in Pennsylvania produced 95 percent of the nation's supply of anthracite coal (Dublin and Licht, 2005, p. 1). In 1917, the anthracite industry had hit its peak, and began to decline soon after (Miller and Sharpless, 1998). Bituminous coal, produced in the western part of Pennsylvania was begin to overtake anthracite as the nation's main source of fuel. During World War I, anthracite coal suppliers could not keep up with the demand for coal. People found other means of fuel during this time to replace anthracite, and continued to use these fuel sources even after the war ended. Oil, gas, and coke began to replace anthracite coal as a domestic source of fuel (Dublin & Licht, 2005).

For an industry that had appeared to be so well established, its demise happened rather quickly. The coal owners and operators were conservative and did not look for ways to innovate nor expand their businesses. The American public became alienated from the coal industry and its monopolistic practices; the industry's public perception had continued to go downhill after the strikes and labor disputes at the start of the twentieth century. While much of the American public was enjoying the newfound wealth and prosperity of the 1920s, the anthracite region began its long road of decline. In the three years before the Great Depression, thousands in the anthracite region began to lose their jobs. "Production dropped from 84 million tons in 1926 to 69 million in 1930. The number of collieries operating fell from 185 in 1923 to 163 in 1929." (Miller and Sharpless, 1998, p. 288).

"In 1930, close to 1.2 million people lived in the region; 836,000 live there today. The area's population loss amounts to 30 percent in the past 70 years- a period in which the overall population [of the United States] increased by 130 percent." (Dublin and Licht, 2005, p 4). Driving through the region, the scars of an area dominated by an industry are evident in the empty coal mines and culm dumps that line the region's highways. Much of the region had been built around one industry, and when the industry fell apart, so did much of the economic structures of the anthracite coal country.

When the country entered into the Great Depression in 1929, federal financial support for the region began to subsequently decrease and trickle off. Many moved from the region to Detroit, Philadelphia, Pittsburgh, and Buffalo to find other work. For those who stayed, communities provided support for those were struggling. In many cases, it was the same ethnic, social organizations that provided support during the early coal mining years- the churches and the community organizations. The culture of the region fostered the ideas of aiding one another and of community solidarity that helped those who remain in the region to survive. Local storekeepers often let community members make purchases 'on the book' and would allow them to not make payments until payday. They helped to carry families during strikes and layoffs, and continued to help families through economic hardships. Locally, these benevolent storekeepers were often heroes. (Miller & Sharpless, 1998, p. 311).

Employment in the anthracite mine and the region that was built around it continued to decline "from 80,000 [jobs in the mines] in the late 1940s to approximately 3,000" today. For many miners who lived through this economic downturn, the overall stress and loss of livelihood was too much. Depression was rampant. Miners sat idle, surrounded by the land with constant reminders of the jobs they once had (Miller and Sharpless, 1998, p. 323).

The humans and the economy were not the only ones who continued to suffer during the decline. The environment continued to suffer, as well:

"One fourth of the region's 484 square miles was disturbed by mining operations. Culm banks remain from the days of underground mining. With the spread of strip mining after the 1920s, the regions mountains were blasted and ripped apart to reach coal seams. Refuse from underground mines and stripping operations altered or destroyed the course of streams. After abandonment deep mines fill with water, and the acid overflow polluted - and continues to pollute- surface waters in the region and beyond." (Miller and Sharpless, 1998, p. 323)

Fires burned in the old abandoned mines beneath the surface. The whole town of Centralia needed to be relocated because the fire underneath the ground could not be controlled. Streets caved in, telephone poles and wires were destroyed, house foundations were cracked, and highways were destroyed from subsidence of the earth's surface as a result of the underground mining. Today, there are still happenings of the earth opening up and swallowing a house on top of its surface whole because of a cave-in in an old mine shaft underneath the ground. (Miller and Sharpless, 1998, p. 323).

### Summary

The anthracite coal industry fueled an industrial revolution, kept a nation warm, provided job opportunities for thousands of immigrants, and built a region, now a sliver of what it once was. The anthracite coal is gone, but the physical, economic, political, and social remnants of the industry remain. The region and its people are still recognized as the anthracite coal country. The region never developed as strong of an identity with another industry or entity. For many, jobs through natural resource extraction are seen completely beneficial for the region. The lessons and history of the anthracite region need to be analyzed and understood, because scars still remain both on the environment and in the economy, politics, and socio-cultural fabric of the region today. Uninhibited economic growth at the expense of the region, its people, and its environment did not end well for the anthracite coal mining nor for northeastern Pennsylvania.



## Chapter 4

### **Institutional Analysis of Natural Gas Drilling in the Marcellus Shale**

Drilling in Pennsylvania is not a new phenomenon. In 1859, the first oil well was drilled in Titusville, PA. Since that time at least 350,000 oil and gas wells have been drilled in the Commonwealth of Pennsylvania. Currently, 60,000 wells are operating. For many years Pennsylvania was not the focus of natural gas extraction, which was concentrated in the southern regions of the United States. However, the discovery of Marcellus Shale under the Appalachian Mountains has changed this (Drilling & Mining, n.d.).

Natural gas is "a mixture of several hydrocarbon gases, containing seventy to ninety percent methane in most cases. Over millions of years, decayed plant and animal matter builds up in layers in the earth and becomes trapped by sand and silt that turns to rock. The organic matter, through a process of heat and pressure under this rock, then turns to coal, oil, or natural gas." (Natural Gas, 2012, p.1). Marcellus Shale is a geological formation that is 5,000 to 7,000 feet under the surface of the Appalachian region, with the majority of the shale formation being located in West Virginia or Pennsylvania (Drilling & Mining, n.d.). It is a black shale formation that contains natural gas, which can be accessed through horizontal drilling or hydraulic fracturing (Natural Gas, 2012, p. 4).

