Communicating Sensitive Topics in Polarized Settings: Gauging Environmental Attitudes and Actions among Conservative Community Leaders

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Abstract

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Communicating Sensitive Topics in Polarized Settings: Gauging Environmental Attitudes and Actions among Conservative Community Leaders

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In *Norms in the Wild: How to Diagnose, Measure, and Change Social Norms*, Cristina Bicchieri outlines a novel amalgamation of elements to form an updated conceptualization of social norms (2017). The purpose of this study aimed to determine how social norms influence public dialogue about environmental issues by elected officials in counties that (1) extract coal through surface mining, (2) contain no town larger than 35,000 residents, (3) contain no major four-year university, and (4) voted for Trump in 2020. The ultimate goal of research was to assess whether or not, in a highly polarized political culture, norms prohibit elected officials in conservative communities from addressing topics of environmental concern. Data was elicited via interviews with elected officials from counties with coal mining legacies in West Virginia, Kentucky, Mississippi, Alabama, Texas, North Dakota, and Wyoming. Through analytic, descriptive, and open coding, qualitative analysis focused on perceptions about climate change, pollution, and economic transitions away from coal. Results indicated that a majority of interviewees, 56%, viewed climate change as a topic to be avoided in public settings. Of the 33% of interviewees who lived in communities where they perceived they could openly discuss climate change, 67% of the subset identified climate change as an existential threat, which accounted for 22% of the total number of interviewees.

While pollution was named a subject to be avoided in public by 22% of interviewees, pollution was only reported to be a public concern by 11% of the total sample. The remaining 89% contended that pollution did not exist in, or posed no risk to, their communities. In conclusion, analysis suggested that social norms aligned with community leader preferences. Thus, Bicchieri's blueprint for behavior change, which hinges on identifying maladapted social norms, will not serve practitioners who hope to employ Bicchieri's social norm concept as a starting place for environmental advocacy.

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Chapter 1: Communicating Environmental Norms in Polarized Settings

Social Norms History and Concepts: An Introduction

This thesis examines social norms in the context of public environmentalism in coal mining communities that leaned Republican in the 2020 presidential race. In the polarized political culture of the United States, diagnosing social norms related to contentious issues can provide a blueprint for opening dialogue about topics that divide constituents along partisan lines. Through interviews, elected officials in local governments from West Virginia, Kentucky, Mississippi, Alabama, Texas, North Dakota, and Wyoming shared their perceptions about the openness of their communities to discussions about climate change, pollution, and a future less dependent on coal for energy production. Systematic analysis of interview data revealed that environmental values cannot be changed by environmental advocates who focus exclusively on social norms as a starting point for behavior change. Interviewee commentary did provide an insightful window into disparity between what conservative community leaders communicate in public and private settings, which carries important implications for the future of environmental planning in a highly polarized political culture.

The literature on social norms is well established in the social sciences, with an early incarnation of the concept that reaches back to 1937 (Stanford Encyclopedia of Philosophy, 2018). By the end of the 1950s, sociologists had published consistently about social norms, but it was not until the 1970s that other social scientists fully acknowledged and adopted them across disciplines (2018). Common themes pervade the social norms literature. Generally, they are described as informal, exogenous variables

that direct human behavior through an imposition of sanctions for noncompliance (2018). Traditionally, social norms contain elements of moral, social, and legal values (2018). Social scientists have added to and removed components from the definition of social norms as various trends have won and lost favor in academia. For example, in the 1970s, norms were attached to concepts of social welfare (2018). In the 1980s, economists touted social norms' utility, demonstrating how norms functioned to prevent market collapse (2018). With the advent of the 2000s and 2010s, Cristina Bicchieri has used a novel amalgamation of factors to modify the definition of social norms for a new generation of scholars.

Bicchieri introduces an expanded and polished concept of social norms in her book, *Norms in the Wild: How to Diagnose, Measure, and Change Social Norms* (2017). According to Bicchieri's framework, social norms are one of myriad constructs that model the behavior of an individual who belongs to a collective. Social norms direct an individual's behavior in public settings when the individual makes conditional decisions based on the perceived acceptance of the action by the group of people with whom that person identifies (2017). Conditionality distinguishes norms from other descriptive constructs that influence behavior, which I detail further in the next section of this thesis. Where Bicchieri's social norms are diagnosable, lobbyists and advocates stand to use social norms as an access point for effecting change in behavior and values. Changing social norms is a complicated process, however.

By first defining Bicchieri's social norms, their function in context, and how they differ from other influences on collective behavior, this thesis applies Bicchieri's social

norm concept to public environmentalism, illuminating the perspectives of community leaders in politically conservative communities located in environmentally degraded areas. For the purposes of this thesis, a conservative community is the town identified as the county seat in a county where a majority of constituents voted for incumbent Donald Trump in the 2020 presidential election. Positive norm diagnosis helps determine if social norms actually reflect the beliefs of individuals in a collective. When social norms do not align with the beliefs of a majority of individuals in a collective, behavior change can occur more rapidly than when social norms reinforce individual values (Bicchieri, 2017). In light of the possibility of a misalignment between personal and perceived collective values, this thesis aims to address the following three questions:

1. How do public figures in politically conservative coal-mining communities both spend time in the environment and speak about environmental values?
2. Are public figures in politically conservative coal-mining communities forced to censor their personal values in public discussions about the environment in a manner they find undesirable?
3. How do environmental social norms shift as the amount of surface mining for coal increases or decreases in the county where the public leaders live?

To gather relevant data, I interviewed nine leaders from local governments in conservative communities to see if perceived social norms limit their discussions of environmental topics. Environmental issues, in particular, are nationally significant, as their management is an important source of political division in an exceedingly polarized

United States (Guber, 2013; Pew Research Center, 2016; Hrynowski, 2020). In light of the contested nature of environmental regulation, conservative leaders may wish to incorporate pro-environmental values in their public addresses or influence, but fear the backlash that comes from violating a social norm that proscribes environmental advocacy. In such a dynamic, they would be censoring private values in public settings. In both cases, where social norms do or do not proscribe pro-environmentalism among conservative figures in leadership roles, the research helps to inform future conversation about environmental affairs with a population that typically favors economic benefits over the requisite environmental costs of policy intervention.

Several key terms arise repeatedly in this thesis. Kollmus and Agyeman define 'pro-environmental behavior' as a preference to reduce behaviors that will harm human and non-human ecosystems (2002). For the purpose of this thesis, I refer to 'pro-environmental sentiments' and 'pro-environmentalism' in a comparable way. Both terms describe an individual's preference to negate environmental damage through behaviors that may or may not impose a cost on society. Recycling, advocating for wildlife conservation, and supporting environmental regulations on businesses all describe pro-environmental sentiments. 'Hypo-environmentalism,' in this thesis, indicates an individual's preference to emphasize economic, or other values, over environmental values. Hypo-environmentalism could be manifest as a preference for resource extraction over land preservation. An individual who values a clean environment might harbor a stronger desire to improve job opportunities that come from expanding the area of local strip mines. That is, the environment can be a priority but not the individual's cardinal

priority. In a final category, 'anti-environmentalism' is reserved for instances in which an individual seeks out an environmentally damaging outcome in order to consciously harm the environment. Such a pursuit could be a response to a pro-environmental regulation, or it could be a measure to placate a group for political support. Of course, countless examples of pro-environmentalism, hypo-environmentalism, and anti-environmentalism may arise from research. The listed instances merely help identify cases of each.

Significantly, the running hypothesis for this thesis during research was as follows: In the highly polarized political culture of the United States in 2021, counties with high levels of surface mining for coal—a well-established source of pollution—will not be any more open to pro-environmental dialogue than counties with low levels of mining. More broadly, varying levels of pollution will not alter how communities embrace environmental issues. My hypothesis assumes that loyalty to party values closes pro-environmental dialogue for any county where a majority of citizens voted for Trump in the 2020 election. Counties in this study did so by majorities between 71-87%. Due to the lack of dialogue, values were hypothesized to fit a bimodal distribution rather than a bell-shaped curve defined by a gradient of pro-, hypo-, and anti-environmental values.

What are the Terms of Bicchieri's Social Norms?

Starting with social norms, Bicchieri introduces a range of social constructs that describe behavior for an individual in a social setting. A social norm, according to Bicchieri's formal definition, is,

> a rule of behavior such that individuals prefer to conform to it on condition that they believe that (a) most people in their reference network conform to it

> (empirical expectation), and (b) that most people in their reference network believe they ought to conform to it (normative expectation) (Bicchieri, 2017, 35).

Social norms are not formalized edicts, nor do they establish legally binding prescriptions for behavior (Bicchieri & Xiao, 2009). Instead, they are based on individual perceptions of group-appropriate behavior. A social norm bundles an individual's perception of how those in his or her reference network have acted, as well as should act, in a situation that demands the individual to choose a behavioral preference given a set of conditions (Bicchieri, 2017). In most cases, defying a social norm instantiates a sanction from the individual's reference network (2017). Unpacking these statements will help explain when and how social norms govern action.

Conditional decisions feature a context-specific preference; e.g., Jim might want a hamburger, but he would not order one in the presence of his 'vegan friends' to avoid criticism about his carbon footprint, a lecture on animal rights, etc. Hence, Jim's preference is not to eat a cheeseburger in every situation, even when cheeseburgers are his favorite food. His preference is conditional. Multiple behaviors are possible, yet he selects one based on his preference for a specific reaction that he anticipates.

Alternatively, when an action is unconditional—preferred and performed independent of context—it can never be labeled a social norm. For example, Jim removes trash from a local riverbank when he goes on walks because Jim remembers his father doing so when Jim was a child. Jim does not expect others in his community to pick up trash by the river, nor would he chastise them for not picking up trash that they see. He simply honors his father's legacy whenever he picks up trash, which is every time he sees it. Unconditional choices can be grounded in customs based on tradition,

moral rules upheld by the individual performing the action, or legal injunctions imposed by an authority that prohibit particular behaviors by enacting punishments (Bicchieri, 2017). Social norms can overlap with the behavioral outcomes of an unconditional action, but the behavior is still preferred unconditionally, and, so, is not a social norm.

If a conditional behavior is chosen because the preference fits with one's perception of how people in one's reference network have historically behaved in a similar situation, the decision highlights a descriptive norm (Bicchieri, 2017). Descriptive norms come exclusively from empirical expectations—perceptions about what a person in one's reference network tends to do in a situation; e.g., when Jim encounters discourse on climate change, he dismisses climate change as a hoax because his reference network peers have responded in such a manner to mentions of climate change. Descriptive norms are a component of social norms. Alone, they can be the basis for a person's decision. They are different from social norms, though, in that they lack the pairing with a normative expectation.

Normative expectations are prescriptive, and so add a determinative layer to a conditional choice; e.g., Jim prioritizes economic ends over environmental ends because that is what he believes other conservatives believe a conservative ought to do in a world where some people are poor and future wealth comes from economic development. When the researcher can identify (a) a decision made conditionally wherein the reference network members base their behavior on how they expect other members (b) should and (c) have acted in a similar situation, then the researcher can finally conclude that a social norm exists (Bicchieri, 2017). As Bicchieri states, "The only way to identify a social

norm is through the mutual consistency of (incentivized) normative expectations combined with the existence of conditional preferences" (2017, 96). The normative component, that one *should do* or *ought to do* a specific behavior as a member of a group, is the indicator that separates a descriptive norm from a full-fledged social norm.

Diagnosing the existence of a social norm is the first step in effecting targeted behavior change, a lengthy and complex process that alters group behaviors in the hope of achieving healthier and more representative outcomes. To complicate matters with the diagnosis, social norms can be subject to misunderstanding by the reference network that practices them. In extreme cases, social norms can even harm those who abide by them (2017).

When social norms are maladapted, they do not accurately represent the preferences or beliefs of people in the relevant reference network. Pluralistic ignorance is one of the major perpetuators of maladapted social norms (Bicchieri, 2017). In a situation defined by pluralistic ignorance, members of a reference network mistakenly attribute value to a behavior by wrongly assuming a majority of reference network members prefer that behavior over other behaviors (2017). For instance, a majority of community members might be worried about pollution from a local DuPont factory, but shy away from sharing that worry in a town hall meeting because they each think that everyone else in the town values job availability over an environment devoid of pollution caused by the plant. Particularly, when social norms prevent discussion about a behavior, a majority of individuals in a reference network might personally disapprove of a behavior but choose to perform that behavior for fear of social sanctions (2017). Thus,

they choose to censor their values in public conversation. Open dialogue avoids maladaptation that stems from pluralistic ignorance. To diagnose possible instances of pluralistic ignorance, it is important to note when open dialogue about particular topics is and is not accepted within a reference network. Pluralistic ignorance can be more difficult to address in situations that provoke a strong emotional charge by involved parties.

As with any decision that elicits a strong emotional charge, an individual's assumptions about the proper response can be misconstrued. Inherently, norms are neither good nor bad, so decisions in light of norms are not universally good or bad. Decisions are compliant or noncompliant. Compliance and noncompliance can be informed or coincidental, as norms are never stated explicitly or formally, but inferred from observations of reference network behavior (Bicchieri, 2017). It is also common that reference network members recognize a behavior as in line with a norm without knowing the exact social functions of norms (2017). Due to the tacit nature of norms, that they are learned by interpretations about appropriate behavior rather than formally explained and understood, individuals must employ cognitive tools to identify empirical and normative expectations that apply to conditional decisions. Bicchieri models these cognitive tools with game theory and scripts (2017).

To explain decisions made by an individual facing a social dilemma, Bicchieri first appeals to game theory, explaining the concept through the prisoner's dilemma (2017). The point worth mentioning is that individuals must choose between a self-serving action that may have consequences when caught, versus an action that complies

with what is expected by a reference network yet is not the preference of the individual (2017). That is, the decision toward noncompliance risks sanction. The payoff for violating the norm must compensate for the risk of noncompliance: speaking up about pollution from the local DuPont plant might result in angry neighbors but could also spearhead an investigation that allows the speaker to file a lawsuit.

Bicchieri uses scripts as a method to institute a version of framing into her theory of social norms. Framing is typically considered an alternative view of human behavior from norms, because framing theory requires that behavior is primarily determined by the way that information is shared with an audience, not determined by the perceived expectations of reference network members. Presentation of material matters for Bicchieri's social norms, as well, because scripts indicate how reference network members should behave given the context; responses are conditioned, or scripted, by knowledge of prior and related contexts (2017). Bicchieri writes that, "Scripts are essentially prescriptive sequences of actions of varying levels of specificity that people automatically engage in (and are expected to engage in) while in particular situations" (2017, 132). Scripts can tap into schemata, which are preconceived and shared structures for analysis of people, places, objects, and events (2017). Depending on the style of introduction to a topic, or its framing, a speaker can engage scripts and schemata in a manner that elicits application of a norm that would be different if the topic had been introduced in another way: speaking of climate change by directly referencing it, or angling the issue as a matter of ecological change, biodiversity, or resilience. Norms can work to unite reference network members when activated by the right script. With an

alternative rhetorical strategy, a new introduction to the topic may activate a different norm that can erect unnecessary boundaries that lead to social outcomes like polarization.

