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THE MORAL LAYERS OF FRACKING: FROM BASIC RIGHTS AND OBLIGATIONS TO
HUMAN FLOURISHING

By

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Thesis

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ABSTRACT

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Philosophy

The Moral Layers of Fracking: From Basic Rights and Obligations to Human Flourishing

Chairperson or Co-Chairperson: Albert Borgmann

As it is currently being discussed, hydraulic fracturing or “fracking” is the unconventional method of drilling and extracting oil and natural gas. Fracking starts at the earth’s surface where the technology is created and the sites are constructed. The process continues downward: drills pierce thousands of feet vertically and then horizontally underground. Then millions of gallons of water mixed with sand and chemicals (referred to as “fracking fluid” or “slick water”) are pumped at high pressure through the pipe so as to fracture shale deposits and release the gas or oil.

Whether to allow fracking and its associated industrial activity is a complex and heated controversy. The mainstream positions on the issue are typically divided between concerns for the environment or the economy. My subsequent argument against fracking moves beyond both of these mainstream positions. The following argument against fracking is moral and moves in the opposite direction than fracking; it starts from the bottom and moves upward. At the bottom layer, I point out that fracking violates necessary obligations of environmental justice. At the middle layer, I claim, fracking threatens local moral solidarity as I conceive it. Finally, at the top layer, I argue fracking collides with the good life and human flourishing. In other words, I claim fracking not only hinders the availability of necessary material goods, like clean water and air, it also significantly impedes human flourishing. Moreover, fracking promotes or propagates a life of consumption that displaces the good life.

I argue against fracking because of its insidious and neglected moral implications. The following three chapters are moral layers; starting at my claim that fracking violates environmental justice and ascending toward the social and then the material conditions of daily life. The layers of the argument are interconnected, just like the layers of the fracking process itself. By shedding light on how fracking impedes the good life I aim to bring attention to the issue in way that is has yet to be assessed.

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The Moral Layers of Fracking: From Basic Rights and Obligations to Human Flourishing¹

Introduction

As it is currently being discussed, hydraulic fracturing or “fracking” is the unconventional²- method of drilling and extracting oil and natural gas. Fracking starts at the earth’s surface where the technology is created and the sites are constructed. The process continues downward: drills penetrate thousands of feet vertically and then horizontally underground. Then millions of gallons of water mixed with sand and chemicals (referred to as “fracking fluid” or “slick water”) are pumped at high pressure through the pipe so as to fracture gas and oil laden shale deposits. The highly pressurized fluid fractures the shale and releases the gas or oil to be collected and then consumed.

Whether to allow fracking and its associated industrial activity³ is a complex and heated controversy. The mainstream positions on the issue are typically divided between concerns for the environment and the economy. Advocates of the former position argue that because fracking for natural gas has the potential to contaminate air and groundwater, it threatens environmental

¹ I have enormous gratitude to the Department of Philosophy at University of Montana for their support of my thesis and me for the duration of the Master’s program. Special thanks to Albert Borgmann for his patience and assistance during this project and for the inspiration he has given me since coming to Missoula. Thank you Christopher Preston and Dan Spencer for serving on the committee of my thesis and for the encouragement and feedback. Also, thank you Kathy Nolan at Catskill Mountainkeeper for talking with me and helping me develop much of the preliminary thoughts related to this project. Lastly, I couldn’t have accomplished this program in general and this project in particular without the friendship and support of my colleagues in the UM Philosophy department: Casie Dunleavy, Andrea Gammon, Ricky Swatek, Bart Walsh, Daniel Congdon, and Chris Humm.

² The difference between unconventional and conventional drilling techniques is determined by the specific extraction technology that is used, how deep below the earth’s surface the gas is, and how difficult the “mining” and extraction process is. Fracking, because it is a newer technological development in energy extraction, targets deposits embedded deep underground and bores horizontally as well as vertically, is considered unconventional. For more information regarding the conventional and unconventional distinction see: naturalgas.org and “Unearthed: The Fracking Façade.”

³ When I refer to fracking, I am talking about the unconventional method of drilling for natural gas and its “associated industrial activity.” By this I refer not only to the drilling process, but the industrial activity that takes place at and around the drilling site; for example, the transport of water, the transport of chemicals, the site and road construction – basically any industrial activity that occurs in relation to a specific fracking operation.

and human health. On the other hand, many who support fracking claim natural gas is a clean-burning fossil fuel, economically profitable, and a way for the US to achieve energy independence. These mainstream positions have been overgeneralized when in fact most people have complicated and nuanced interests with regard to the fracking question – the question being whether or not and to what extent fracking should continue. While it is important to keep these two mainstream positions in mind, my argument against fracking moves beyond both of them. The subsequent argument is relevant for those on either or any side of the debate as well as for those who are undecided.