Hydraulic fracturing or 'fracking' is a relatively new drilling technique that was first successful in Texas. "Hydraulic fracturing (or "fracking") is a process that uses large volumes of water, sand, lubricants, and other chemicals to create small fissures in the shale rock. Hydrofracking is necessary to release the gas which is tightly held in the dense black shale." (Johnson, 2010, p. 9) This method allows access to gas that was once thought to be too costly to reach.

While geologists, scientists, and those involved with drilling have known about the Marcellus Shale for years; it was not until recently that it became possible to reach the shale due to technological advances. In 2003, a drilling company began to test the possibility of accessing the natural gas in western Pennsylvania. In 2005, it became known that they were successful in reaching the natural gas through a method of extraction known as hydro-fracking, which was a new drilling technique (Drilling & Mining, 2012). While using natural gas like that found in Marcellus Shale will help to reduce green house gas emissions because it is a cleaner fuel source, this process is not without costs. It takes approximately five million gallons of water to drill in each well (Johnson, 2010, p. 8). It also will potentially delay the search for cleaner alternatives, especially while its current price is so low.

Marcellus Shale continues to develop at a rapid rate across the Commonwealth, often in the same region where anthracite coal was once mined. In less than a decade, more than 1,800 wells were drilled to extract natural gas from Marcellus Shale in Pennsylvania. More than 3,500 acres of forests had been cleared for Marcellus Shale by 2010 (Johnson, 2010). More recently, towns in the northeastern part of the state and the northern counties have felt an increase in population associated with extraction of Marcellus Shale natural gas. Much of this region is again under the spell of natural extraction as a source of growth. In this chapter, I will look for institutions and structures that are in place that are similar to the institutional structures during coal mining. This inquiry looks for parallels to help us learn from the past so that the same mistakes are not made in the future.

### Natural Gas Leases

To drill on private lands in Pennsylvania, gas companies need to obtain signed leases from homeowners allowing companies to drill on their land. Long before the gas companies arrive to drill, they first need to gain rights to access the land, and then assess pieces of land to see

how profitable it will be to drill. Beginning in 2008, representatives called landmen came into Northeastern Pennsylvania in droves to encourage residents to lease their lands to the gas companies (Urbina & McGinty, 2011).

These landmen work for the gas companies and offer lease deals to those who live in the communities located on top of the Marcellus Shale. Many of these townships have an average annual income of less than \$20,000 (Griswold, 2011). They are very rural and poor, often disconnected from other parts of the state. Landmen were able to offer the residents an opportunity to make more money than they could ever imagine.

Leases can vary from neighbor to neighbor, with some getting a much better deal for their land. Typical leases include an initial payment to allow gas companies to survey their land, and then royalties for any minerals extracted from their land. The landmen are hired by the gas industry and are trying to get the most profitable deal for the companies. There is a problem with asymmetry of information (Schmid, 2004), similar to times in the past when many immigrants did not speak the language nor have a true understanding of their rights when working in the mines. Many landowners lack the legal knowledge to be able to adequately understand the lease's language. Especially in the early stages of the Marcellus Shale natural gas development, there were few resources available for those looking to find more information on their lease (Urbina & McGinty, 2011). Although cooperative extension through Penn State has attempted to address this issue by providing educational materials to landowners (Leases, 2013).

An investigation by the New York Times into gas leases in Texas, Pennsylvania, West Virginia, and New York found that:

"Energy company officials say that standard leases include language that protects landowners. But a review of more than 111,000 leases, addenda and related documents by The New York Times suggests otherwise:

¶ Fewer than half the leases require companies to compensate landowners for water contamination after drilling begins. And only about half the documents have language that lawyers suggest should be included to require payment for damages to livestock or crops.

¶ Most leases grant gas companies broad rights to decide where they can cut down trees, store chemicals, build roads and drill. Companies are also permitted to operate generators and spotlights through the night near homes during drilling.

¶ In the leases, drilling companies rarely describe to landowners the potential environmental and other risks that federal laws require them to disclose in filings to investors.

¶ Most leases are for three or five years, but at least two-thirds of those reviewed by The Times allow extensions without additional approval from landowners. If landowners have second thoughts about drilling on their land or want to negotiate for more money, they may be out of luck." (Urbina & McGinty, 2011)

This asymmetry of information does not allow land owners to make the best decisions for their families nor their properties. The deals and the practices of the landmen entice people with a quick one time offer. There have been reported incidences where landmen make it seem that landowners have a limited time to sign the deal or they will lose it. Eager to make a quick buck to supplement their low income, the property owners feel they do not have time to properly look it over or take the lease to a lawyer. Drawn by the prospect of making money, the landowners sign the lease neglecting their health and the health of their environment (Urbina & McGinty, 2011). Energy companies have launched advertising campaigns that stress how they work with communities and landowners to ensure that extraction is done in an environmentally responsible matter. Even the Chamber of Commerce in Pennsylvania has become involved in pro-fracking ad campaigns to promote the benefits of drilling to local communities (Detrow, 2012). This alters and colors the perception communities have of the gas companies and the industry.