Before introducing the context of norms in environmentalism among conservative groups, it is important to note Bicchieri's advice that justifies when one can attempt to alter a social norm:

> To effectively challenge norms that deny what we consider to be fundamental rights, we must understand what sorts of reasons would induce behavioral change, and what drives belief revision in cultures profoundly different from ours, whose ways of evaluating evidence lead to conclusions that we would normally reject (Preface, xi).

The researcher must remain thoughtful and open about the dynamics of norms with which he or she disagrees. The norms might serve a social utility. In other words, explicating a hitherto unspoken norm might have unforeseen repercussions. Simultaneously, a social researcher has a moral imperative to strive to use research for bettering society, in my opinion, even if that only means sketching out the cultural treatment of an issue for transparency's sake.

Environmental degradation, climate change, and many other environmental problems do not respect political or social borders, so addressing them requires compromise and empathy between groups who may not identify with the same reference network. When social norms do interfere with social harmony, exposing underprivileged groups to disproportionally high levels of pollution or climate variability, for instance, social norms can be revised through behavior change strategies to improve standards-of-living for unfairly affected parties by redistributing burden. Climate change and pollution are not problems that will solve themselves, or that can wait for all reference

networks and their members to collectively recognize them as threats. If some members of a reference network already recognize climate change as a problem, especially community leaders, then solutions will be easier to implement than they will be for a reference network within which no one recognizes the threatening nature of climate change. Herein explains the importance of social norms. Diagnosing social norms can accelerate shifts in empirical and normative expectations, which can align behavior with pro-environmental actions even before all reference network members agree that climate change is problematic.

Why Bicchieri's Norms and Environmentalism? Context, Application, and Impact

In the early days of environmentalism in the United States, the 1910s, progressive Republicans pushed conservative Republicans toward conservation through the "expert management of public lands and preservation of scenic locales" (Karol, 2019, 2). The environment, as an area of policy regulation, remained mildly controversial in the decades that followed. At times, oil drilling and manufacturing initiated environmental debate, but it was not until the 1960s that the US saw the rise of collective environmentalism, spurred by the publication of Rachel Carson's *Silent Spring*, the creation of Earth Day, and increased activity of environmental advocacy organizations with local chapters throughout the country (2019). With the creation of the Environmental Protection Agency in 1970, as well as the National Environmental Policy Act and the Endangered Species Act in the 1970s, divergence of Democratic and Republican opinion about the environment began to register in a formal, albeit still modest, way (Karol, 201; Kim & Urpelainen, 2018). At the national level in the United

States, average voters maintained consistent public opinions about environmental politics throughout the 1970s and 1980s (Kim & Urpelainen, 2018). That is not to say that one view of environmentalism predominated, or that one specific perspective prevailed universally across US subcultures. During these decades, attitudes about environmental affairs were primarily a function of voter location, rather than a function of party affiliation; rural Republican constituents routinely voted in a manner that prioritized the landscape that defined their places of origin (2018). Only after 1990 did the bifurcation in public opinion between Democrats and Republicans increase dramatically with respect to environmental topics (2018). Representatives and voters, alike, began to treat environmentalism as a partisan issue. A partisan issue is one for which a party member has an opinion prescribed for him or her by party affiliation. In his book *Red, Green, and Blue*, David Karol comments on this loss of individualized input by representatives in government, noting "the declining importance of personal characteristics of members of Congress other than party affiliation, even those [personal characteristics] such as age and education" (2019, 2).

In the twenty-first century, in other words, environmental consensus now splits along party lines rather than geographic lines (Kim & Urpelainen, 2018). On the Democratic side of the US constituency, voters' environmental sentiments have grown markedly in strength in the past three decades, even with Democratic voters in urban settings (2018). Voting preferences among rural Republican community members—where traditional vocations and hobbies skew toward the outdoors—have shifted to adopt values inherited strictly from affiliation with the Republican Party, rather than prioritizing

the landscapes that define where they live (2018). In both camps of the politically polar US, whether Republican or Democrat, political identity is a force stronger than the impact of the view from one's window. As Guber reports, "Average Americans are now more polarized on the environment than at any other point in time or than on any other topic of political relevance included within Gallup's [2013] surveys" (2013, 95). Polarization, in general, has increased in US culture since 1990 (Kim & Urpelainen, 2018). Climate change, specifically, constitutes the most polarizing topic within the political dichotomy (Guber, 2013). The disparity of opinion about climate change has remained consistent since Gallup's 2013 polls as shown in Gallup's 2019 findings, the most recent data available, with a bipartisan value gap for climate change wider than the gaps reported for other contentious issues: healthcare, gun policy, income inequality, and immigration (Hrynowski, 2020). In his book *Getting to Green*, Frederic Rich writes that, "The Green movement finds itself mired in the vortex of hyperpartisan fury that dominates Washington and from which there appears to be no escape" (2016, 24). Due to hyperpartisan stances and polarization, Rich rightly asserts that Green legislation is stuck in gridlock (2016).

Polarization makes holding centrist ideals difficult. Individuals are pushed one way or the other by the tide of polarity. Those left out of the two camps are alienated, and those within one of the two polarized camps struggle to rectify how one could identify with the values upheld by the group with the *perceived* diametrically opposed vantage. In a 2016 study on polarization, 55% of Democrats reported that the Republican Party causes them to feel afraid, while 49% of Republicans reported the same sentiment

about the Democratic Party (Pew Research Center, 2016). Further, 45% of Republicans reported identifying Democratic policies as a threat to the US, at the same time that 41% of Democrats viewed Republican policies as a threat (2016). Even those voters in the US who register high levels of empathy, normally open-minded to alternative viewpoints, are swept up in the bad humor of polarization. When these empathetic individuals perceive that harm is being done to other members of the party with whom they associate, they are quicker than people who register lower levels of empathy to respond with anger to this perceived harm (Simas et al., 2019). Therefore, empathetic individuals, those adept at putting themselves in others' perspectives in order to analyze a situation with greater objectively, are not the positive force they could be in a society with less charge over contentious issues. The same 2016 report on polarization showed that 44% of both Republicans and Democrats allege that they "almost never" agree with the party with which they do not identify (Pew Research Center, 2016). Given events since 2016, the report's statistics are likely to underestimate the current percentages of people who are either intimidated or confounded by those who subscribe to a different political party than they do.

Individual figures in positions of leadership struggle to break from group mentality with ideologically subversive commentary or action. They, too, can be exiled as a sanction for their noncompliance with norms; e.g., after public condemnation of Trump on numerous decisions, Mitt Romney was the only Republican senator not invited to join the Coronavirus response team (Williams, 2020). Polarization sets stricter empirical and normative expectations with reference network member behavior, as well

as holds the potential to increase the intensity of sanctions for behaving in norm-defying ways. Hence, concepts like pluralistic ignorance apply when a democracy fails to allow each individual to represent his or her views as honestly as possible. Polarization does enable politicians and voters to achieve a higher level of consistency in personal philosophy across a broad spectrum of political topics, as nuanced issues can be reduced to two opposing arguments (Guber, 2013). Ease with ontological categorization is good, but only when it respects the complexity of an issue. An overly reductive understanding of a complex issue paired with a social norm that closes dialogue stunts scientific literacy, making it even easier for misinformation to spread through a reference network.

For formal groups as much as individual voters, polarization creates an umbrella that designates insiders from outsiders of a collective, and the resulting dichotomy can be leveraged strategically. Polarization has utility for institutions that lack the flexibility to rebrand themselves in a manner that keeps pace with the evolving values that permeate associated reference networks. In one study, analysis showed that contrarian climate change campaigns initiated by corporate funding have successfully promoted climate change skepticism within conservative communities (Farrell, 2016). For those who benefit from hypo- or anti-environmental sentiments, polarization serves the purpose of generating controversy and delaying policy decisions that may undermine those organizations' preferences (2016). Stagnation in policy minimizes efforts needed to adapt to changing standards. Lobbyists, like those in Farrell's study, capitalize on established modes of acceptance by people who belong to specific reference networks, and who have been polarized in a particular way to accept particular kinds of information

with predictability. With climate change skepticism, that reference network is conservative.

Because media consumers tend to seek news from sources that share their ideological leanings, a phenomenon referred to as confirmation bias, the media sources' ideologically reinforcing messages entrench existing dogmas (Stern, 2018). Notions defining empirical and normative expectations flow to reference network members consuming the media. It should be said that, regardless of political affiliation or preference, all people are prone to confirmation bias (2018). The force of confirmation bias can be so strong, in fact, that it overrides the influential power of education, even when studies presented to an audience are conducted through the scientific method, presented clearly, and introduced by subject matter experts (Kollmus & Agyeman, 2002).

In the 1970s, environmental practitioners attempted to alter environmental behavior through formal educational initiatives, striving to rally bipartisan support for environmental causes with impacts that affect all US citizens (Kollmus & Agyeman, 2002). Their approach is considered rationalist, because it assumes a logical connection between (a) tendencies to engage in hypo- or anti-environmental behavior and (b) the absence of environmental knowledge (2002). However, these early environmental educators' approaches were proven ineffective for one reason: Knowledge and knowledge gaps are not the paramount determiners in crafting beliefs about the environment (2002). Science can produce scores of quality studies about the way in which day-to-day activities can minimize carbon footprint or pollution. Enacting behavior change or influencing belief must appeal to more than logic to override the

established behavioral practices of a reference network (2002). Therein, we see that ideology, manifest as common practices for information dissemination within a group, can propagate myths just as readily as it does truth.

Misconceptions, as with confirmation bias, mar all political ideologies. Among conservatives, many subscribe to the myths that (a) environmental protection must necessarily cost jobs and (b) industry that pollutes excessively supplies the market with a large number of jobs (Kojola, 2015). In actuality, studies have shown that job loss resulting from environmental regulation is exaggerated, and that heavily polluting industry employs a tiny percentage of the working populace (2015). These myths are maintained through unconscious and conscious processes of information sharing, sometimes intentionally and sometimes through mechanisms like social norms. Through these myths and responses to them, conservative reference networks cultivate normative and empirical expectations, as well as engage scripts that determine appropriate behavior in conditional situations. In the case of a phenomenon like climate change denial, the myth is perpetuated, at least in part, by communicative strategies practiced by conservative reference networks.

Sociologists McCright and Dunlap have outlined four techniques, which they maintain work as anti-reflexive agents, that conservative politicians have used in order to undermine the credibility of those who support climate change policy implementation (2015). First, the two sociologists have noted the practice of misrepresenting and suppressing climate change research (2015). This tactic is straightforward. Second, conservative leaders have intimidated or threatened climate change scientists, often in a

manner that insults the integrity of the scientists. McCright and Dunlap offer several examples in which conservative thinktanks have aggressively "accused mainstream climate scientists of being 'junk scientists' more concerned with securing federal funding than with the truth" (2015, 119). Third, conservative politicians have invoked new rules or procedures as tactics to misrepresent climate change scientists. McCright and Dunlap cite situations wherein Republicans in Congress have hosted 'pseudo-events' that are treated as investigations. In actuality, these events are predetermined, and have called on fossil fuel industry executives or conservative thinktank members to summarize the consensus of climate change scientists about global warming (2015). They compare the practice to the similar tactics used by cigarette executives in the past, wherein the executives denied that inhaled cigarette smoke causes injury and death (2015). Fourth, conservative leaders have projected the biases and dirty journalism of partisan mainstream media outlets onto the journalists who compose the science-oriented media. In so doing, climate reports can be considered 'one side of the story,' which insinuates that the climate science debate can be adequately represented by two opposing views (2015). With these four anti-reflexive strategies, conservative leaders make it easier for conservative reference network members to reject climate science in favor of facile, incorrect, and reductionist critiques that fail to recognize the nuance of additional perspectives. These anti-reflexive strategies also corroborate the uncertainty-identity theory (the alignment of theories indicates validity). The theory's premise is that individuals who struggle with self and identity are drawn to ideological groups that give clear guidelines about normative beliefs and behavioral prescriptions (Hogg, 2014).

These individuals grant oversimplified propaganda an audience, and play a role in continuing harmful and extremist social norms that polarize the US.

Polarization in leadership is an important component in the evolution of pro-, hypo-, and anti-environmental ideologies. Conservative reference networks may be especially cautious about deviating from views of conservative leaders, further strengthening norms, as conservative ideology values the preservation of established hierarchical structures of authority (Stern, 2018). For that reason, the relationship between conservative leadership, conservative voters, and environmentalism should be worrisome for environmental practitioners. Guber tells us that, "elite polarization generates clearers [sic] cues for voters" (2013, 105). Kim and Urpelainen add that, "as partisan activists and politicians become increasingly polarized, the public follows" (2018, 107). Baldassarri and Park define conditions even more clearly, confirming that "political candidates and party activists have become more extreme in their policy agendas and political views," where "elite polarization is generally conceived and documented in terms of increased extremism, namely, as a movement from a bell-shaped opinion distribution to a bimodal one" (2020, 809). This trifecta of quotes showcases the danger of allowing rhetoric to present only dualistic perspectives on data collected by scientists: Leaders enable and condone polarizing social norms by serving as models for voters.

Without widespread and anonymous surveying, assessing the accuracy of opinions expressed in public can be difficult. A handful of extremely outspoken conservative leaders may challenge the rest of the leadership to follow in their radical

dismissal of climate change or risk ostracization. In actuality, a significant number of conservative leaders and voters may secretly harbor worries about climate change, wishing the issue could play a bigger role in policymaking. Furthermore, at the level of the constituent, having heard hypo-environmental rhetoric by leaders may be enough to convince voters that apathy is a permissible approach to climate change or pollution mitigation, which is tantamount to active damage of the environment, given the timescales projected by climate modeling and the hazards of pollution.

In General, Why Norms?

A thorough understanding of environmental social norms may tell a more complete story about conservative environmental ideology than a metric like voting, as voting features a decision wherein an individual must choose one package deal over another; i.e., voters typically will not agree with every stated value of a candidate, but one candidate must be selected. Bicchieri's social norms emphasize motivations at the same time that they lay out how groups interpret proper behavior. Specifically, Bicchieri's theory of social norms demonstrates that, how a person should behave, as a conservative US citizen being judged by a conservative reference network, can override this conservative person's private belief about the danger of climate change.