My argument against fracking is moral and moves in the opposite direction than fracking; it starts from the bottom and moves upward. At the bottom layer, I point out that because fracking disproportionately burdens individuals by threatening environmental and public health, it violates necessary obligations of environmental justice. At the middle layer, I claim, fracking threatens local moral solidarity as I conceive it. Finally, at the top layer, I argue fracking collides with the good life and human flourishing. In other words, I claim fracking not only hinders the availability of necessary material goods, like clean water and air, it also significantly impedes human flourishing. Moreover, fracking promotes or propagates a life of consumption that displaces flourishing.

I argue against fracking because of its insidious and neglected moral implications. The following three chapters are moral layers; starting at my claim that fracking violates necessary obligations of environmental justice and ascending toward the social and then the material conditions of daily life. By shedding light on how fracking impedes the good life I aim to bring attention to the issue in a way that has yet to be articulated. At the bottom layer, I directly address the controversial empirical concern about the environmental and public health risks of

fracking, but the middle and top layers do not directly concern the empirical worries of environmental harm; however these concerns are legitimate and linger dimly as potential threats throughout the paper. The layers of the argument are interconnected, just like the layers of the fracking process itself. From the ground up, fracking threatens our necessary obligations, the moral climate of our communities, and our ability to live the good life.

1. The Bottom Layer: Environmental Justice

My main claim in this chapter is that fracking violates environmental justice. I appeal to environmental justice here, at the bottom layer, because our obligations to protecting individuals from harms due to environmental degradation are fundamental and necessary. The bottom layer is the bedrock for the rest of the moral argument against fracking. Environmental laws and regulatory agencies are meant to provide individuals with basic legal protection from environmental injustice, but with the case of fracking, this remains an ideal. I claim here that fracking is a striking case for how environmental justice has failed to be realized in policy.⁴ I will first explain environmental justice and highlight its connection with Rawlsian social justice. Then I will discuss two ways that fracking violates environmental justice. Lastly, I claim that ensuring justice is necessary but insufficient for the good life. Ensuring individual rights is fundamental but insufficient in addressing ways that fracking impedes human flourishing. Thus, fracking challenges us to move beyond individual rights, to the middle and top layers of the paper.

To begin, I will describe the theoretical notion of environmental justice that I am referring to. It underlies basic laws and regulations meant to protect individuals from harms due to environmental degradation. John Rawls' *A Theory of Justice* delineates a concept of justice that, in part, I argue, lends itself to a general notion of environmental justice. He develops a theory on the basis of principles of justice that are meant to guide the establishment of just institutions and policies. His principles of justice, which are chosen under a hypothetical veil of

⁴ In 1994, the Clinton Administration directed Federal Agencies against programs that unfairly inflicted "environmental harm on the poor and members of minorities." As such, there have been cases where policies have taken environmental justice into consideration. See Cushman, John H., Jr. "Clinton to Order Pollution Policy Cleared of Bias." *The New York Times*, 10 February 1994. 4 May 2013. Web. Fracking violates environmental justice in the sense that it does pose environmental threats that disproportionately harm disadvantaged members of society. I discuss this as the second way fracking threatens environmental justice below.

ignorance, aim to assure fair distribution of society's benefits and burdens no matter one's particular situation. He insists that all people should have an equal opportunity to attain the goods of society. While I acknowledge and agree with those who criticize Rawls for abstracting important particularities away from individuals, the basic liberal claims of equality and fairness that Rawls' theory offers are fundamental and necessary conditions for ensuring a just society.

Troy Hartley suggests applying Rawls to environmental justice. He says:

[...] The participants behind the veil of ignorance are not told where they will end up in this society, thereby providing them with incentives to establish just principles that are fair to society's subordinate persons, just in case they turn out to be in that position themselves. [...] Application of Rawls' hypothetical social contract to the burdens of environmental risks helps identify environmental justice, for it is to the interest of all participants to apply equality at all levels of environmental risks and public health (481).