### Outside Corporate Interests and Community Impacts

Communities in Pennsylvania are no strangers to being dominated by an industry. Towns and communities in Pennsylvania developed around the extraction of natural resources, whether this was Pittsburgh and steel, Wilkes-barre and coal, or Williamsport and timber. Today, entire counties are being built up and infiltrated by companies from outside their borders. Companies like Chesapeake Energy, Exxon Mobile, Cabot Oil, and Range Resources control much of the drilling in Pennsylvania (Urbina & McGinty, 2011). Much like the anthracite coal region was an extension of Philadelphia businesses and under their control, current natural gas industries in Pennsylvania are under the control of multi-national corporations, with little vested interests or stake in the local communities (Urbina, June 25, 2011) (Griswold, 2011) (Urbina & McGinty, 2011) (Krauss & Lipton, 2012).

Many of the jobs drilling and working on the sites are not even filled by people from Pennsylvania. Skilled workers from other states who have experience drilling move into hotels for periods of time and work the highly skilled jobs (Brazier et al. 2011). Where local economies have seen a benefit is in service sector jobs and other related industries. Local motels, hotels, and inns in northern counties like Bradford, Susquehanna, and Montrose are filled. Restaurants, laundry mats, and local stores have also seen an increase in sales (Seeyle, October 14, 2011). Many locals are happy to see any kind of spike in jobs, even if it is not necessarily the higher skills one. As one local resident Mr. Kelley Sr. likes to say " a piece of wisdom handed down from the forty-niners: it was not the gold miners in California who got rich, it was the people who sold the shovels." (Seeyle, October 14, 2011).

Local colleges are stepping up to fill the void in local residents lacking technical skills to work on the drill sites, Penn College, part of the Pennsylvania State University system, is increasing its program offerings to train local workers. It has trained more than 7,000 local

workers since 2009 in partnership with ShaleNET, a grouping of local colleges, which was financed by a \$15 million dollar federal grant (Schwartz, 2012).

After the inevitable bust of a natural resource extraction, communities can really struggle if there is a lack of diversification in the economy. This was seen across towns and cities in the northeast and around the globe after main industry left. There has been little evidence of the gas companies, the Pennsylvania government, and local municipal governments working to diversify the communities' economic bases nor to create more resilient communities (Brazier et al. 2011) (Kelsey et al. 2011). This is simply perpetuating another round of dependency rather than a long term sustainable economy in regions that were already economically undiversified and vulnerable.

Many communities who saw an increase in natural gas drilling also saw a dramatic increase in local roads being damaged due to the weight of the heavy trucks carrying water and other supplies to the wells (Jacobson & Kelsey, 2011). Most municipals up until 2010 reported that most of the repairs had been completed by the drilling companies, regardless of whether or not local municipalities had agreed with company officials ahead of time on this matter. Community members reported that roads were often repaired to better conditions than many of the other locally maintained roads. However, this caused some community members to worry that these many newly repaired, high quality roads in the rural areas would change the fabrics of the community and the social dynamics of their formally small, somewhat isolated, tight-knit rural towns (Brazier et. al. 2011). These community fears had another dimension to our examination of these impact's through Schmid's Impact Analysis and the SSP model (Schmid, 2004). These improved roads and other changes due to the sudden increase in drilling have the potential to change the performance outcomes of the community in cases such as ease of travel and connectedness to other places. The recursive nature of the SSP model suggestions that these new performance outcomes may then change the original situations and structures of these rural

communities. They may become less rural and remote, and more connected and affected by the bigger metropolitan areas around them.

### Environmental and Health Impacts

For a place that is still cleaning up from environmental mishaps due to extraction that occurred more than 100 years ago, the state has been incredibly lenient in allowing natural gas companies to begin building wells and drilling gas before much scientific research could be done to understand the possible long term environmental and health impacts. This has benefitted those in power with political connections, often the wealthy corporation owners and industry leaders who have ties to those in office. They can use their clout to have regulations and institutional decisions made in favor of less-regulated drilling, while often disadvantaging local communities and environments. While local communities may benefit economically in the short term, there rarely are long term structures in place to help make sure locals' futures in the community are secure and stable.

Much of the environmental concerns with natural gas extraction comes not from the drilling of the gas itself, but from the millions of gallons of water that are used for hydraulic fracturing. As its name suggests, hydraulic fracturing is the technique of using tons of water to break through rocks to access the gas. According to scientists, "Rock can also be fractured by injecting high pressure fluids into the formation. Hydraulic fracturing uses a mixture of water, sand, and chemicals to create pores in hard shale rock. This destroys natural barriers in order to increase the flow of natural gas to the wellbore" (Natural Gas, 2012). It is difficult to adequately assess the potential environmental damage because companies do not have to disclose what kinds of chemicals they are using. Most likely a toxic mix, the water used places communities at a disadvantage when figuring out solutions for potential dangers if they lack knowledge of the actual chemicals being used. They are also disadvantaged when trying to press

for more oversight, because they do not even have information on what chemicals they should be monitoring. When this water returns to the surface, parts of it are contaminated. The water needs to be extensively treated before it can be placed back into the ground, or it needs to be shipped out of the state to be disposed (Hurdle, November 2, 2013).

While anecdotal stories have suggested that there already have been negative health impacts to plants, animals, and people, there has not been a scientific study completed to validate this. In January 2013, it was announced that University of Pennsylvania would look into the possible health impacts from air, water, and ground affected by the natural gas drilling (Hurdle, January 2013). This study is beginning five years after the drilling of Marcellus Shale began in earnest. There have been reports of fish dying in creeks as a result of the fracking (Soraghan, 2011). Farmers in Pennsylvania have reported sick animals and horses, pigs, and cows dying as a result of the drilling (Griswold, 2011). Furthermore, there have been reports of incomplete or falsified water supply tests in Pennsylvania that omitted poison data (Hurdle, Nov 2, 2012). Tap water in people's sinks in rural Pennsylvania have high contents of contaminants, and homeowners can even strike a match under their tap water to ignite it (Newman, 2012).