Conservative reference network members have shown to be especially influenced by descriptive norms, or how they perceive others in their reference network to have behaved with respect to an issue in the recent past—why media coverage is also significant (Goldberg et al., 2020). Paired with the fact that "conservatives place greater value on in-group loyalty, conformity, and desire to identify with others," it is important

that people in positions of public prominence do not contribute to a culture that requires reference network members to censor their opinions in public (2020, 510). To reiterate, such a culture rewards those with the loudest voices, not necessarily the most commonly held view. In a polarized setting, a conservative constituent may embrace hypo- or anti-environmentalism in action and voting decisions, even though it does not reflect his or her personal beliefs.

Norms have proven successful in a multitude of situations that require researchers to uncover motivations that correlate with outcomes of action. In one study, delineating norms helped predict the willingness of US citizens to use novel technologies to decrease energy use in their homes, as well as their expectations about peers' energy consumption in light of readily available new technologies (Horne & Kennedy, 2017). Such a study informs projections about the potential efficacy of energy reduction schemes. Identifying the realistic expectations of constituents can allow policy to properly incentivize responsible behavior and, more concretely, inform production goals for energy producers.

In another study of social norms, researchers found that tapping into norms related to materialism, self-esteem, and rationality in the purchase of environmentally-friendly foods had very little impact on the food purchases of social media users (Hynes & Wilson, 2016). Therefore, on social media, social norms teach us that social sanctions are not as influential for certain topics across media types. Two more studies demonstrated how norms affect towel reuse in hotels, and community recycling of dry materials like paper, glass, cans, and plastic (Terrier & Marfaing, 2015; Thomas & Sharp, 2013). Norms bypass assessments of truth value in messaging to deliver commentary

about how people will actually behave in a conditional setting. Assessing if and how social norms about pro-environmentalism direct behavior can help researchers and practitioners generate realistic expectations about environmental outcomes in light of social pressures. Knowing what norms are activated in a reference network also indicates when instances of compliance and noncompliance occur. With social norms, the stakes of noncompliance drift into judgments that are psychologically deeper than a tarnished reputation or ejection from one's reference network.

In a functional society, people must know how their personal behaviors are viewed by those around them, or they risk facing alienation. Violating accepted behavior can spell ruin for the violator. In one example, an interdisciplinary pair of researchers found that reference network members perceive the faces of norm violators differently from those who practice norm compliance, a disparity that made it easier for reference network members to punish those who violated the norms of their group (Fincher & Tetlock, 2016). In other words, norms shape cognition, to a degree. Norm violation is a serious matter that can have a range of repercussions across a community.

Comprehending social norms about environmental sentiments in conservative reference networks may reveal that polarization has undermined members' abilities to freely communicate preferences; i.e., self-censorship. Confirmation of the existence of a norm proscribing open discussion of pro-environmentalism by conservative community leaders—those who generate social cues in conservative communities—would be the first step in opening the system to increase environmental concern of all conservative reference network members. An open system can self-organize and better adapt to a

world defined by changing conditions of climate, environment, and social movements (Walker & Salt, 2012).

Climate change is an especially sensitive topic. Climate change's entrance into mainstream media came at a time when other pressing issues grasped the public, namely 9/11 and the resultant wars, the increasing prices of energy, economic recession, and now COVID-19 (Guber, 2013). Climate change, itself, is a blanket topic that serves as a gateway for environmental discussions, merely because it touches on so many other relevant global issues: fossil fuels, pollution, agriculture, drought, biodiversity, spread of disease vectors as rainfall patterns and temperatures change. Politicization of an issue like climate change, that affects all US constituents irrespective of their party affiliation, can close what could be an open dialogue. The politicization and closing of a central dialogue can close all related dialogues, as well.

Chapter 2: Qualitative Methods Approach to Diagnosing and Measuring Social Norms

Introduction, Paradigm, and Research Integrity

My thesis research enlists qualitative methods for data collection and analysis. The strength of qualitative research methods stems from the focus on social processes. A process-based approach illuminates individuals' lived experiences in particular social and physical contexts (Winchester & Rofe, 2016). Because social norms are behavioral, informal, and often practiced by reference network members who possess only a tacit knowledge of them, effective methods for studying social norms must either immerse the researcher in the field to see how subjects interact, via participatory observation, or give the researcher the opportunity to inquire about practices surrounding the topic under study via interviews, surveys, or the like (Bicchieri, 2017). By first outlining the ontological paradigm informing the thesis in this chapter's preface, I set myself up to address how to establish measures of quality in qualitative research. From that starting point, I share methods I exercised for selecting target communities. Next, I explain how my interview design elicited components of Bicchieri's concept of social norms, as well as enabled discussion of unforeseen datapoints relating to both environmental topics and alternative priorities for each interviewee. I thereafter describe the methods I used for coding interview data. I define the process of coding, and how the practice of coding allows me to note similarities, points of departure, and styles and implicatures of communication—whether intentional or unintentional—of local elected officials in coal mining regions of the US. For the final discussion of implicatures, I draw on Grice's

Conversational Maxims, a methodological tool borrowed from linguistics and the philosophy of language.

I research and write informed by the constructivism paradigm, an important point to take into account in the way that I record noteworthy data and interpret data for discussion. Through interviewing, a constructivist orientation assumes that the interviewer and interviewee interact, through questions, answers, and dialogue, to negotiate a representation of reality (Guba & Lincoln, 1998). More specifically, this representation of reality is dependent on the experience, beliefs, and lexicon of participating individuals, as those variables influence the mental constructs from which the individuals communicate, behave, and form assumptions during the interview (1998). For the constructivism paradigm, because reality is negotiated, there is never confirmation of one objective reality, nor can a singular or exact conclusion be inferred from data. Interpretations of data rely heavily on the researcher. Written products of research ultimately exist as a creation of the researcher, informed by aspects of the data elicited from interviews (1998). Continued scholarly attention to a research topic can begin to elucidate more reliable representations of reality; extensive and repeated research, by a variety of researchers, may eventually generate temporary consensus among scholars (1998). Constructivism's assumption that meaning is negotiated does not forfeit the expectation that research must be conducted with rigor.

Quality assurance in qualitative methods hinges on the same set of concepts that guide quality control in other research approaches. At a basic level, validity, reliability, and rigor are research goals from which metrics for quality arise (Winchester & Rofe,

2016). With clarity, valid research tests thought processes of the researcher against common sense and academic consensus, where consensus exists (Baxter & Eyles, 1997). Reliable research aims for consistency in methods and analysis: standardizing basic interview questions across interviews conducted, standardizing the presentation of the researcher's identity with each interviewee, and analyzing data as similarly as possible following each interview (1997). Rigor is established by building credibility for a research program.

Credibility in qualitative research is achieved in several ways. First, the researcher authenticates interviewee experience directly, attempting not to insert information that clearly adds unfounded data to fieldnotes (Baxter & Eyles, 1997). Second, the researcher explains his or her dispositions and perceptions to show how they influence the interpretation of interview data (1997). Third, the researcher connects results from the immediate study to results from topically-related projects conducted at alternative scales and contexts, a condition called transferability (1997). When a research product is transferable, its results can be confirmed. Engaging a range of media—interviews, questionnaires, participatory observation, documents, images, websites—allows the research to lend dependability to findings, a process of checks called triangulation (1997). Triangulation describes the practice of building multiple data points that anchor interpretations with evidence from numerous sources (1997).

Thesis Project Methods

As stated in the thesis' introduction, through my methods, I collected interview data to illuminate if and how Bicchieri's version of social norms operate to proscribe pro-

environmental behavior for leaders in politically conservative communities where there is environmental degradation. Before I could identify actual target sites and interviewees within each site, a basis for case selection was needed. More precisely, I needed to pick a metric to use to measure environmental degradation that harms community members in the day-to-day circumstances of their lives. Surface mining, or strip mining, makes sense as an indicator because the practice degrades air, soil, and water, and thereby has a dramatic impact on environmental quality (Hopkins et al. 2013).

Surface mining describes the process by which miners remove layers of soil to reveal coal for extraction (Hopkins et al., 2013). Surface mining introduces a multitude of toxins into water resources, including surface water but also through pollution that leaches into underground water reserves (2013). Damage encompasses shifts in pH, increases in dissolved ions, contamination by heavy metals, introduction of sediment, and inputs of other toxic solutes (2013). Surface mining sends hazardous dust particles into the air, which have profound impact on health of humans, animals, and plants (2013). This air pollution can complicate existing health problems for asthmatics, and has also shown to correlate with elevated hospital visits for respiratory diseases across entire regions of states (Hopkins et al., 2013; Fitzpatrick, 2018). The disturbances associated with surface mining intensify risks across living biological communities in air, water, and soil, a positive endorsement for an indicator posited to inform the thesis research about the presence of environmental degradation (Hopkins et al., 2013; Fitzpatrick, 2018).

The United States Energy Information Agency (USEIA) released data in 2018 delineating active coal mines across the United States and their production of coal. From

the data, categorized by state and county, one can observe what areas have more coal mining, and whether the coal is extracted through surface mining or underground mining. Since county-level information is the most localized scale in the published data, it formed the list from which I made final decisions about what communities to contact as case studies for the thesis research. From the data about surface coal mining, I chose counties that fit the following criteria, in an attempt to highlight the relationship between the amount of mining and the openness of environmental dialogue in each county:

1. Varying levels of surface mining, including a set of counties with high levels of production and a set of counties with levels much lower than the highest, but still above average for producing counties in the US;
2. Republican voting record by residents, as defined by the majority vote in the 2020 presidential election;
3. Absence of a city with a population above 35,000 people; and
4. Absence of a major four-year university that accounts for a statistical majority of the county's population (where 'major university' is defined by the presence of more than 4,000 students seeking four-year degrees at an on-site campus within the county).

In order to minimize confounding factors that skew data, I initially selected two counties from two separate states, making a total of four counties. Choosing two conservative, primarily rural counties from within a single state aimed for consistency with regional culture, which intended to reduce the disparity in cultural values and allow for a purer comparison of social norm strength across sites with varying levels of degradation. That

is, selections reflected an intent to isolate variables relevant to the thesis. Picking counties from two noncontiguous states would have improved generalizability of results. The two Texas counties I originally chose are in the same region of the state. Thus, I could have been reasonably certain that conformity to my criteria indicated some overlap in cultural values between the two counties. The primary deviation between the two Texas counties was the level of coal production through surface mining. Table 1 shows a data subset, removed from the USEIA's entire dataset within the *Annual Coal Report 2018*. I added additional information outlining county area, human population, largest town in the county, and the largest town's population (US Census Bureau2019; US Census Bureau, 2020; NACo, 2020). The four counties were the most desirable for the initial plan for the thesis project. Explained later, I necessary expanded my list of communities, as gathering a sufficient number of interviewees from the four counties proved an impossibility. The final set of criteria still provided a strong sampling metric for the study.

Table 1

Site Selection Criteria and Site Characteristics

State	County	Area ($mi^{2)}$	Population (2018)	Largest Town	Largest Town Population	Number of Surface Mines	Production (Thousand Short Tons)
Wyoming	Campbell	4,802	46,140	Gillette	31,903	11	270,307
Wyoming	Sweetwater	10,426	43,051	Rock Springs	23,082	3	4,498
Texas	Limestone	905	23,519	Mexia	7,373	1	8,683
Texas	Robertson	855	17,284	Hearne	4,502	1	2,030
United States	--	3.532 million	328.2 million	--	--	430	480,080

Note. The data in columns 3 and 4 come from NACo County Explorer (NACo, 2020). The US data in columns 3 and 4 come from US Census Bureau (2019). The data in columns 5 and 6 come from US Census Bureau (2020). The data in columns 7 and 8 come from the United States Energy Information Agency (USEIA, 2018).

As is evident by the inclusion of the US totals, the entire United States' surface mining production for 2018 was 480,080 thousand tons of coal (USEIA, 2018). Campbell County, WY produced vastly more than any other county, at 56.3% of the US production for the year. Sweetwater County, WY produced .9% of the US total. Limestone County, TX produced 1.8% of the US total, and Robertson County, TX constituted another .4% of the US total. While the square-mile areas of counties in the US range vastly from the smallest to the largest in size, the US contains 3,007 counties (USGS, 2020). A county with .4% of the production is statistically significant in the production of coal from surface mining. Because the size of the county determines the spatial spread of surface mining activities, when possible, I purposefully chose larger

counties when selecting the county from each state that features less surface mining, to assure that higher production value is not a product of greater area within a county. With Limestone and Robertson Counties in Texas, Robertson is 92.7% the size of Limestone, but Limestone produces over four times as much coal. Hence, the size-to-production ratio still very much favors Limestone.

Choosing active coal mines, rather than inactive mines, ensures that community members are part of an economy that draws a portion of jobs from resource extraction nearby. As environmental and economic issues polarize conservative and liberal voters in the United States, incorporating an active issue improves the thesis research's study of process, as well as the subject matter's germane role in world affairs. In counties with active mines, the economic and environmental experiences that invest citizens in policy outcomes are drawn directly from their personal communities. Because these locales are also from regions that have historically supplied coal to the US, mining sites are likelier to form part of the identity of citizens' concepts of place, as well.

In the initial proposal for this thesis, plans entailed interviewing 12 individuals from communities that fit the above list of four parameters. From each county, interviews with one elected political leader, one prominent business figure, and one prominent figure from a church was planned in order to triangulate data about social norms within the sample reference network. From calls, for both churches and businesses, I could not reliably assess which church or business was considered more prominent than alternative interviewee options in each selected community. Community representatives from chambers of commerce and local governmental offices reinforced

this conclusion about perceived prominence. Furthermore, churches in tiny towns do not often employ full-time administrative staff. Even in a case when a particular socially active minister was recommended to me by a public official, the minister's office failed to return calls. No business accepted an interview request, either. Therefore, an altered approach was needed.

Parameters remained the same for selecting interviewees in target counties: location of surface mining, voted for Trump in 2020, no town larger than 35,000, and no major four-year university. However, I altered the search process to feature elected officials exclusively. Elected officials, unlike figures from religious or business circles, represent the collective preferences demonstrated by constituents through formal elections held in their counties of residence. Elections confirm prominence. While voters must select a candidate as a packaged set of values, it is important to note the preferences of those who make decisions in office. Elected officials are the figures from whom local citizens take cues about appropriate behaviors (Guber, 2013).

After, again, consulting with the USEID's 2018 list of counties with surface mining for coal production, I selected the states where Trump won the popular vote. In those states, starting with those counties that produced the most coal in 2018, I called local government offices, working my way down the list of counties in the state until prospective sample counties produced less than half of a million tons of coal per year in 2018. Of the 34 offices in towns that served as county seats, I was able to leave a message or speak to a county clerk, secretary, or another administrator in 31 counties. Only one elected official, in Rosebud, Montana, flatly refused to participate in an

interview. In several cases, an office worker clearly hesitated to share contact information (e.g., “I don’t know my boss’ email address” – Logan, WV). At other times, the office worker gave me an email address for herself or himself and told me to share more information about the interview. In the smallest communities, office workers warned me that elected local officials were not full-time employees of the municipality. In numerous instances, I was given a direct phone number or email address for an elected official. Following the first round of communications, I had interviewed nine elected officials. I completed a second round of phone calls to counties where I had neither won an interview nor received a candid rejection. Despite being given additional email addresses for elected officials, none responded to my attempts at communication. Hence, interview data was drawn from a total of nine samples. The data for the counties where I conducted interviews is captured in Table 2 on the next page (USEIA, 2018; US Census Bureau, 2019; US Census Bureau, 2020; Lindsay, 2020; NACo, 2020; Thorson et al., 2020).