In other words, the basic principles of justice are chosen under the veil of ignorance, which means that no one would know their particular and personal circumstances. The uncertainty motivates the rational choosers under the veil of ignorance to select principles that guarantee that policies and institutions treat individuals equally and fairly regardless of race, class, income, or any other particular circumstance. Hartley points out that environmental justice can be understood in terms of Rawls' social justice theory in that environmental policies must protect and not endanger the environment, health, and wellbeing of any individual or specific group of individuals, especially if they are already disadvantaged members of society. It is important to note that Rawls rejected attributing rights or obligations to nonhuman animals or nature. His view of the environment is strictly anthropocentric. Nevertheless, he does acknowledge the importance of a clean and healthful environment for the purposes of future generations.⁵

Rawls' concept of social justice informs the present discussion of environmental justice because he insists that the benefits and burdens of society should be fairly distributed. The least

⁵ I acknowledge that the argument I present here is also anthropocentric.

advantaged should not have to bear heavier burdens than the most advantaged. Just as Rawls claims that the least advantaged members of society should not have to pay the same or higher taxes than the most advantaged, I claim that the least advantaged members of society should not be disproportionately burdened with environmental harms. For example, an advocate of environmental justice would claim that toxic waste dumps should not be located in disadvantaged neighborhoods of cities because waste threatens public health, which further burdens the less fortunate with health troubles and medical expenses.

Robert Bullard and Glenn Johnson offer a general definition of environmental justice that can be seen as complementary to Rawls' theory. Bullard and Johnson claim environmental justice is: "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (558). When environmental degradation poses harm to public health, we must insist that the least advantaged members of society do not have to bear those burdens. Thus, environmental practices and policies must protect people from disproportionate harms due to environmental degradation by either ending the degradation altogether or adjusting policy to alleviate any drastic and unfair inequalities.

Rawls' view is important because he insists on fair treatment and just distribution of society's burdens and benefits irrespective of one's particular circumstances. Bullard and Johnson would agree, only they are specifically concerned with the distribution of *environmental* burdens. However, Bullard and Johnson's notion of environmental justice does not completely parallel the discussion of fracking. Bullard focuses on issues of racial discrimination whereas I am focusing mostly on class or income discrimination. Additionally, the environmental burdens of fracking and its industrial activity are still contested and not as obvious to some compared to

more classic examples of environmental injustice, like toxic waste pollution in slum areas or coastal flooding from climate change.

I claim fracking violates environmental justice. Given the definition of environmental justice that I outlined above, I am assuming that we ought to strive for the kinds of policies and regulations that ensure equal rights regardless of income, race, gender, religion, or any other particular circumstance. Environmental policies and regulations are meant to secure individuals with the right not to be disproportionately endangered due to environmental degradation. Once policies and regulations are created, they must be enacted and adhered to in order to secure justice. Environmental laws and policies are meant to regulate our interaction with, and sometimes exploitation of, nature in order to secure our safety and the safety of future generations. The Clean Air and Water Acts are examples of regulations meant to ensure environmental justice; however, fracking is exempt from both of these environmental laws - this is known as the Halliburton Loophole (Food & Water Watch, 6). Also, regulatory agencies like the EPA have a responsibility to conduct trustworthy research and provide people with conclusions regarding the safety of our endeavors concerning the environment. Unfortunately, the EPA has been slow and evasive regarding fracking's potential to harm water and public health. Even if fracking were included in the Clean Air and Water Acts, it is not certain whether these existing regulations could accommodate the potential harms fracking may cause to the environment. Fracking may require further federal or state regulations in order to secure the rights of individuals from disproportionate harm due to water or air contamination.

The most common way fracking is claimed to threaten environmental justice is because it has the potential to contaminate water and air.⁶ Water and air pollution are environmental

⁶ The empirical question of whether fracking actually and always harms human health and the environment are controversial topics of research and I will not address them specifically; however, I

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problems that significantly endanger public health. These threats to the environment comprise the mainstream criticism against fracking.⁷ Regulatory agencies have been unresponsive to the public's plea⁸ - to fully assess fracking's consequences. But, numerous anecdotes of problems and accidents have been reported (Food & Water Watch, 3, 7-10). The specific threat to ground water is expressed by many, but specifically the non-profit activist group and "advocate of the Catskill region," Catskill Mountainkeeper. The Catskill region hugs the west side of the Hudson River Valley in southeastern New York State; much of the region sits atop the Marcellus Shale.⁹ Catskill Mountainkeeper claims that fracking poses "irreversible" threats to water. They say:

Irreversible impacts could include contamination of groundwater from the toxic chemicals used in fracking, depletion of aquifers to support the fracking process, and contamination from the production of billions of gallons of hazardous wastewater byproducts produced by this process (Catskill Mountainkeeper).

Not only does fracking utilize a significant amount of water that is typically acquired from local lakes and streams, the fracking process also requires known toxic chemicals that are not yet fully

acknowledge that people have already been and continue to be negatively impacted by accidents and careless practices. These harms and the potential for further harm are sufficient for serious concern. I acknowledge that if the practice can be changed or regulated in such a way as to eliminate the severity or occurrence of harms altogether then the distribution of environmental burdens would be a non-issue. However, as I already mentioned, this layer is concerned with formal and necessary obligations to environmental justice. The following two layers of the paper are not directly concerned with the empirical or regulatory questions and thus criticize fracking for reasons not directly related to the potential for contamination. Also, if viewed from a larger societal scope, the hunger for and over consumption of gas and oil *do* contribute to other practices that *do* encourage the destruction of the environment at the expense of the less advantaged. The general fact that these burdens are distributed amongst the least advantaged should always be something we should care about.