Despite local warnings about possible hazards to health, there was a delay in getting any academic study of the ground. Professor Penning at the University of Pennsylvania attributes this delay to pure politics, explaining "Academia can only do work if there is funding to do that work" (Hurdle, January 21, 2013). Pennsylvania is currently under the leadership of Governor Tom Corbett, who is unashamedly pro-drilling. 'Drill baby drill' has been attributed as his personal philosophy. It also is important to note that he received over \$1 million in campaign contributions from pro natural gas interest groups and organizations (Griswold, 2011). Penning explains that in the Republican controlled house in Pennsylvania there was no money available to explore the possible negative health impacts on Pennsylvania residents, their animals, and their lands (Hurdle, January 21, 2013). This lack of investigation has the possibility to once again leave the



negative health impacts on the local people, who are often poor, and on the local lands, rivers, and streams. Similar to the miners who suffered for years with black-lung and other mining related diseases (Freese, 2003), and the streams that were affected by acid mine leakage, the health of humans and the environments has been seemingly put behind the interests of economic growth. Again, we see an issue of who has the power, and who does not. The conflict of interest between the corporations and state intersecting at Schmid's legal - economic nexus will be explored further in the next section.

#### Government Control and Conflict of Interest

Tom Corbett was elected in 2010 as the governor of the Commonwealth of Pennsylvania. Despite the state having a billion dollar budget shortfall, Governor Corbett was resistant to imposing any sort of tax on the gas companies, despite West Virginia, Arkansas, and Texas all having taxes on the extraction of the gas (Griswold, 2011). In 2012, stronger environmental regulations were enacted under a law entitled Act 13. According to the Pennsylvania Department of Environmental Protection, the act "enacted stronger environmental standards, authorized local governments to adopt an impact fee and built upon the state's ongoing efforts to move towards energy independence as unconventional gas development continues." (Act 13, 2012). However, critics of the bill argue that it is not strong enough, and that it capitulates to gas company interests. The impact fee is the equivalent of approximately a 2.6% tax on the gas, compared to a 5.4% tax on gas drilled in Texas, which has not had a lack of drilling in recent years (Tavernise, 2012). There was even a clause in Act 13 stating that the municipalities who accepted the impact fee would lose the rights of decision making control to the gas companies, however this decision was overruled in 2012 (Detrow, July 26, 2012).

Stronger regulations have been requested by environmental protection groups and land owners. There have been numerous requests to know what chemicals are being used to drill into

the ground, and also with what chemicals are in the water that comes back up. However, under a loophole in the Safe Water Drinking Act, energy companies do not need to disclose what chemicals they are putting into the ground. This loophole is known as the Halliburton Loophole, and was pushed through as an amendment to the energy bill by then Vice President Dick Cheney in 2005. Halliburton is in the drilling business and has wells across the country. The former vice president was once Halliburton C.E.O. (Griswold, 2011). Hurst's argument that laws enacted favoring economic growth at the expense of the environment is exemplified in this instance (Hurst, 1956). Those in power were able to use their influence to ensure that environmental regulations benefitted their bottom line and not the land nor its resources nor the health and well being of the surrounding communities.

Governor Corbett, like those in the Bush administration, also complicated this power nexus by his appointment of C. Alan Walker as Secretary of the Department of Community and Economic Development. He was former CEO of Bradford Energy Company Inc., and served on the boards of Pennsylvania Chamber of Business and Industry, Team Pennsylvania, Pennsylvania Coal Association, and Pennsylvanians for Effective Government. (Executive Staff, 2013) His former work conflicts with the interests of other local economic opportunities. As the Secretary of the Department of Community and Economic Development, he has the power to shape how communities plan and prepare for economic development. He is in a position to advantage his former business and board interests through state policies, similar to former Vice President Cheney. His appointment serves as another example of individuals' interests and corporations' gains were put ahead and at the expense of the environment.

### Bust So Soon?

The natural gas industry has already begun to experience perhaps the early stages of a bust cycle. With so many wells being drilled across the country, and gas flooding the market,

prices rapidly began to drop after 2010. For the investors who got out quick, like recent Homecoming Ambassador and major donator to the Pennsylvania State University, Terry Pegula. (He sold his company East Resources, which he founded on a \$7,500 loan from a friend, for \$4.7 billion dollars to Royal Dutch Shell, profits were unbelievably high.) For those who still own the gas wells, many continue to lose money because they cannot stop drilling due to the language and the binding obligations of their legal contracts (Krauss & Lipton, 2012).

Despite appearing 'bullish' in public, many companies are no longer making the profits they had once nearly guaranteed from the drilling of natural gas in Marcellus Shale because of the lower market values due to this flooding of the market. Before this recent bust, there were warnings inside the industry that the math did not add up. Emails found by *The New York Times* and written by industry insiders compared all the money pouring into the natural gas industry as similar to Ponzi schemes or the dot-com bubble. Most felt that only a few wells would be as profitable as they were saying all wells would be. Furthermore, the environmental risks and water quality safety issues made the investments that much more risky. Comparisons were made to the BP oil spill in Louisiana, explaining even when there are many safety measures in place, accidents can still happen (Urbina, June 25, 2011).