Table 2

Complete List of Interviewee Counties

State	County	Area (mi^2)	Population (2018)	Largest Town	Largest Town's Population (2019)	Number of Surface Mines	Production (Thousand Short Tons)	Trump Majority by Percent
Alabama	Walker	791	63,711	Jasper	13,431	11	899	84
Kentucky	Whitley	437	36,242	Williamsburg	5,274	12	706	82
Mississippi	Choctaw	418	8,278	Ackerman	1,448	1	2,940	71
North Dakota	McLean	2,110	9,541	Garrison	1,462	1	8,231	76
Texas	Rusk	924	54,450	Henderson	13,154	1	2,734	77
West Virginia	Raleigh	605	74,254	Beckley	15,940	7	2,433	75
Wyoming	Campbell	4,802	46,140	Gillette	32,030	11	270,307	87
Wyoming	Converse	4,254	13,640	Douglas	6,364	1	23,156	85
Wyoming	Sweetwater	10,426	43,051	Rock Springs	22,653	2	4,498	74
United States	--	3.532 million	328.2 million	--	--	430	480,080	47

Note. The data in columns 3 and 4 comes from NACo County Explorer (NACo, 2020). The US data in column 3 and 4 come from US Census Bureau (2019). The data from columns 5 and 6 come from US Census Bureau (2020). The data from columns 7 and 8 comes from the United States Energy Information Agency (UAEIA, 2018). The data from column 9 comes from *USA TODAY* and Council on Foreign Relations (Thorson et al., 2020)(Lindsay, 2020).

Methods necessarily balanced time and budgetary constraints with the need for information regarding behavior and decision-making. Thus, I conducted synchronous, semi-structured interviews over Zoom to elicit data directly from interviewees (Dunn, 2016). The real-time format of a question-and-answer session, rather than a survey, ensured that I could gather information quickly. The synchronous component of the

interview meant that I controlled the tone of the presentation of questions, as well as enabled me to navigate, with immediacy, any unforeseen reactions to my questions by interviewees. Dunn lists the general strengths of interviewing: (1) to address gaps in knowledge within existing data; (2) to investigate complexity in both behavior and motivation; (3) to adumbrate discrepancy in opinion within a group; (4) to demonstrate the value of person-to-person dialogue with the interviewee (2016). For reasons (2) and (3), the approach works well for diagnosing social norms. Through question design, I aimed to put complex behaviors on display.

The semi-structured approach to interviews features a strategy wherein the interviewer conducts the interview with a guide of primary questions planned in advance, but also retains the ability to explore topics in greater depth, as needed, with a list of planned secondary questions connected to each primary question (Dunn, 2016). The interview questions used for this thesis are located in this thesis' appendix (see Appendix A). The semi-structured interview, broadly, gives more flexibility with conversation than a structured interview with a single list of static questions. As with a structured interview, the semi-structured approach still allows one to gather focused, predetermined bits of relevant information from each interviewee based around a collection of themes chosen in advance. The opt-in or opt-out nature of the secondary questions lets the interviewer react to changing conditions.

The secondary questions proved useful when I could tell that a sensitive issue was not the direction in which the interviewee wanted to take our dialogue; e.g., if the interviewee hesitated to comment directly on the decline of coal use in the US, I could

segue into a question about programs that train displaced workers in new areas of expertise. I wrote between two and four secondary questions for each primary question. I used some of the secondary questions with a majority of interviewees. Alternatively, I never asked some of the secondary questions. With interview questions, I avoided asking for yes-or-no answers when I desired detail, so to illuminate process through elicitations. Questions also spanned varying question types—descriptive, opinion, and structural—as each kind of question stimulates unique thinking processes in the answerer (2016).

Due to its widespread use, Zoom proved the easiest platform for conducting interviews. One need not download any software for Zoom. With Zoom, I could email the internet link for my Zoom 'Waiting Room' to interviewees accompanied by my consent form (see Appendix B). Once interviewees signed into the platform on the day of the interview, I greeted them and inquired about recording the interview. All interviewees agreed to have the interview recorded. As I demonstrated to each of them, I used Zoom's auto-transcription feature. Because the feature does not produce precise transcripts, I used session recordings post-interview to correct all of the transcriptions from my time conversing with the local elected officials. After correcting transcriptions, I deleted the recordings in an effort to help preserve the anonymity of interviewees, a condition promised in my consent form.

Once connected to each interviewee with Zoom, empirical learning began immediately for me. Throughout the ongoing process of interviewing, I observed, in the first interview I conducted with an elected local government official from Campbell, Wyoming, I needed to set the stage for the interviewee to understand the context of some

of my questions. Hence, during the second interview, I began outlining themes that showcased desirable answers to my interview questions with key examples of community issues in Athens, Ohio. First, I explained that I am studying in a county that was once a hub for coal mining. Second, I described a brief history of Ohio University, as Ohio's first college founded in 1804, and how the university's decreasing enrollment in recent years has affected university staff and local businesses (a process, I explained, that has been magnified by the incidence of Coronavirus). From that starting point, I described some of the avenues the town has pursued in order to increase revenue. I mentioned the Bailey Trail System and the attendant hope for incentivizing tourism, as well as the presence of injection wells for importing fracking waste.

With my final comments before beginning the interview question-and-answer portion of the Zoom session, I endeavored to show the local officials that I sought a frank yet open-minded interview: What I've learned, I told each interviewee, is that leading a community is hard. No decision will make all constituents happy. In Athens, we have had mixed responses to local economic development projects. Consequently, in light of these difficult decisions and discussions, I told every interviewee that I wanted to see how people in each interviewee community framed contemporary issues and how they, as community leaders, spoke about the way that community identities are changing in a new century. I expressed my particularly keen interest in hearing about projects that involve outdoor recreation and management.

With my first interview question, I encouraged each interviewee to share how she or he spends time outdoors during leisure hours. With an add-on secondary question, I

expanded the purview to include outdoor options that are available and popular for community members, even if the local elected official did not participate in those activities personally. With this two-part question, I gauged the level of activity and the environmental values of each interviewee. Assessing how each elected official values environmentalism in time spent away from formal duties is a good indicator to compare with priorities in conditional decision-making while speaking in public.

In the first three interviews I conducted, I transitioned from the first question to ask a second question about how the mining industry's presence in the community altered the way in which interviewees spent time outdoors. I intended to probe the impact of changing land use patterns or encroachment on recreational lands during time spent outdoors, or to perhaps elicit interviewees' worries about pollution. Instead, interviewees talked about how those who have experienced mining-related job losses in their areas had less money available to pursue recreational activities that are not free. While interesting, the answers were not what I had hoped to learn. Hence, I decided to alter the question order, so that the second question requested that interviewees name any protected land in or around their communities, whether parks or wildlife zones or wilderness areas. As these target communities were all located in rural-dominant counties, most elected officials listed hunting and hiking as common activities for their constituents. The question about protected areas, therefore, followed their mentions of hunting in the first question in an organic way.

After spending two questions on uncontroversial issues, I asked three multi-part questions about mining pollution and the openness of discussing pollution-related issues

in public discourse. With the questions, I aimed to fill in the blanks for components of Bicchieri's concept of social norms: personal normative beliefs, normative expectations, empirical expectations, conditional preferences, schema, schemata, and sanctions for noncompliance with norms (Bicchieri, 2017). Because the three questions incorporated discussion of local manifestations of highly polarized topics, I opted to follow the series of questions with an inquiry about sectoral pivots in the local economy. I had add-on questions about partners collaborating in the community.

As much of the interview data about economic pivots allowed the local officials to elaborate about initiatives they have spearheaded in the recent past, the conversation reenergized interviewees toward the end of the interview. I then explained that I wanted to ask one final series of questions. The elected officials, after having had the opportunity to share success stories, welcomed the final portion of the interview. I queried whether or not climate change ever comes up in discussions in community dialogue. As with the coverage of pollution and mining, I tried to elicit data that demonstrated the treatment of the polarizing topic: if and how the topic arises, how the elected official perceives that it is received by varying groups, etc.

Lastly, I offered each interviewee the opportunity to ask me questions. Common interviewee inquiries included responses I had received from other interviewees (descriptive norms), my experiences in Athens, and decisions I made in my interview design. Many interviewees also wanted to know how I had heard about their communities. Before signing off, I received four invitations to move to these

communities, and several other invitations to visit. Despite the contentious nature of some of my questions, the tone remained pleasant.

Once I had completed conducting the interviews and correcting the transcriptions, I was ready to begin coding the interview data. Coding is the term for selecting quotes from the transcript of an interview for use in synthesizing data within the research project; i.e., it is typically conceived as the first phase in the formal analysis of gathered interview data (Cope, 380). The process of coding is typically completed for three primary reasons: (1) to prune data of excess information, (2) to categorize data by navigable themes, and (3) to facilitate research analysis (Cope, 379). In the first round of coding, I knew that I wanted to concentrate efforts on datapoints intentionally incorporated into the interview design. These codes are called "analytic codes" by qualitative researchers (Cope, 379). I generated ten categories of analytic codes. Six analytic codes related to Bicchieri's social norms. Four additional analytic codes reflected priorities of the original research design. In Table 3, I have listed each abbreviated category code name with a fuller description:

Table 3

Interview Codes for Analysis

Type of Code	Code	Explanation of Code
Analytic	Personal outdoor activities	Personal leisure preferences
Analytic	Community outdoor activities	Perceived community priorities
Analytic	Personal beliefs	Personal environmental values
Analytic	Normative beliefs	Personal normative judgments
Analytic	Normative expectations	Perceived normative expectations of reference network
Analytic	Empirical expectations	Perceived treatment of topic in the past by reference network
Analytic	Climate change	Statement references climate change
Analytic	Pollution	Statement references pollution
Analytic	Economic Pivots	Statement references a changing economy
Analytic	Polarization	Statement mentions a polarizing issue
Descriptive	Able to discuss	Community open to dialogue
Descriptive	Not able to discuss	Community closed to dialogue
Descriptive	No, not a phenomenon	Denial of phenomenon like climate change or pollution
Descriptive	Yes, a phenomenon	Acknowledgement of phenomenon like climate change or pollution
Descriptive	Comedy/joking	Use of comedy/joking in talking about a topic
Descriptive	Enviro friendly	Planned activity prioritizes environment
Descriptive	Not enviro friendly	Planned activity harms the environment
Descriptive	Education	Discussion of education as source of aid in development
Open	Contradiction	Conflicting data shared
Open	Metaphor	Use of metaphor in description

Before I performed the second round of coding, I read through results from the first round of codes several times. I generated the secondary codes to highlight patterns that became obvious the more familiar I grew with the collected interview data. This particular kind of code is known as a "descriptive code" (Cope, 378). The descriptive coding categories selected assess the culture of openness in explanations of public dialogues, as well as interviewee perceptions about topical content covered in each interview. As I compiled codes, I counted the number of times certain key words were mentioned, topics like "hunting" or "parks/forests," to learn how many of the elected officials mentioned these words directly in their answers.

Finally, I performed a round of open coding[1], which allows the researcher to generate inquiries based on novel ideas or observations that arise while the researcher peruses interview data. Open codes need not follow a particular research thread planned in advance for the project, and, thus, they can be useful for uncovering previously 'hidden' bits of data that may have escaped the purview of an interviewer focused exclusively on predetermined research outcomes (Charmaz, 2006). For my open codes, I noticed trends in the treatment of topics by interviewees' answers, so I selected "contradiction" and "metaphor" as open codes. Not all information given in an interview

[1] Descriptive and open codes are not always differentiated by qualitative researchers. In the case of this thesis, I highlighted a distinction in the literature defining descriptive codes as category labels (Cope, 2016) versus open codes wherein researchers need not (1) conform to standard disciplinary methodologies and (2) their open codes are defined as such because they played no role in the original research design (Charmaz, 2006).

is explicated straightforwardly or with words, so not all data can be analyzed by the practice of coding.

Because meaning is encoded by messages and symbols that transcend mere words, methods that assess meaning must address unspoken, or tacit, communication. Social norms, as defined by Bicchieri, are not communicated directly like a set of rules to reference network members. Information about appropriateness can be conveyed through language, but appropriateness is also indicated through behavior, omission, and implicature. Qualitative researchers are not left without methods for assessing these styles of communication, even when coding is not an option. A speaker's implicatures can be made comprehensible through a set of established, systematic indicators called Grice's Conversational Maxims (Ariel, 2019).

Grice's Maxims are fourfold. The first is known as the Quantity Maxim. To respect the maxim, the speaker must communicate the correct amount of information in statements, "neither too much nor too little" (Ariel, 2019, 199). The second of Grice's guidelines is the Quality Maxim. To adhere to the maxim, a speaker must present claims that are both true and substantiated (Ariel, 2019). The third of Grice's Conversation Maxims is the Relevance Maxim. The Relevance Maxim demands that a speaker limit expressions to the subject matter under discussion (Ariel, 2019). The fourth and final of Grice's Conversational Maxims is the Manner Maxim. This maxim commands the speaker to provide concise information with clarity and with an orderly organization that is trackable for the listener (Ariel, 2019). The fourth maxim often pairs with others when a violation occurs. Because the Manner Maxim focuses on accessibility, there are

overlapping goals with the other maxims. In reading through the interview data from my nine interviews, I noted answers in which interviewees violated one or more of Grice's Maxims. In so doing, interviewees reveal their levels of comfort, honesty, and understanding of the topics that composed the interview questions. Notably, Grice's Maxims do not give the interviewer psychic access to implicatures in speech. Rather, Grice's Maxims help one rule out specific implicatures of phrases through deduction about what does not qualify for the statement the interviewee uttered aloud.

Chapter 3: Results and Discussion

As part of a Results and Discussion preamble, my own preferences and expectations need to be outlined. My career, up to this point, involves formal environmental work in three countries. The range of ecosystems in which I have gathered insight and experience are diverse: forests in the Pacific Northwest, grasslands in the Midwest, desert steppe in the Sahel, miombo woodlands and savannah in Southern Africa, and deciduous forests in the Eastern US. I have the dual professional opportunity and burden of having witnessed communities where members' lives are greatly diminished by the effects of both climate change and pollution, where biodiversity, outside of pest species, is shrinking. In regions with increased incidence of pests, communities must intensify pesticide application or face famine. Hence, I take matters intersecting with the environment seriously, and I want leaders in less affected places to begin to benefit from the lessons I, and many others, have learned in more affected areas. I began conducting interviews with conservative leaders to gauge their perspectives, in great part to address stereotypes about Republicans that do not necessarily align with reality: people from rural, conservative communities do not care about the environment, and bristle at the thought of prioritizing the environment in decision-making. Upon the completion of my interviews, without exception, I could tell that each leader with whom I spoke cares deeply about his or her community. Where I perceived an asymmetry is in the hierarchy of value we assign topical content. I will keep my own assumptions in the fore throughout my discussion, as I did during the interviewing phase of the thesis research when I elicited data from elected officials.

Eliciting information about the functions of social norms required that the elected officials whom I interviewed answer questions directly. I quickly learned not to expect straightforward or precise responses to questions that involved sensitive, polarizing topics. Nevertheless, from nine interviews, the data I collected proves to have utility in showcasing how leaders in conservative communities traverse public conversations that are contentious in the broader cultural climate of the United States. Indeed, data indicated that elected officials perceived that climate change was open for conversation in 33% of sample communities and pollution was open for conversation in 67% of sample communities. Social norms that prohibited climate change discussion in public were reported by 56% of interviewees, whereas social norms that prohibited mention of pollution were reported by 22% of interviewees. Hypo-environmentalism defined overall priorities of the elected officials who composed this study. Close analysis of commentary suggested that Bicchieri's incarnation of social norms are not a good starting place for enacting behavior change by environmental advocates and practitioners. Interview content still evinced rich insights about the attitudes and actions of conservative leaders in private versus public settings.

In the remainder of this Results and Discussion section, I first address basic patterns I observed in the data by revisiting my codes, starting with the analytic codes and ending with the open codes. After coverage of the general patterns I detected in the holistic set of codes, I thereafter present data about climate change, pollution, environmentalism's role in the calculus of economic planning, and, finally, manner of speech in communicating beliefs about the environment. In the same fashion that I

received insights about social norms piecemeal throughout each interview, I comment in greater depth on the significance of data with regard to Bicchieri's framework for social norms throughout analysis. Succeeding my presentation and synthesis of the coded data, I move on to discuss potential alternative interpretations in my study and how altered approaches might have changed results.

Just as there were similarities in the makeup of communities—low population density, conservative, coal mining legacy, and absence of a major four-year university—there were clear trends in outdoor recreation and community-building via outdoor events. Out of leaders from nine counties, seven elected officials named both hunting and fishing as popular outdoor activities. The elected official in Raleigh County, WV said hunting is so popular that "in Raleigh County, that week of hunting, Thanksgiving, became an official holiday week for the schools," since so many students would skip schooldays when the county gave less than a full week for Thanksgiving break (January 19, 2021). The same local governmental leader said that the Public Works Department employs 40 people, but that, during the week of Thanksgiving, hunting accounts for the average presence of 15 employees in the Public Works office. Phrased differently, those employees who decided not to use vacation days for hunting were well under half. Beyond hunting, leaders in four counties mentioned biking, and in five counties mentioned hiking, as highlights that are enjoyed by many constituents in their counties.

Every individual county hosts outdoor festivals and gatherings in order to build community identity and goodwill. These outdoor events are as varied as the counties that host them. In Walker County, AL, the elected official's town more than doubles its

population with an arts and crafts festival that costs between $150,000-175,000 up front each year. The official estimated the town's population at 14,000, with expectations of hitting 30,000 during the nights of the festival. Whitley County, KY holds myriad outdoor festivals and events throughout the year. The elected official listed one called Jeep January, when Jeeps descend on Whitley County from all over the United States to tear up trails in the area during a muddy month. This interviewee said that Coronavirus reduced the turnout in 2020, which was still 267 Jeeps. Tree plantings were mentioned by four elected officials. The effect of the outdoor activities can either promote environmental quality, in the case of tree plantings, or they can ravage it, per the precedent set by Jeep January. Leaders' thinking about environmental affairs depends heavily on the specific subject under consideration, and, in most cases, aligned with partisan consensus: sharing community identity and building the local economy come first in importance in policymaking. That said, every leader had a community that hosted numerous events to coax citizens to spend time in the outdoors.

Climate

With discourse about climate change, the elected officials in three of the nine communities, 33%, reported that climate change could be discussed openly and taken seriously if brought up by a concerned party in a public setting. The elected officials represented Rusk County, TX; Campbell, WY; and Raleigh County, WV. These three counties voted for Trump by 77%, 87%, and 75% majorities, respectively (Thorson et al., 2020). In Rusk County, the elected official listed influential social groups, and happily told me that, with climate change, "everyone's on board, so we think that's good"

(January 17, 2021). Campbell County, the county with over half of the coal mined from surface mining in the US, also showed the largest majority vote for the Republican presidential candidate (USEIA, 2018; Thorson et al., 2020). Interestingly, this is the location from which the elected official announced that, "to say climate change isn't real is just ignorant. And so, when it's brought up, it's brought up in ways that, well, 'how can we address the issue?'" (December 17, 2020). This leader's tone struck me as the strongest pro-environmental sentiment regarding the seriousness of climate change. The official's stance might reflect the wider global purview of the official's responsibilities in office. Campbell County, WY hosts Elon Musk's X-Prize, a $10 million competition that calls on global energy technologists to use Wyoming's fossil fuels in new and cleaner applications. The interviewee also reported having represented the community in numerous international meetings wherein the official tried to garner investments from Asian countries for resources located within Campbell County.

In Raleigh County, WV, the interviewee's tone stayed friendly as the official shared a personal take on climate change. The official teased me with a laugh: "when we have that 62-degree day in February, we have people say, 'You know, this climate change is not so bad after all.' I say that jokingly, but...I don't think it's as divisive as it has been over the years" (January 19, 2021). This interviewee was the only elected official who volunteered the fact that the official is a registered Democrat in a county that has leaned heavily Republican for decades. Of the county seat, Beckley, where townhall meetings in Raleigh County occur, the elected official said that, "I think [climate change has] become more widely accepted" (January 19, 2021). The interviewee maintained the

openness of dialogue in the official's community despite the assertion that, "we are fairly conservative as a group and as a city council" (January 19, 2021). The official did not consider climate change to be a particular problem for the community, however, which the interviewee attributed to the fact that the community is not located on an ocean coast. Coastal communities face "a historical high level" of hurricanes in recent years, the official informed me (January 19, 2021). The coastal commentary is relevant because it draws on an example case wherein climate change's impacts are visual and physical and immediate, with serious and expensive repercussions. This thread ties into later discussion, what I consider of great importance, regarding local governmental leaders' perceptions about pollution.

In five of the six remaining counties—a 56% majority of the entirety of interviewees—elected officials did not feel a person could speak openly about climate change while maintaining a credible reputation. In several instances, the interviewee attempted to make a joke to smooth the waters after my having inquired about climate change. The elected official from Alabama chuckled, introducing an anecdote to follow my question: "I have a group of ladies that I work with, finest people in this country. And I can't brag on them enough. When our air conditioner stops working, climate change is brought up" (January 19, 2021). When I rephrased my question to ask about climate change in a different way, the official then moved on to tell me that, "I hear a lot of people that dismiss climate change as phony. I don't think if you attempted have a conversation about that, you probably wouldn't be able to gather much in the way of beneficial information. I'll say that" (January 19, 2021). The cryptic message gives no

indication about sanctions for noncompliance, but the empirical expectation, from the description, dictates that the topic is not open for discussion. The official did suggest that reference network members deem climate change to be a subject one should avoid in serious forums. Reading a personal normative belief into the interviewee's commentary requires a gross extrapolation on my part, however. Dialogue is not so closed that the official would not share climate change expectations with me in private, evidence of a conditional setting and, therefore, a social norm.

In Whitley County, KY, the interviewee, a former middle school science teacher, explained the culture surrounding environmentalism in the local area through an apologist's lens. The official implied an absence of pro-environmentalism by tying the topic to community member identity: "It's still USA number one, flag-waving kind of people" (January 14, 2021). The Whitley County official shared quite a bit of information about patterns of behavior among the local constituency. The official, in multiple questions, deflected to speak about the community when I asked about personal beliefs. The official also evaded attempts to engage in discourse about climate change. Of public dialogue that is pro-environmental, the interviewee's point to me was a clear message, albeit unhelpful with diagnosing the strength of the climate change-related social norm. Ostensibly, outsider opinions are undesirable, as the official said reactions to past dialogue from constituents have been the following: "Don't mess with us, and everything, but I love them because, if you talk to them in the right, you don't talk down to them" (January 14, 2021). Reflecting analysis outlined later in this chapter, the official's commentary and inferences did indicate a social norm: instead of bringing up

climate change straightforwardly, the official reported hosting public activities that strategically incorporate pro-environmental ends. The official politely listened as I discussed climate change. The interviewee did not share a personal opinion about climate change even when demonstrating how the individual advocates for pro-environmentalism, evidence that in a conditional setting, a private one, the official did not think it necessary to overtly shun or actively engage in climate change discourse. Instead, the official modeled appropriate behavior for the official's community through omission and choices not to engage.

Some answers I received from interviewees were curt. When I failed to gather any meaningful climate change datapoints from an official in McLean, ND, I settled by asking if climate change is controversial. The official told me that "it was the Ice Age, and then there was this age and that age. And, you know, so, the world is always evolving and changing. Yeah, maybe" (January 13, 2021). I clarified my question, hoping for a straightforward affirmation or denial about the controversial nature of climate change. The official responded with a terse, "I would say so" (January 13, 2021). I sensed the interviewee was done speaking about the topic at that juncture. That is, data indicates that there exist empirical and normative expectations about openly discussing climate change in the official's county: One does not and should not discuss climate change in a conditional setting—public—where one might air any other concern. The official humored me briefly in private. Thus, a social norm prohibits open climate change discourse in McLean County, ND.

In Converse County, WY, I was told that, in general, “People are very, I would say, timid, about [bringing up climate change]” (January 15, 2021). With a secondary question, I probed how community members have responded to a public mention of climate change in the past. The official shared what I consider a euphemistic answer, saying that “it can be a very lively discussion” (January 15, 2021). It has been done, though, which indicates that the topic is not totally avoided, however timid community members are to bring it up. The official said when someone does avoid climate change discussion, it is “just to avoid an argument. The other types [of community residents], it's brought up just to have that discussion” (January 15, 2021). There is no pervading social norm that proscribes pro-environmentalism, in other words, and the lone sanction would be engaging in an argument. There is, though, a social norm that proscribes climate change advocacy by some constituents. More accurately, while there is an assumed norm, maladaption of norms is not a problem in Converse County because there have been public discussions about climate change wherein community members can support one side of a multi-sided argument.

The ninth and hitherto unmentioned elected official with whom I spoke about climate change presented the topic differently from the others. The official started with a polite assurance that, “You know, I think we're all aware of the need to be responsible and good stewards of our environment” (Sweetwater County, January 7, 2021). After priming me with that statement, the official said of the official’s town, that, “It's such a small population in a large setting that [climate change] really isn't at the forefront” (January 7, 2021). This particular elected official was a person of few words. I could not

gather much information from the interviewee about the reception of controversial topics, or what the official might consider a controversial topic in the official's county. Indicators for Bicchieri's social norms framework were missing from data. Data suggests that the reference network in Sweetwater County might unconditionally avoid climate change discourse, which does not indicate a social norm. From the individual's other answers about environmental issues, the official, too, displayed valuation of pro-environmentalism only insofar as visual evidence is concerned, which I will return to later in this chapter. Still, the official did give all indications of having a pro-environmental bent, even a superficial one, perhaps as a result of my having focused on environmental conversation points.

Pollution

Results from questions about pollution carry a heterogenous set of assumptions, sentiments, and opinions, sometimes showing contradictions in commentary about the presence and impact of pollution by a leader talking about his or her locale. In only one interview, with the elected official from Rusk County, TX, did I receive feedback that showed that the community names pollution as a serious concern, talks actively and openly about pollution, and recognizes specific industries as sources of risk for pollution in their community. The elected official made the pragmatic argument that pro-environmentalism "is cost prohibitive" in many scenarios, demanding leaders to reconcile decisions about energy, land use, and job security (Rusk County, January 17, 2021). Thus, in cases when the official acknowledged a particular industry as polluting, the official had a justification that balanced values for long-term, non-environmental

objectives for the community. The acknowledgement of pollution as an indubitable threat separated the answer from answers given by other conservative leaders. The openness is significant, considering that a 77% majority of Rusk County voters chose Trump in the 2020 presidential election, inverting what I assumed heading into an interview with a Texas official (Thorson et al., 2020). In the remaining 89% of interviewees, I received various combinations of responses with respect to the presence of pollution.

Of the eight remaining interviewees, all elected local leaders indicated that either pollution was not a problem or did not presently exist in their communities. This perception, irrespective of the activities in each county, contradicts contemporary research. Many studies have been published in recent years that establish that air pollution is widespread in the US and no level of air pollution is entirely safe. While standards are set with sensitive groups in mind, air quality standards generate an acceptable level of risk at the population level, one that leads to the mortality of US citizens (Di et al., 2017). What are considered low levels of air pollution by EPA standards have been observed to cause premature deaths in elderly populations in the US (2017). The appropriateness of the acceptable level of deaths has been the subject of heated debate by groups who believe the acceptable level puts too many people at risk; outspoken groups include lawmakers across the US (Martin, 2019). Indeed, the controversial nature of avoidable deaths by lax air pollution standards has led to initiatives by the EPA to alter risk calculations to dissociate premature deaths in the US from air pollution data (Friedman, 2019). But the disconnect between pollution and

popular perceptions about pollution necessarily vary by region, political affiliation, education level, and other factors.

In Walker County, AL, the elected official proudly shared that, "we've had considerable success in attracting tier-one automotive suppliers" to the official's area (January 19, 2021). Mercedes, Toyota, Nissan, and Honda are companies the interviewee named with manufacturing factories in the county. The industrial focus of economic activity incentivizes ongoing corporate access to the community's workforce. The official told me, "If an industrial prospect were to come to town, if we worked out an agreement, they can begin to build their plant almost overnight" (January 19, 2021). At that same time that the official talked about a history of mining and the extensive presence of a manufacturing industry expected to expand, the official assured me that, "We, as far as our industry, none of these industries, none of these industries contribute any sort of pollution as best we know" (January 19, 2021). Because of mining regulations, land reclamation, and monitoring, the official assured me that, "certainly, we do not have air pollution" (January 19, 2021). With regards to mining, the official said that, the "regulations are very rigid—I'm sure it's the same in Ohio" (January 19, 2021). While every state enforces air quality controls, Ohio's status as a hotbed for pollution from past/present mining and industry is not guarded information. That is not to say that prioritizing economic ends over environmental ones could not have come from an informed cost-benefit analysis given local conditions. Denying pollution altogether due to regulations, however, is incorrect. The professed faith in regulations was not exclusive to the Walker County interviewee.