These losses have not just been felt in the big corporations, but also have affected the lives of small town business owners, like the owners of Cafe 171 in Mansfield, PA. In the early boom days, they were open from 4 am until 10 pm with four servers. Now they have cut their hours and are down to two servers (Krauss & Lipton, 2012). For many caught up in the early rush of Marcellus Shale, the peak may have already been reached, with geologists now lowering the amount of gas they initially thought was available in Marcellus Shale. In early 2012, *The New York Times* reported that the Energy Information Administration had released a new report on the amount of gas available writing, "the Marcellus region, a rock formation under parts of New York, Ohio, Pennsylvania and West Virginia, contained 141 trillion cubic feet of gas. That

represents a 66 percent drop from the 410 trillion cubic feet estimate offered in the agency's last report." (Urbina, January 28, 2012). Many gas companies had based their figures on their fields and drilling sites that were doing incredibly well, and therefore did not give a proper estimation on the amount of gas available nor on the profitability of this venture.

Despite the warnings, and the already seen drop in production, investors, townspeople, legislators, and representatives of gas interests continue to remain 'bullish' about this resource, explaining that the market will go back up and to just keep drilling. That has yet to be proven, with much of the money and profits from the natural gas industry continuing to go outside of the Commonwealth (Krauss & Lipton, 2012). For now, natural gas drilling in the Marcellus Shale in Pennsylvania is here to stay. Money, power, law, and influence are on its side.

## Chapter 5

### Lessons Learned and Questions for Citizens' Future Decisions

Using Schmid's terminology, it is critical for us as a society and for us as Pennsylvanians to decide what we want the performance outcome of the drilling of natural gas from the Marcellus Shale to be. In many regards, the institutional structures and situations are already in play as natural gas continues to be drilled across the commonwealth and across the nation. However, we as individuals, have the power to impact institutions, their ideologies, their situations, their structures, and their trajectories (Schmid, 2004). History has shown the consequences of unchecked economic development and natural resource extraction in the anthracite coal region, which occurred at the expense of local communities and their environments (Miller & Sharpless, 1998) (Dublin & Licht, 2005) (Gaventa, 1980) (Aurand, 2003) (Freese, 2003). To prevent history from repeating itself in a similar bust cycle with natural gas, certain lessons can be learned from this comparative analysis of the similarities and commonalities found in the institutional structures, situations, and possible performance outcomes associated with anthracite coal and natural gas:

- Diversifying local economies
- Creating more inclusive social structures that incorporate mobile labor force
- Mobilizing local citizen and municipalities to be able to voice their concerns
- Putting formal structures in place that allow citizens access to information about procedures and policies affecting them as a result of the natural gas industry
- Designing and implementing economic development policies that take into account current and future environmental impacts

These are just a few of the many possible lessons suggested from the history of anthracite coal mining and this comparative analysis. Learning from the performance outcomes associated with the institutional arrangements and past decisions affecting the mining of anthracite coal can help mitigate similar, future unintended and unwanted occurrences associated with the natural gas industry development.

#### Necessity of diversifying the local economy

In the analysis of both Marcellus Shale and anthracite coal, there are certain similarities that emerge. Both extractive industries boomed in what had initially been remote areas of the Commonwealth. Towns and communities developed around these extraction sites to suit the companies and their needs. This suggests that these communities in northern Pennsylvania need to take steps to diversify their local economies. If these communities are once again reliant on one industry, when that industry reaches its eventual decline, which may be in as little as ten to twenty years (Urbina, January 28, 2012), it is important to have other industries and more diversified economies to support communities and their people.

While the Commonwealth currently does have an impact fee on natural gas in place, revenues are too small to make a substantial, long term difference in state and municipal budgets. Already, the amount collected from the impact fee has seen a 3% decline due to the drop in natural gas prices (Cusick, 2013). If the Pennsylvania government reconsidered replacing the current impact fees with the severance tax proposed in 2009 and 2010, which according to some estimates, would bring in an additional \$50 million, there would be the possibility of increasing revenues generated for the state and local governments (Fact Check, 2010). Furthermore, the severance tax has the possibility to create jobs which could increase the diversification of local economies, unlike the current impact fee. "A September [2010] report by the Penn State Institute for Research in Training & Development found that every \$100 million in severance tax revenue

will create a net gain of between 1,100 and 1,900 jobs" (Fact Check, 2010). Diversification of the local economies and using state and local monies generated by a severance tax on natural gas extracted from the Marcellus Shale to increase job opportunities for other industries would help to buffer the eventual decline of the natural gas industry. This money would need to be explicitly earmarked for this purpose.

#### Creating more inclusive social structures that incorporate the mobile labor force

In both the development of the industries surrounding anthracite coal and Marcellus Shale, there has been an influx of workers and laborers to the area from outside the communities. While the workers in the nineteenth century were immigrants from Europe, today's natural gas industry draws workers from other states who have experience in the drilling of natural gas (Griswold, November 17, 2011). In the anthracite coal industry, many divisions were created between those who lived in the communities and those who moved to work in the mines. While these divisions were often fostered by those who worked in the mines, the communities as a whole were strengthened and their voices were given power when the people were able to join together regardless of ethnicity (Miller & Sharpless, 1998). While the union movement played an important role in mobilizing miners, this would not be the case for gas works. Furthermore, coal mining was more of a long term event that was spread over several generations. As ethnic groups intermarried, cultural divisions were weakened (Aurand, 2003) (Dublin & Licht, 2005). Gas workers are not going to be in these communities over the long term due to industry nature today, which will make it more difficult to incorporate them in a meaningful way.