Like the leader of Walker County, AL, the officials from Sweetwater and Converse Counties in Wyoming spoke of pollution events but also denied they fret over pollution in their counties. The interviewee from Sweetwater County said, "Now Sweetwater County, not many concerns when it comes to pollution" (January 7, 2021). However, in addition to multiple strip mine sites, the official spoke of "a very large natural gas field" that is monitored by "a partnership with industry and the federal government to just protect our communities and wildlife (January 7, 2021). In response to past pollution events related to resource extraction in the county, the official said "they actually shut down the entire field for the day for travel" (January 7, 2021). Similarly, Converse County's elected official also mentioned regulations: "[The Wyoming] Department of Environmental Quality has very strict guidelines here, as they have monitors all over those sites and shut them down if they get close to, whatever, I guess. But, so, air quality is not worried about" (January 15, 2021). In light of the resource extraction industry's presence, which the official says accounts for a significant quantity of local jobs, the Converse County interviewee alleged, "If our water is going to be safe ten, twenty years from now, we don't know. Soil quality, really, I think is the same" (January 15, 2021). The elected official from Converse County simultaneously maintained the rigor of environmental regulations but expressed unsurety about a future free from pollution. In both cases, the local officials acknowledged the presence of pollution sources and potential risk, yet concurrently maintained that pollution is not a worry due to regulations. Regulations are assuredly protecting their communities against a predetermined threshold for hazardous materials, though at a threshold that led the

Converse County official to wonder about soil and water in one decade's time. These elected leaders' statements either lack consistency or the nuance of an opinion they decided not to share in entirety.

As earlier stated, the elected local official from Campbell County, WY represents a county that produced 56.3% of the coal mined in the US from surface mining in 2018 (USEIA, 2018). The community garners international attention for its reserves of coal, which the interviewee reported to be estimated at "600 years of abundance," surely explaining the attention from Elon Musk through the X-Prize and other big-named parties mentioned earlier (December 17, 2020). Given the resources and opportunities available to the official, I noticed that the Campbell County interviewee provided a much clearer narrative about the energy industry than the other local officials. The official routinely gives international talks about the energy sector, the official said, as well as has a spouse who works in the county's coal industry. The narrative might reflect the official's experience giving speeches, but might also be tied to serving in office in a county that keeps the interviewee busy with energy-industry projects.

The Campbell County elected official boasted that, not only does the county's resource base promise centuries of commerce, but "our coal is the cleanest burning in the world" (December 17, 2021). Because Wyoming is landlocked, any extracted resources from the state must necessarily pass through other states on their way to a purchaser. The official told me, "Well, California and Oregon and Washington, all the ports, just refuse to let us ship our coal" (December 17, 2021). The official reported meeting with buyers hailing from Japan, India, and China. However, in light of the inaccessibility to ports, the

official told me, “And that is hurting us because when they can't get our clean burning coal, they are burning whatever coal they can get. And a lot of that is from Australia, which is very dirty, as far as you know, the ash content and Mercury and all that” (December 17, 2021).

The interviewee has conducted meetings with officials in California, Oregon, and Washington to discuss port access for coal sales. The interviewee said, “And they don't want to, but [the Asian buyers] can't get ours, and I just said, you know if, if you [coastal state] guys would work with us, it helps the climate because when they pollute over there, it's not just staying in their country” (December 17, 2021). To emphasize the point, the official evoked a relevant metaphor with a trigger warning that it is useful yet not politically correct: “think about when someone pees in a pool, it doesn't stay where they are. It goes everywhere, and so, you know, in the, or whatever is peeing in the pool, and it's going, you know, universe-wide” (December 17, 2021). Having thought about this topic in depth because it pertains to the official’s county’s economy, the interviewee alluded to a sophisticated and informed understanding of pollution patterns: What burns in Asia often comes across the Pacific Ocean and pollutes the US coastal states. Therefore, Wyoming’s superior coal would equate to less particulate matter in Asian emissions. According to the Campbell County official’s narrative, California, Oregon, and Washington would be doing themselves favors by opening their ports to Wyoming’s coal commerce.

In recollecting a local pollution issue, the same official did not pontificate with equivalent depth. The official told of a major pollution event in the community the official calls home:

> 30 years ago, we had a subdivision that was out in the county that had methane problems, methane gas problems. And, of course, that was before methane was used for energy. And so they had to clear out that whole subdivision and I don't remember if they bought up their homes or paid to have their homes moved. I'm not sure but it was a big deal (Campbell County, December 17, 2021).

The official went on to connect the pollution event with the current situation. The official said, "But now the methane is pretty much used up, and that's no longer a concern, so I guess when they mined it, or, you know, tried to get it. That was good because it was getting that gas out of here" (December 17, 2021). The question is, where did all the methane go that has been released over the past 30 years? It has certainly polluted either communities in Campbell County or other places downwind of Campbell County.

In a similar example, despite denying that pollution is problematic, the official shared that Campbell County has become an epicenter for companies testing fireworks, which results in frequent, large fireworks shows, an established source of toxic chemicals and compounds (December 17, 2021; Forbes, 2019). In both of these two cases, the official did not tap into the official's reasoned understanding of pollution patterns when it was not beneficial to do so. When extensive consideration about impacts of pollution events did not serve immediate, financially fruitful ends for constituents, the official did not show any sign of having applied the same deep critical thought. The lack of worry cannot be positively labeled as a deliberate choice to ignore pollution sources. As an elected leader, the official has every right to base planning on economic, rather than

environmental, ends. The lack of fixation on what the official deems to be non-issues could, perhaps, be explained by a point mentioned by the Campbell County official, a point I found to be consistent with reports from interviewees residing in sample communities around the US.

The elected official in Campbell County, in discussing pollution due to mining in the county, invited me to join a tour of former mine sites nearby. As the official was my first interviewee, the commentary framed how I interpreted those whose interviews came afterward. About tours given at former mine sites, the official said,

> When you go down a road and we have tours of the mine and they will say one side of the road has been reclaimed, and one side hasn't, and they asked if people can tell the difference, and most people think the reclaimed land is the original, just because they go to so much, you know, trouble and effort to bring it back to how it was, or, and they usually do a better job just because they plant more stuff (December 17, 2021).

That is, the interviewee highlights the centrality of aesthetics in determinations about pollution levels and ongoing impacts of pollution. If I take statements at face value, the Campbell County official, and a majority of interviewees, conflated *looking free of pollution* with *actually being free of pollution*.

Despite the growth of Walker County, AL's auto-parts manufacturing sector, the interviewee told me, "If you were talking to people on the street, yeah, probably, I would say, there's an indifference to [pollution]. They, just, because of the lack thereof, there's really nothing talk about" (January 19, 2021). In McLean County, ND, the interviewee gave me a comparable answer: "Honestly, I've never heard anybody complain about or have a fear of pollution" (January 13, 2021). The official reported that the official's county has five coal-fired power plants. This county extracts just under 16,500,000,000

strip-mined pounds of coal per year in a state with a booming and underregulated oil industry (USEIA, 2018; Stofferahn & Schad, 2020). In Raleigh County, WV, the elected official said that, “We just, you know, unless it's forest fire season, we don’t experience air pollution” (January 19, 2021). Forest fire smoke can be seen, tasted, and smelled; i.e., its pollution is palpable. When I initiated conversations about pollution with interviewees from Whitley County, KY and Converse County, WY, they both launched into discussions about river cleanups. River cleanups are a regular public measure for reversing trends in pollution in their communities, according to both officials. Certainly, littering is a form of pollution, but it is an exceedingly visible form that can be easily reversed. Because one aspect of trash is that it is an aesthetic issue, one cannot debate its existence. When debris is removed from a river, the change is observable. This concept has been adopted by many of the interviewees with all types of pollution, even for pollution that is known to be imperceptible to unaided human senses.

Notably, Whitley County, KY was also one of two counties, 22% of the sample, where interviewees reported that pollution is a touchy subject in public forums. Trump won by an 82% majority in Whitley County (Thorson et al., 2020). The sensitivity to pollution-based discussion illustrates that river cleanups are not controversial in the county; i.e., ostensibly, reference network members do not politicize this particular visible manifestation of pollution or associate it with polarizing environmental topics like climate change, industrial pollution, etc. The elected official from Whitley County summarized the sentiments in that official’s county: “[Community members] want clean water. As long as you don't try to shove it down their throat, they do want that, but we

don't have any major discussions about Green New Deal or something" (January 14, 2021). The official suggested there is some tolerance for conversations about certain types of pollution, meaning that any pollution-related social norm, as it exists in Bicchieri's framework, is fairly weak as a universal anti-environmental sentiment.

Campbell County in Wyoming is the second county where the elected official reported that open dialogue about pollution was avoided, and the individual reported it is avoided only insofar as the pollution mentioned is connected to the coal mining industry and when there are coal industry employees present for the public conversation. Again, Trump won by an 87% majority in that county (Thorson et al., 2020). The official's sentiment expresses a normative expectation—how the leader expects people in the reference network to speak to avoid noncompliance with expectations, and the conditions under which the decision to avoid the topic is made. For personal reasons, the official does not mind exercising norm noncompliance, and is at times rewarded or condemned when engaging the public with worries about negative impacts on the environment: "I do get bashed but I also get people that, you know, thank me for my candor" (Campbell County, December 17, 2021). Of note, in a county with an 87% majority vote for Trump in the 2020 election, there are community members who support noncompliance with a social norm that prohibits public pro-environmentalism (Thorson et al., 2020).

Isolating the components for Bicchieri's social norms for pollution is more difficult than it is for climate change. The challenge with pollution is that 89% of interviewees either do not consider pollution a problem or admit to having pollution in their communities. A perceived non-issue would not be a concern in public dialogue,

which correlates with the 78% of interviewees who reported that pollution could be mentioned in public without risking social sanction. A non-issue is neither controversial enough to have generated an experience from which an interviewee would develop an empirical expectation, nor polarizing enough to have cultivated a sense of normative expectations across the reference network. As an interviewee shared of the community in Choctaw County, MS, pollution is merely not on constituents' menu of concerns. With a laugh at the ending comment, the official explained, it is an issue

> we don't talk a lot about. That's just the truth. Yeah. I don't think anybody, I mean, it's not like we don't care, it's just, we're in a rural Mississippi. I mean, the last thing we have is much pollution. You know, we need somebody to build a factory and pollute some air (Choctaw County, January 20, 2021).

This comment came after the elected official revealed, during a discussion about jobs in the Choctaw County area, that the community contains three power plants, a strip mine, a large timber industry, and a legacy of former metallurgic plants. These industries do not gain reference in public conversations about pollution because there are no conversations about pollution. Absence of dialogue about pollution equates to minimal knowledge about both pollution and behavioral preferences for when group members encounter conversations about pollution. Acknowledgement of social norms about pollution by reference network members is challenging when conditional preferences and empirical expectations, a descriptive norm, have no context.

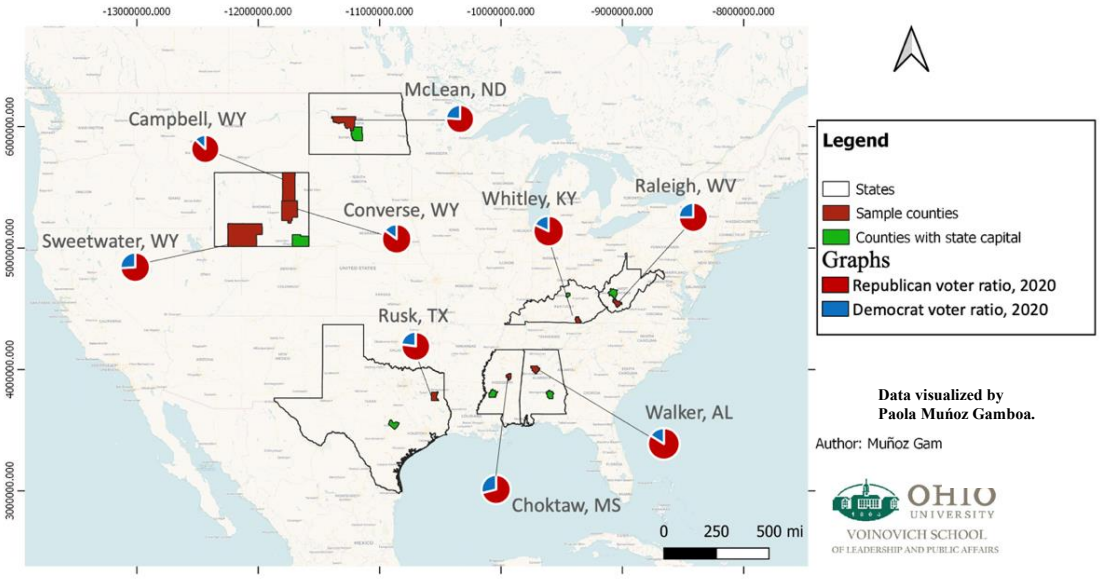
A descriptive norm, to reiterate, describes how people navigate conditional decisions through past observations of reference network members in similar situations (Bicchieri, 2017). Descriptive norms are significant because they are particularly influential in conservative cultural spheres (Goldberg et al., 2020). Perhaps due to the

fact that climate change has been at the fore of polarity in the US for nearly a decade, the social norms surrounding it are clearer from interview data. Nonetheless, I was unable to diagnose them for every county when analyzing every interviewees' reported perceptions. I return to address final assessments about pollution and climate change-related social norms in the conclusion section, as I revisit the three research questions I presented in my introduction.

To supplement commentary, Figure 1 illustrates the distribution of counties within the United States (Thorson et al., 2021).

Figure 1

Spatial Distribution of Sample Counties with 2020 Voter Data



The map shows the spatial relationship of each sample county to the county in the state that contains the state's capital city. Additional mapped data indicates the ratio of

Republican to Democrat voters in the 2020 presidential election, a metric than served as one of the four parameters for sample selection (Thorson et al., 2020).

Economic Transitions

Discussions about economic plans for each community helped delineate the values and priorities of each interviewee, as well, because leaders shared datapoints about community goals. All counties' interviewees shared economic plans that hold the potential to produce anti-environmental outcomes in certain cases and pro-environmental outcomes in others. From discussions, as long as opportunity costs do not hinder development, interview data suggests that officials protect the environment when they can recognize a threat and intervention does not compete with economic values. For that reason, the overall sentiment of interviewees can be classified as hypo-environmental. Mining for rare earth metals was one of the more environmentally damaging plans for a county, which is one of many items slated for the future in Campbell County, WY. On the other end of the spectrum, Rusk County, TX has plans to begin implementing a large-scale solar panel project. All county officials spoke of municipal development projects. Nearly all mentioned developing recreational areas to urge residents to spend more time outdoors. Raleigh County, WV, for instance, is pairing with the Appalachian Regional Commission to unite two interest areas under one umbrella, (a) developing a trails system by paying for two new positions geared for outdoor recreational expansion, and (b) engaging obese youth through formal outdoor education and activities on the new trail system.