Nevertheless, communities today can work to try to include these skilled workers, even though the majority are transient into their community's social structures in northern Pennsylvania to mitigate resentment or negative feelings towards them, and to afford these workers opportunities to contribute productively to community life where they are living and

working. A more cohesive social structure would ideally give both citizens of the communities and workers in the gas industry more power and agency to express their voices and opinions on the impacts of this industry in their daily lives and to collaborate in ways that are mutually supportive and productive in fostering positive community life.

### Mobilizing Local Citizens

The natural gas industry in northern Pennsylvania is under the direction and control of national and multi-national corporations, which are not located in the region, much like the anthracite coal industry that was controlled by companies located in Philadelphia and New York City (Miller & Sharpless, 1998). Despite the company's headquarters location outside of their local areas, citizens and community officials should work to find ways to ensure community members' voices and concerns are heard by these multi-national corporations. Individuals' collective experiences and power hold the promise and possibility to affect change in their community if and when they begin to experience negative impacts or externalities due to the natural gas drilling. Furthermore, citizens can also use their voices to encourage their legislators to enact laws that regulate the gas industry.

For many of the energy companies, their main way they interact with citizens in the area is on a person to person basis through the gas leases facilitated by the companies' landmen (Urbina & McGinty, 2011). If there was a structure put into place where municipalities could work together and learn from each other to address issues, the municipalities would have the capacity to ensure that negative externalities such as damages to roads, local rivers and streams, and lands are able to be discussed with company owners and managers to ensure that the local communities' needs and interests are given voice (Kelsey et al. 2011). Furthermore, companies would benefit by demonstrating responsible corporate citizenship by establishing healthy and respectful relationships with the people with whom they are working. Municipalities and citizens



may be more likely to try to help the company meet its needs if they are equally engaged in partnership building.

### Creating Formal Structures

Similar to the situation and structure of the mining of the anthracite coal are the political and corporate connections in Marcellus Shale. The natural gas industry has many connections in some of the highest legal, regulatory, and political institutions in the state and in the nation. This legal and economic nexus has enabled laws and regulations to be passed with the interests of those parties involved with Marcellus Shale development in mind, regardless of the consequences to communities and environments. Hurst's findings from the 1950's that the law sides with economic development at the expense of the environment (Hurst, 1956) has been shown on state and federal levels with the hesitation toward implementing a direct tax on the gas drilled in Pennsylvania (Tavernise, February 7, 2012), and with the loophole in the EPA's Safe Water Act which holds that energy companies do not have to disclose the chemicals they are placing in the water used to frack (Griswold, November 17, 2011). Creating formal structures and legal regulations that allow citizens access to information about procedures and policies in place that affect them will enable citizens to be informed and able to participate in and influence policy making, hopefully resulting in better decisions, grounded in broad societal perspectives, regarding their land leases and other decisions and issues that arise in their communities due to the drilling of natural gas. For many citizens, there is a lack of knowledge, or conversely, an overload of knowledge regarding Marcellus Shale and natural gas development. Individuals are limited in what they can mentally process and understand, according to the concept of bounded rationality (Schmid, 2004). Citizen groups and environmental interests groups should work to keep citizens informed on the natural gas industry to remove barriers preventing dissemination of information.

### Prioritizing Future Environmental Impacts

Finally, environmental changes caused by negative externalities have already begun to impact individuals and communities in Pennsylvania's counties. As a state, Pennsylvania is still recovering from the environmental damage and degradation due to coal mining. In order to plan for a sustainable future, the citizens and officials of Pennsylvania cannot allow the environment to take a back seat to economic development. Too often, the importance of the environment can be dismissed or placed behind other interests that are economic or political. However, the care and sustainability of the earth's environment protects and strengthens not only the natural ecosystem, but also human health and well being. Current and future economic policies and strategies should give priority to environmental impacts and ensure that they are given the same weight in discussions as possible economic developments.

In 2011, Professor Timothy Kelsey and his research team published the impact of drilling on Pennsylvania's economy in 2009. He found that: "The estimated total economic impact of Marcellus Shale development activity in Pennsylvania in 2009 ranged between 23,385 and 23,884 jobs [across the state] and \$3.1 and \$3.2 billion. This included about \$1.2 billion in labor income and almost \$1.9 billion in total value added." (Kelsey et al. 2011) While these numbers appear extraordinarily high, they were about half of what the initial reports from the Marcellus Shale industry had reported that the gains in jobs and revenue could be (Kelsey et al. 2011). Furthermore, these huge increases occurred in the early stages of natural gas drilling, before prices began to plummet (Urbina, January 28, 2011). It is important to ask what the state and local institutions have done to help all citizens and communities benefit from these windfall sums, and adjust to dashed economic and social expectations and individual and collective consequences associated with inaccurate and unrealistic economics. Furthermore, Kelsey's work did not include nor account for environmental costs, which he acknowledges need to receive key consideration (Kelsey et al. 2011).

Reflecting on these windfall sum's (Kelsey et al. 2011) and this inquiry's comparative analysis, it is evident that in order to create a new way forward, actors at all levels must ask several key questions:

What, as a society, do we look for as appropriate performance outcomes in terms of natural resource extraction? What actors make these decisions, and who decides who decides? What collective action can we take to ensure a more equitable distribution of the advantages and a better mitigation of the negative externalities? These are value-based decisions and choices that make us as communities and individuals ask: Who is important? Who counts? Whose voices, needs, and opinions are heard and matter? Fundamentally, citizens need to ask about power, how it is exercised, and how it impacts people, institutions, and the environment. These questions align with Flyvberg's reflection "Where are we going? Is it desirable? What should be done? And who gains and who loses: by which mechanisms of power?" (Flyvberg, 2001, p 60).