One point of interest that stood out to me in interview data about economic transitions is the degree to which communities in primarily rural, conservative counties rely on nearby community colleges to bolster the job skills of the people who compose the county's labor force. Seven of the interviewees, 77%, named local junior colleges that supported their communities as they compete in a twenty-first century economy. Programs praised by interviewees include vocational training, technological training, and transitional employment training. Of the remaining two counties, the Raleigh County official mentioned that the West Virginia Institute of Technology, an offshoot of West Virginia University, has a campus with 1,300 students that helps train local job seekers. The other community, Whitley County, KY, has University of the Cumberlands, which the interviewee reported has about 2,500 undergraduates on campus and another 10,000 earning online degrees; the official alleged that, through online programming, "Every nation in the world is represented here," which, however accurate, is a detail celebrated for its economic potential (January 14, 2021). From dialogue, it is clear that community colleges and small, rural universities that integrate environmental lessons into curricula stand a chance of influencing descriptive norms in conservative communities.

From discussion about pivots, I could not generate exact data about the various incarnations of Bicchieri's social norms that proscribe or advocate pro-environmental behaviors. Because the same project can feature pro- or anti-environmentalism, identifying one salient value proved a challenge, especially when interviewees might categorize an element as pro-environmental when I would not (and vice versa). I did label future economic pursuits as pro- or anti-environmental in coding for data analysis.

Every county had projects that, in some cases, prioritized the environment, and in others, did not. Again, I interpreted hypo-environmentalism as the most prevalent orientation toward issues in the spectrum of environmental topics. Patterns of environmentalism extended evenly across all communities. Thus, the pollution and climate change content offered richer data for analysis than the economic pivoting data. The trend held true generally, but also for spelling out singular components of Bicchieri's social norms in the case of climate change.

Language Use

To supplement analysis of Bicchieri's concepts, a short discussion on language helps dissect the way in which the elected officials represented in this study think, solve, and talk about issues involving environmental factors. Unspoken perceptions about behavior, as in the case with social norms, can be problematic for researchers because they are not communicated directly as formal rules. Reporting language use in environmental matters affords an opportunity to analyze the elicited information with more than a literal interpretation of what each interviewee said.

Studies of communication frequently err in treating language as idealized content, assuming two speakers are both attempting to and capable of conveying accurate, complete information in a conversation (Cappelen & Dever, 2019). Several of my interview questions probed politically polarizing material, namely those about climate change, pollution, and the decline of the coal industry in counties where coal has been part of each county's legacy since the inception of the county's towns. With my earlier acknowledgement of stereotypes about environmentalism in conservative communities, I

must exercise a healthy dose of reflexivity to acknowledge that missing information need not be a product of lying or intentional obfuscation. Not all of an individual's knowledge is accessible to him or her, and not all human behaviors are effable: "Tacit knowledge is knowledge that is not explicated...Tacit knowledge drives language, science, education, management" (Collins, 2010). Elected officials, like those I interviewed, cannot be experts on every single topic, either. Even for experts, decisions must be made and conversations conducted with incomplete knowledge.

When knowledge is incomplete, information can be explicated through a combination of concrete datapoints and implied bits of meaning called implicatures. Implicatures are a natural aspect of language, and speakers commonly utter statements that are not informationally complete in order to save time, control context, or perform deviant speech acts like lying (Cappelen & Dever, 2019). The elected official in McLean County, ND told me, "There are things that I get passionate about that, things that are unrelated to what we're talking about today" (January 13, 2021). The comment, literally, tells me that the official is impassioned by subjects other than the ones about which the official and I spoke. However, the implicature is slightly different because the official knows I am the one who chose what topics composed the interview. The official is indicating that the official does not prioritize the environment, as I do, without saying so as straightforwardly as one could. Through Grice's Conversational Maxims, mentioned in the literature review for this thesis, one can address implied information by determining whether or not a statement fits the Quantity, Quality, Relevance, and Manner

Maxims. Maxim violations in communications are normal, expected, informative. I will view several quotations to talk about what the interviewees were *willing* or *able* to share.

During my interview with the official from Sweetwater County, WY, I asked whether climate change is ever brought up in public forums. As earlier quoted, I received this preface from the polite interviewee: "You know, I think we're all aware of the need to be responsible and good stewards of our environment" (January 7, 2021). Of the official's municipality and climate change, the interviewee continued, saying, "It's such a small population in a large setting that really isn't at the forefront" (2021). In the official's comments, the official did not answer my question, so the quantity of information provided fails the Quantity Maxim. What the interviewee considers a responsible steward of the environment might be someone who vapes instead of smokes cigarettes. Similarly, the response fails the Relevance Maxim. What does the size of the setting have to do with the question when climate change is a global phenomenon? Can I or can't I mention climate change and expect open discussion? The interviewee tells me that climate change is not a leading problem, not that it is avoided or controversial. The answer does not go beyond evidence or lie outright, so it passes the Quality Maxim. Of the Manner Maxim, the answer equivocates by answering a question I did not ask, so it fails the metric in the Manner category. I cannot say in surety whether the official considers climate change an environmental problem at all. Consequently, for this county only, I could not positively identify the existence of Bicchieri's social norms.

The response I elicited from an Alabaman official demonstrated the same indirect style of reply to the same question about the openness of public dialogue about climate

change. The official responded, “you probably wouldn't be able to gather much in the way of beneficial information. I'll say that” (Walker County, January 19, 2021). The answer did not tell me I would breach etiquette by conversing about climate change in public. The answer fails the Quantity Maxim. There is no indication that the official aimed to be dishonest. Rather, the official explained that I am unlikely to gather an answer. Because the official was not necessarily trying to deceive me, the response passes the Quality Maxim. The answer did not pass the Relevance Maxim insofar as I want it to conform to my question. I wanted to know if climate change is controversial. The official also equivocated with this specific answer, rather than admitting the community is intolerant to discourse about climate change, so the official’s reply fails the Manner Maxim.

The Gricean Maxims do not tell me what the elected officials are actually implying, but they do assess the usefulness of the answers I received in light of my questions. I can infer what topics the answerers wished to avoid. With both interviewees, evidence suggested that climate change is a non-sequitur in their communities. The social sanctions for violating norms are unclear, however. Furthermore, gauging each interviewee’s personal normative beliefs from an equivocating answer proves a challenge, so I do not know if they must censor their personal opinions when public commentary intersects topics like climate change, pollution, and the decline of the coal industry.

Portions of answers also contained implicatures. With the official from McLean County, ND, I asked about potential sources of pollution in the community where the

official serves. The official said, "because coal is thought of as being dirty, they want to get rid of it" (January 13, 2021). The interviewee did not specify who was meant by *they*. I have no way to tell if the official meant Democrats, liberals, environmentalists, wind turbine producers, community outsiders, or some combination thereof. By framing the coal industry pollution as, "thought of as being dirty," the official implied that there is an alternative thought to be had about coal, and that data about coal pollution is constructed by opinions, or "thoughts," rather than data (January 13, 2021). This example is an anti-reflexive tactic mentioned by McCright and Dunlap's 2015 article summarized in the literature review: by suggesting there is a narrative that counters the fact that coal is dirty, the elected official from North Dakota validated the view that coal might not be dirty, splitting the issue into a matter of a simple duality (McCright & Dunlap, 2015).

The North Dakotan was one of four local elected officials, 44% of interviewees, who used the word "clean" as an adjective to pair with coal-fired power plants. The Energy Information Administration, the government agency that collected the mining data from which I created my list of target communities, published an environmental health page on their website. They link coal combustion to the presence of sulfur dioxide, nitrogen oxides, carbon dioxide, heavy metals, and fly ash (in storage after it is removed from airborne pollution that is filtered via each plant's scrubbers), which collectively correlate with lung disease, respiratory illness, neurological impairments, and developmental problems (USEIA, 2020). Paired with this thesis' literature review, detailing strip mining's health impacts, the threat of pollution from the coal industry has been established at multiple phases in its extraction and use. I inquired about whether or

not the interviewee from McLean County, ND had concerns with coal pollution in that county. First, of pollution, the official told me, "I personally never think of it" (January 13, 2021). Of other community leaders' pollution concerns with coal-fired power plants, the official reported, "No, biggest concern is keeping them open" (January 13, 2021).

Interviewees from Sweetwater and Campbell Counties in Wyoming were two of the four elected officials who chose the word "clean" to describe coal-fired power plant technology. Both of the interviewees mentioned that the "writing is on the wall" with the coal industry (Campbell County, December 17, 2021; Sweetwater County, January 7, 2021). The metaphor represents the inevitability of finding new avenues for revenue, despite their reference to coal technology as clean. Both officials also listed a wide range of economic activities that will help their communities transition from coal to embrace numerous other industries, from tourism to fiber optics to outdoor racing. On the other hand, the Choctaw County, MS official paused when I asked about future economic plans in the county that do not involve coal. The official eventually laughed, stating, "Hmm, I guess that silence tells you, doesn't it?" (January 20, 2021). Silence symbolizes an absence of plans, from what the interviewee implied. In McLean County, ND, of the coal industry, the interviewee believes that, "honestly, Tristan, I think we're hanging our hat on that" (January 13, 2021). The metaphor explains what the elected official did not want to spell out in concrete terms: options are limited and innovation is lacking. The official's community has taken its hat off, resigned itself to its current status quo, and plans to mine for coal as long as there is a market to buy what they can extract in McLean County.

The centrality of metaphors in English usage and understanding is pervasive in scholarship by linguists, philosophers, and others. In polarized settings, invoking metaphors may aid in sensitive communication because metaphors provide a tool to make a point without directly stating an argument that might upset an interlocutor. Perusing my interview data, I noticed metaphors in various contexts. Thus, I chose the category of 'metaphor' as one of my open codes. Metaphors are a building block of language, to the degree that some linguists identify them as a fundamental building block of conceptualization (Lakoff & Johnson, 1980). Many metaphors have prescribed meanings, just like words in a dictionary. Lakoff and Johnson identify scores of metaphors common in everyday English usage. One widespread metaphor connects the concept of argument with war (1980). The authors give examples that range from "He *attacked every weak point* in my argument" to "His criticisms are *right on target*" (their emphases)(1980). In addition to the metaphors I enumerated in the previous paragraph, I witnessed several argument-as-war examples in my interviews, too.

Early on in our meeting, the interviewee from Campbell County, WY self-identified as an environmentalist: "We [Wyoming residents] were environmentalists before the word was popular" (December 17, 2021). The official told me that, "I remember when Trump took us out of the climate, the Paris piece" (December 17, 2021). I then proffered the name. "Yes, I said that was a mistake and I believe it to this day" (December 17, 2021). As I said previously, the Campbell County official was my first interviewee. The official's commentary surprised me, as I had not anticipated an elected official, from a county that voted for Trump by an 87% majority, who celebrated

formalizing a global climate initiative (Thorson et al., 2020). The official had also said that anyone who denies climate change is an ignoramus. The interviewee continued explaining a view about withdrawing from the Paris Accord: "it's that old adage of, 'Keep your friends close but your enemies closer'" (December 17, 2021). I had misread the official up to that point in the dialogue. Before finishing the interview, I asked if any advocacy groups speak vocally about environmental issues in community meetings. The official informed me that the "environmentalists have pretty much left us alone" (December 17, 2021). From the interviewee's commentary and choices with language use, I could identify the metaphorical enemy as environmentalists in the more recent history of environmentalism in the United States. The argument-as-war metaphor is well-established in the thread of climate change discourse in the US (Flusberg et al., 2017; Mangat & Dalby, 2018).

Metaphors, typically attributed to scholarship in the humanities, have a place in any discourse that uses words to impart meaning. Like words, metaphors control thinking, and therefore behavior. Many years ago, a team of designers hoped to create a paintbrush using synthetic components (Schön, 1993). They treated brushes as an article to rub paint on a surface (1993). Their early designs failed (1993). When they began to notice that natural sable brushes released paint and fluid a little at a time, the brush designers began to think of brushes as pumps (1993). With the brush-as-pump conceptualization, the team succeeded in creating highly effective synthetic brushes (1993). That is, they altered the underlying metaphor they used as a starting point for designs (1993). Once their metaphor was more effective, the efficacy of their designs

followed (1993). This anecdote demonstrates that conceptual metaphors are generative (1993). From common metaphors, language users look at the world with lenses that import prescriptive concepts innate to each metaphor. Those looking for war find it.

When media and popular figures conceptualize political issues as two-sided battles, then followers of media and popular figures adopt opinions that pit one side of an argument versus a single other side of an argument: One side subscribes to X and their adversaries subscribe to Y. In a country as polarized as the United States was during the 2020 calendar year, framing political parties as sides battling each other is not an unusual piece of imagery. Polarization, itself, a concept portrayed through warlike metaphors, might be more nuanced than one omnipresent dividing line that separates liberal from conservative or Democrat from Republican.

With myriad topics that have been viewed as fuel for polarization, from gender roles to marijuana to issues of race, the US has slowly moved toward liberal values over a period of decades (Baldassarri & Park, 2020). That is, the argument-as-war metaphor might describe a process that is more of a protracted drift than a war. Gradual changes in cultural values have been labeled *secular trends*, defined by political preferences that "take the form of a collective movement toward progressive positions" (2020). Not all topics of public opinion evolve through secular trends; e.g., abortion. However, given feedback from multiple interviewees, the summary of which is forthcoming in my conclusion, it is possible that public opinion about climate change could progress through a secular trend. Secular trends, as constructs, challenge the foundation of my thesis by challenging the very definition of polarization. Polarization—the bimodal distribution of

opinion—could be a term that, like a synthetic paintbrush, needs to be better defined before it is useful for scholars (Baldassarri and Park, 2020). Social norms give social scientists a tool to show that a bimodal voting distribution could be less representative than statistical data shows. The social norms approach introduces strengths and weaknesses as constructs that model behavior.

Issues to Consider

Background data available to use for community and interviewee selection provides a starting point that comes with a prefabricated set of assumptions. For example, a majority-Republican voting record in the 2020 presidential election does not guarantee that counties are havens of extremism. There could be stronger social norms, that proscribe anti-environmentalism, in a conservative pocket of a major city because the conservative population there lives in closer proximity to urban liberal populations. Extremism and polarization are not consequent upon a simple majority who leans Republican in presidential elections. Therefore, having four metrics instead of one improves the transferability of results, but only insofar as one compares samples to rural-dominant communities with environmental degradation where voters skew Republican.