As a society, we need to ask what we are willing to accept. Communities in northeastern Pennsylvania have shown they are tough, and that they have a coal miner's resiliency when it comes to adapting and accepting tough changes and working through hardships. Communities, towns, and municipalities have just begun to rebuild and rebrand themselves as something other than former coal towns. Despite the resilience of these communities and their ability to adapt to change, how much should communities and individuals be forced or expected to accept the negative externalities from natural resource extraction, which are too often their burden to bear? What is the relationship between the financial gains that accrue to individual landowners vs. the potential environmental and other costs that fall on the larger population and the environment?

Finally, we as a society need to ask, when will we begin to place environmental considerations on the same level as economic considerations? Environmental resources gained through natural extraction are finite. Eventually, we will run out of new resources with which to

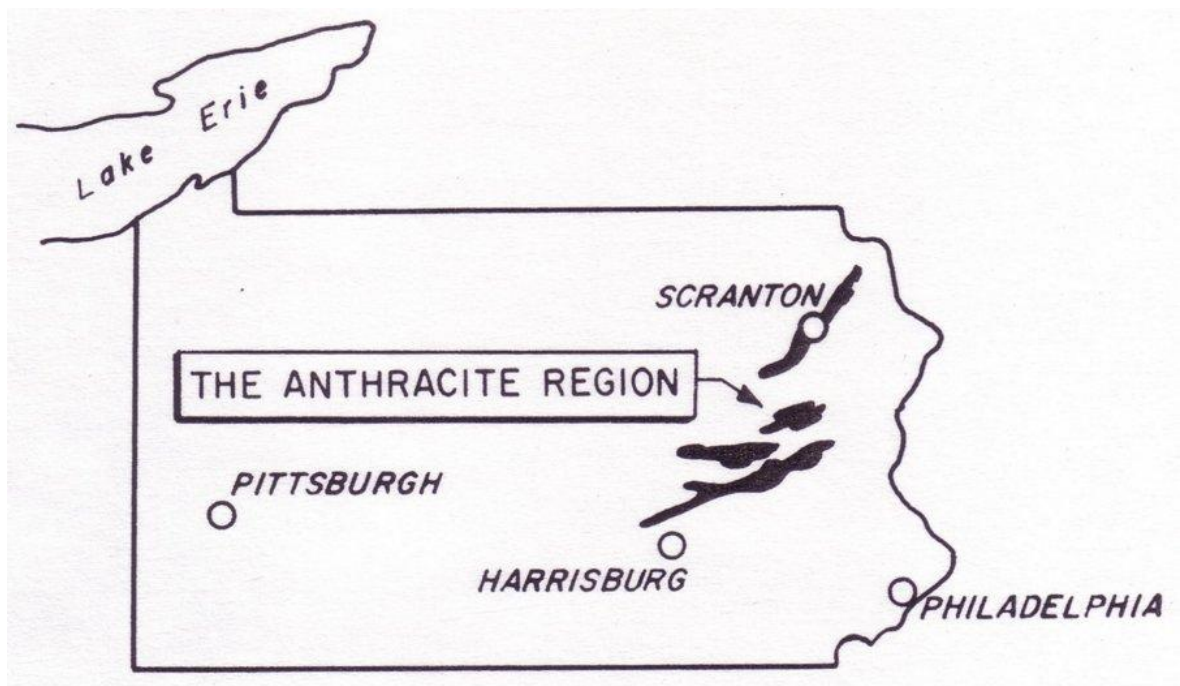
replace our current sources. Until that happens, will we fail to recognize that continuous economic growth at the expense of the environment is unsustainable, unsafe, and often unfair?

Future research needs to focus on gathering and analyzing measurable and meaningful data on the social, environmental, and health impacts of the drilling of Marcellus Shale on local citizens, communities, and environments. Further study on the impacts on local roads and other municipal structures will be key to understanding the impacts communities face on a daily basis due to the procedures of the drilling industry. Water quality across the state in local streams, rivers, and wells, should all be measured, if they have not been already, to establish a baseline quality so that it can be monitored to ensure that the fracking is not damaging or altering the water supply. It is important to not just examine the quality of the water supply, but also the quantity. Hydraulic drilling requires that companies use millions of gallons of water. The quantity of water in rivers, streams, and creeks must remain hospitable for healthy aquatic life. Financially, it will be critical for researchers and policy-makers to observe and note how the impact fee is actually being utilized by communities to support and protect their citizens and their local environments.

Given our society's fixation on economic development at all costs, the natural gas industry is here to stay. While I am not suggesting that natural gas drilling be halted in Pennsylvania, which is both impractical and nearly impossible at this stage, I do believe it would be foolish for citizens to allow the same institutional structures, power dynamics, and consequent decisions that characterized coal and other extractive industries to be repeated. This paper details an analysis of how the nexus of various institutions, and individuals' decisions within the context of these institutions, affects people, communities, and the environment of Pennsylvania now and for future generations. Through careful planning and analysis, perhaps Pennsylvania can avoid the same disastrous bust experienced in many coal communities after its peak in 1917 (Miller & Sharpless, 1998) and subsequent rapid decline of the anthracite coal industry.