Several interviewees stated that mining no longer occurs in their communities. This perception is not supported by the USEIA's mining data. Whitley County, KY produced the smallest mass of coal of my sample counties, at 706,000 tons, according to the 2018 data (USEIA, 2018). Assuming they sold the cheapest coal on the market in 2018, subbituminous, that coal earned a net gain in revenue of $9,891,060 (USEIA, 2020-2). I conducted my interviews from December of 2020 to January of 2021, deep into the

Coronavirus pandemic, a phenomenon that has shifted production in many industries. The coal market doubtlessly changed due to Coronavirus, though the extent is yet unknown. As is always true in projects that cite published reports, newer data would have strengthened my research.

A set metric that measures the level of pollution and environmental degradation in each county is not easy to quantify. Such data is incredibly expensive to produce. My thesis assumes pollution is a function of the presence of known pollution sources in sample communities. More coal production does not necessarily equate to more ambient pollution, unless the production in a community is vastly greater than in another county. Technology, weather, wind patterns, vegetation, and other factors also affect levels of pollution. Thus, my pollution metric, which I have called 'presence of surface coal mining' in my research questions, merely establishes that pollution does exist in each county. Future studies should aim to assess the strength of norms in relation to established measures of pollution to determine if results align with the results of this thesis.

Diagnosing and measuring the strength of norms is a difficult research objective. Bicchieri's social norms contain numerous hard-to-identify components. Diagnosing norms through communication proves an especially distinct challenge when using online platforms like Zoom. As covered by multiple chapters in this thesis, communication is more than the exchange of words. In an audio conversation on Zoom, a researcher cannot observe body language, facial expressions, and in-person reactions to questions. Zoom is, nonetheless, an improvement over telephonic conversations.

Over the phone, I did cold-call local governmental offices to initially request an interview, which may have prompted a research dynamic wherein interviewees from communities with more open and free conversation self-selected themselves for the study. Public officials from communities that are not friendly to open dialogue about politicized content would not volunteer for an interview. Trying to assess the openness of dialogue among conservative populations is hard when conclusions are based on data from a study that already selects for populations more open to dialogue.

Chapter 4: Conclusion and the Future of Conservative Environmentalism

From the inception of my thesis research, I had three questions I hoped to address by interviewing conservative leadership in coal mining communities. By revisiting the questions one by one, I can sketch general patterns as I interpreted the data, supplementing general patterns with details when the data allowed for specifics.

The first question informing research was as follows: (1) "How do public figures in politically conservative communities spend time in the environment and speak about environmental values?" The question highlights my interest in the personal beliefs and behaviors of each interviewee. The local elected officials in the counties where I conducted interviews spend time outdoors in conventional ways. They hike. They hunt and fish. They attend festivals. They watch local sports and play golf. They tend their backyard gardens. The data about personal activities suggested no special connection between the ways an interviewee reported spending time outdoors and how he or she expressed environmental values in an official capacity. They all promoted projects in their communities that demonstrate pro-environmental objectives. The pro-environmental objectives of particular projects might be as simple as aiming to motivate constituents to spend more time outdoors, investing citizens in their local ecology. All communities feature projects that harm the environment, as well. In a majority of cases, the interviewee reported leisure activities that value environmental quality, but they simultaneously maintained that environmental quality is not under any serious threat from activities occurring in their communities. Interview responses suggested that interviewees desire pro-environmental ends yet identified them differently than this

thesis. Frequently, elected officials scaled pro-environmentalism back to hypo-environmentalism when opportunity cost was too great to prioritize the environment above all other values.

In my second research question, I inquired about the following: "Are public figures in politically conservative communities forced to censor their personal values in public discussions about the environment in a manner they find undesirable?" With regard to climate change, three of nine interviewees, 33%, reported feeling comfortable discussing climate change in public. One those three individuals, one did not consider climate change a problem, so does not pursue conversations about climate change in public settings. Of the remaining 67%, six of the nine interviewees, no local official expressed any concern about threats from climate change. Five of the nine officials, 56% of interviewees, said it would be best to avoid the topic in public dialogues. None of those interviewees noted wanting to discuss climate change in public. One of nine interviewees, 11% of the sample, did not identify climate change as a community threat. This official also avoided answering whether or not someone could speak openly about the issue in the official's community without consequences. From what the individual related, I could not detect that the official wished to discuss the matter but is censored from doing so.

Pollution was not viewed as controversially as climate change from the interviewees' perspectives. One interviewee reported living in a community that takes pollution seriously and speaks openly about the topic during public gatherings. Eight of nine interviewees, 89% of the sample, alleged that pollution is either nonexistent or not

significant enough to be a concern in their communities. Of those eight individuals, two suggested that a person might wish to avoid discussion of pollution in public. These two interviewees composed 22% of the sample, and they both identified specific conditions under which public conversation about pollution is permissible.

Given the interview data in light of my second research question, there was no evidence that local leaders secretly wished to express pro-environmentalism publicly but perceived they cannot do so. The evidence is skewed slightly in the other direction: One interviewee felt that community members could openly discuss climate change but, the interviewee, personally, chooses not to mention it with the community. In all counties where leaders identified a cultural impediment to discussing climate change or pollution, they did not list either environmental issue as a serious concern. That is, their preferences about appropriate topical content in open dialogue aligned with what they viewed as the standard preference for their reference network.

Leaders expressed discontent about verbal opposition in public meetings, and sometimes that discontent merged with environmental content. In Whitley County, KY, the interviewee talked about renewable energy and the need to diversify the economy in the official's community as demand for coal declines: "Yeah, I mean, some people will be against it just because they think they're supposed to be against it and even if it's a damn good idea. It don't matter" (January 14, 2021). In a conversation about community college curricula, the Converse County elected official told me, "I really wish our community college would do something along the lines of wind turbine maintenance. Instead, they put in a gunsmithing class" (January 15, 2021). The official's statement is

one of many I could not confirm as a pro-environmental sentiment. Certainly, renewable energy is pro-environmental. The primary message I interpreted from the comment's context is that the official views wind energy as the most probable energy source in the future. The official's value thereby exhibited a desire to stay current with technology and have jobs available in what the official projected as foreseeable sectors of the economy in the community. The overall program of renewable energy overlaps with environmental values, but the values the official directly mentioned while talking about the program do not. The example comment is one of many when teasing out a verifiable and explicit case of pro-environmentalism is difficult due to competing values. From what the official told me, I have no reason to believe the official would have withheld private opinions in a public setting.

In my third and final research question, I investigated, "How do environmental social norms shift as the amount of surface mining increases or decreases in the county where public leaders live?" Social norm diagnosis requires an assessment of empirical expectations and normative expectations in conditional settings. For all the questions I asked, hoping interviewees would delineate the components of Bicchieri's social norms, the conditional setting revolves around expressing a pro-environmental value in public discourse. From interview probes, I could identify five of nine interviewees, 56%, where talking about climate change is shunned in public conversations. I could identify two communities, representing 22% of interviewees, where critiquing current pollution is proscribed by social norms. There is no decipherable pattern in the social norms that prohibit pro-environmentalism, as norms pertain to climate change or pollution, when

compared to production numbers for coal extracted via surface mining. Table 4 provides a visualization of the counties where I could diagnose a social norm that proscribes pro-environmentalism as the norms relate to climate, pollution, and coal production in each county. "Climate Norm" and "Pollution Norm" identify cases where discussion about climate or pollution are prohibited.

Table 4

Social Norms by Production Value of Coal

County	Climate Norm	Pollution Norm	Production (thousand short tons)	Production Rank
Campbell, WY	No	Yes	270,307	1
Converse, WY	Yes	No	23,156	2
McLean, ND	Yes	No	8,231	3
Sweetwater, WY	--	--	4,498	4
Choctaw, MS	Yes	No	2,940	5
Rusk, TX	No	No	2,734	6
Raleigh, WV	No	No	2,433	7
Walker, AL	Yes	No	899	8
Whitley, KY	Yes	Yes	706	9

Note. The data from column 4 comes from the United States Energy Information Agency (USEIA, 2018).

Because I could not discern any pattern in the data that compares norms to coal production, I endeavored to see if the percentage of constituents in each community who voted for Trump in 2020 correlated with social norm diagnoses. Table 5 shows that

comparison. Again, I could not read any specific pattern into the correlation between norms and voting preferences in 2020, other than that both pollution norms occurred in the half of the counties with larger Republican voter majorities. The Campbell and Whitley County pollution norms form a weak association, given that the same norm did not arise in the other counties with the highest Republican voter majority in 2020.

Table 5

Social Norms by Voting Majority for Trump in 2020

County	Climate Norm	Pollution Norm	Voted for Trump in 2020 by Percent	Majority Trump Rank
Campbell, WY	No	Yes	87	1
Converse, WY	Yes	No	85	2
Walker, AL	Yes	No	84	3
Whitley, KY	Yes	Yes	82	4
Rusk, TX	No	No	77	5
McLean, ND	Yes	No	76	6
Raleigh, WV	No	No	75	7
Sweetwater, WY	--	--	74	8
Choctaw, MS	Yes	No	71	9

Note. The data from column 4 comes from *USA TODAY* (Thorson et al., 2020).

Following my interpretation of interview data, I suggest that maladaption plays no role in public discourse in communities where I conducted an interview with an elected official. Because maladaption of Bicchieri's social norms does not define the cultural

landscape, approaching behavior change by aligning private preferences with behavioral perceptions coming from social norms will not work for environmental professionals.

There are glimmers of environmental concern, as well as plenty of evidence to incentivize further research to determine how best to return the environment to its former status as a bipartisan issue. Three elected officials said that open dialogue about climate change was permissible in their communities. One interviewee said people were timid to mention climate change, but that constituents do broach the matter. Another official was sure that climate change exists, though the topic ranked lowly on the individual's hierarchy of priorities. In one county where the interviewee recommended avoiding climate change in public, the official admitted that industry probably exacerbates the phenomenon. Less encouragingly, I was surprised to hear a community leader remark that constituents would not connect manufacturing emissions with climate change, a huge lapse in environmental awareness. As I stated before, climate change is a gateway environmental topic because it is linked to so many other contemporary environmental issues. It might take years for those intersections to be clear to people who do not seek environmental knowledge. Nevertheless, paired with the lack of charge with discussions about pollution, there are reasons to continue to advocate for the environment and wait for communities to embrace the data as they see more and more evidence in their locales. Those realizations will accrue and begin to influence popular thinking. For research, an approach that blends current environmental studies research methods with novel approaches from linguistics, philosophy of language, and rhetoric promise new

perspectives to direct the understanding of motivations, attitudes, and behaviors in environmental affairs.

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Appendix A

Interview Questions

Key
-Questions written in normal font with question types in parentheses after each question.
-Bullets mark possible follow-up questions.
-Double-dashes indicate a follow-up question to a follow-up question.

(1) In the last several years, what sorts of activities do you pursue outdoors in proximity to [community name]? (descriptive)

- What sorts of activities do you pursue when alone outdoors?
- What sorts of activities do you pursue with family?
- What sorts of community activities do you participate in outdoors?

(2) Have the presence or effects of the mining industry had any impact on the way you, or others around you, spend time outside? (structural)

- If so, how? Locationally or what?
- Do you worry that mining degradation might impact your outdoor time in the future?
  --If so, why?

(3) What sorts of worries do you have about health or pollution—water, air, soil, food quality—that relate to the mining industry in your county? (structural)

- If so, why do you have those concerns?
  --Do you voice concerns about impacts publicly?
  --What sorts of concerns do you communicate?/What sorts of concerns do you communicate publicly?
  --Are there any specific concerns you aren't comfortable discussing in a public forum?
  --How are your concerns received?
- If not, do you worry about these resources in the future?
- If not, do you view water, air, and soil quality as safe with respect to any possible contamination from the mining industry?
  --What other priorities are more important to you than environmental degradation?

(4) How do other community leaders—whether elected, successful business owners, prominent religious figures, etc.—express concerns about mining's impact on the local community or the local environment? (descriptive/opinion)

- What do you think are their concerns?
- Do you think leaders might be concerned but try to avoid environmental discussions in public forums?
  --If so, why do they avoid such discussions?

(5) How do people in the general community voice concerns about mining's impact on the local community? (descriptive/opinion)

- What are their concerns?
- Do you think they might be concerned but try to avoid environmental discussions in public forums?
  --If so, why do they avoid such discussions?

(6) Are there recreation areas, land conservation, or wildlife zones that are priorities for the community?

- If yes, are these land uses viewed as possibilities with the presence of the mining industry?
- If yes, are there specific projects in the making?
- If yes, who or what entity vocally support the use of land for these purposes?
- If no, should these topics be a priority?

(7) Are there any sectors of the economy that your community is focusing on as the energy industry begins to transition away from fossil fuels? (structural/descriptive)

- If unexplained: What particular economic pursuits are or might be target areas for an upgraded and expanded economy?
- If yes, how much confidence do community leaders have in these economic pivots?
- If yes, how much confidence do general community members have in these economic pivots?

(8) Does climate change ever come up in discussions in your community? (opinion)

- If not, is climate change a threat to your community in the future?
  --If not, why do you think that it isn't?
- What community groups discuss or promote educational opportunities about climate change?
- How are their concerns received?
- Do you have any recommendations with how to integrate a broader range of concerns about the mining industry or pollution into the public dialogue?

(9) Do you have any follow-up questions or concerns for me?

Appendix B

Ohio University Online Consent Form

Title of Research: Communicating the Outdoors in Various Settings
Researchers: Tristan Mandeville, Dr. Derek Kauneckis
IRB number: 20-E-452

You are being asked by an Ohio University researcher to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks of the research project. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked to participate in this study. You may print a copy of this document to take with you.

Summary of Study
The project for which you are being asked to interview will explore how community members with various sectoral and institutional affiliations—either in commerce, the church, or local government—both spend time in and place values on the outdoors.

Explanation of Study
Your participation in the study will last for the duration of an interview, estimated to be between 20 and 30 minutes.

Risks and Discomforts
No risks or discomforts are anticipated.

Benefits
Financial compensation cannot be provided for participation in this study. However, your responses may help direct future decision-making or research that aims to align community preferences with governance outcomes.

Confidentiality and Records
Your responses and information will be kept confidential, and, to protect your anonymity, you will never be referenced by any title other than your sectoral/institutional affiliation and your county.

Future Use Statement
Data/samples collected as part of this research will not be used for future research studies.

Contact Information
Please feel free to email Tristan Mandeville at tm869317@ohio.edu if you have questions or comments about the study, your potential role in the study, or any other relevant topic of interest.

By agreeing to participate in this study, you are agreeing that:

- you have read this consent form (or it has been read to you) and have been given the opportunity to ask questions and have them answered;
- you have been informed of potential risks and they have been explained to your satisfaction;
- you understand Ohio University has no funds set aside for any injuries you might receive as a result of participating in this study;
- you are 18 years of age or older;
- your participation in this research is completely voluntary;
- you may leave the study at any time; if you decide to stop participating in the study, there will be no penalty to you and you will not lose any benefits to which you are otherwise entitled.

Version Date: December 10, 2020

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