**Appendix A**

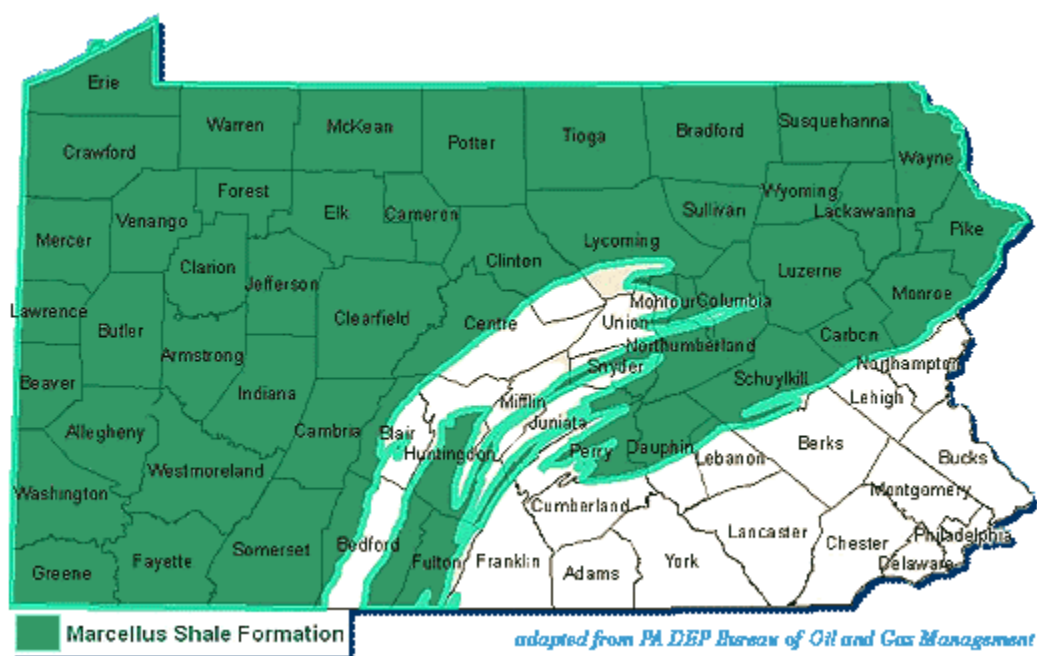
**Map of the Anthracite Coal Region in Pennsylvania**



*Adapted from [www.mininghistoryassociation.org](http://www.mininghistoryassociation.org)*

## Appendix B

### Map of Marcellus Shale Formation in Pennsylvania



*Adapted from Pennsylvania Department of Environmental Protection Bureau of Oil and Gas Management*

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### Education

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The Pennsylvania State University, State College, Pennsylvania  
Schreyer Honors College  
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### Honors and Awards

- **Schreyer Honors College Scholarship;** The Pennsylvania State University, Fall 2009- Spring 2013
- **Dean's List;** The Pennsylvania State University- 7 Consecutive Semesters
- **President's Freshman Award,** The Pennsylvania State University, Fall 2009
- **2010 Penn State Civic Engagement Public Speaking Contest,** Semi-Finalist

### Association Memberships/Activities

In this section, list all memberships in:

- Golden Key National Honor Society

### Professional Experience

*Undergraduate Research and Teaching Assistant with Dr. Theodore Alter  
Pennsylvania State University, March 2011 – Present*

- Write and edit papers, literature reviews, and abstracts for research team
- Prepare readings and class materials for 17 students in CED 417 course as a Teaching Assistant
- Administer office tasks, including email management and schedule coordination for 9 person office team

### Research Interests

I am interested in researching the intersection between school systems and communities, and how the quality of education children receive in an area reflect and impact a community's progress.

### Teach For America

*Corps Member*

*Teach For America, New York, NY*

*Summer 2013*

- Selected from approximately 50,000 applicants nationwide to join national teacher corps of college graduates and professionals who commit to teach in urban schools.
- Participate in intensive summer training programs to develop the skills and knowledge needed to achieve specific gains in student achievement. Simultaneously teach in summer school programs run by Teach For America for students in public and charter schools under the supervision of a faculty of experienced teachers.

*Transportation, Communication, and Events Operations Coordinator*

*Philadelphia Institute, Philadelphia, PA*

*June 2012 – August 2012*

- Coordinated busing transportation for 750+ corps members and institute staff
- Managed the organization, distribution, and maintenance of 37 rental cars for staff members throughout the summer
- Developed and managed day long appreciation program for 750+ new teachers
  - Planned activities to suit corps members of all age levels, backgrounds, and interests
  - Delegated tasks for the day to 20 interns
  - Solicited vendors as the representative for Teach For America for donations and material support

*Campus Campaign Coordinator*

*Pennsylvania State University, University Park, PA*

*August 2010 – June 2011*

- Increased Penn State graduates joining Teach For America by 20% from 46 corps members in 2010 to 55 in 2011
- Communicated Teach For America's mission to campus of over 40,00 students
- Distributed information through print and online materials
  - Aided in the organization of five major recruitment events on Penn State's campus
  - 40+ classroom presentations informing students about Teach For America
  - Researched and recorded information on student leaders as candidates for admission

*Workshops and Resources Operations Coordinator,*

*Philadelphia Institute, Philadelphia, PA*

*June 2010 – August 2010*

- Developed and maintained operational systems to manage 10,000+ learning support materials for 700+ institute patrons
- Manage the on-site library for new teachers nightly and be present to problem solve and oversee the operations
- Planned and oversaw successful organizational breakdown and storage of materials to ensure easy implementation of systems during setup in following summers