⁷ Several mainstream arguments against fracking are actually anthropocentric and not environmental in the sense that they see environmental degradation as wrong in itself. This paper is anthropocentric because I claim fracking harms individuals, however I am sympathetic to the deeper environmental criticisms that see environmental degradation as wrong in itself. I do not discuss this view here.

⁸ There was a moratorium placed on fracking in New York until the New York State DEC conducts more research on the potential problems, but this research has been slow and convoluted.

⁹ The Marcellus Shale is a geological formation of black shale deep underground that extends from Ohio and West Virginia northeast into Pennsylvania and southern New York. The Marcellus Shale is one of the largest shale formations in the U.S.; it is sometimes called "the Saudi Arabia of natural gas."

disclosed to the public (National Public Radio, 17 May 2012).¹⁰ One of the main worries, as described above by Catskill Mountainkeeper, is that fracking fluid or “slick water” - the mixture of chemicals, sand, and water that is used for extraction - can leak through the drill pipes and casing into the water table and into wells. They also mention how fracking generates an enormous amount of wastewater. The financial, health, and environmental costs of poor wastewater storage are persistent problems that have burdened many streams and rivers across the country. For example in Montana, mining contamination in The Blackfoot and Clark Fork Rivers has been a perpetual problem since the early 1900s (Missoulian, 2009). Furthermore, CBS, NPR, and the *NY Times* have all reported cases where fracked natural gas – which is mostly comprised of methane - has leaked into the water table. Methane is a greenhouse gas that can be explosive. There have also been cases where people claim fracking has contaminated the air, whether with methane or with dust and dirt particles from well sites and increased traffic. (Urbina). Thus, there are several ways that fracking poses “irreversible threats” to ground water thereby threatening the health and livelihood of many people.

Fracking also violates environmental justice because most of the people in the small, rural farm communities, specifically in the Marcellus region, are economically less advantaged. The unfortunate economic situation of many people living atop the Marcellus is taken advantage of by gas companies. The industry misleads the economically disadvantaged individuals and communities by promising substantial economic gain and withholding information regarding potential threats. Many people are persuaded to sign leases with the hope of fortune but are misinformed because the potentially harmful consequences are often downplayed. Tom Wilbur, in his book, *Under the Surface: Fracking, Fortunes, and the Fate of the Marcellus Shale*,

¹⁰ Now, some of the chemicals are required to be disclosed at fracfocus.org. However, there are certain chemicals that are deemed trade secrets and thus, disclosure is not mandated.

captures the stories of people who experienced the gas rush to the Marcellus in rural Pennsylvania during the late 90s and early 2000s. He notes that a majority of the people in the Marcellus Shale region of Pennsylvania and New York, referred to as the Twin Tiers, are rural farm families that are struggling to make ends meet. For example, Wilbur describes Pat's life and situation:

Things were not going well when the landman appeared. Bills were mounting. Work to generate outside income to support the farm was scarce and growing scarcer. The family was surviving, sort of, on Pat's monthly Social Security checks, food stamps, and her husband's income as a part-time cook at the Flying J diner and truck stop by Interstate 81 (20).

Moreover, in Pennsylvania, several of the rural communities have high unemployment rates and are still struggling economically and environmentally from the consequences of the coal boom (Wilbur, 12-16). The gas industry takes advantage of the unfortunate economic situation of communities to provoke individuals to sign gas leases on their land by promising prosperity and withholding or downplaying the potential for harmful consequences. It is important to acknowledge that many people, even in these communities, support the development of the natural gas industry for this reason. Fracking may bring temporary economic stimulation and jobs to small towns (National Public Radio, 13 December 2012). But, the benefits are a mere byproduct of the industry's motive for profit, and in most cases these booms do not endure; thus, towns and their citizens will not necessarily end up better off even though they are often promised a fortune. If one of the actual goals of bringing in the fracking industry is to improve the quality of life for people in the small, rural farm communities, then why aren't these gas companies funding various community programs in education, culture, and art? Granted, fracking may bring *temporary* economic benefits to individuals and communities, but

the long-term economic benefits that fracking is projected to bring are often overstated¹¹ - and understate the economic expenses that would ensue if the environment and public health were harmed.

Besides, focusing only on the economic impact, positive or negative, misses my whole point.¹² Many small towns experience “growing pains,” or adverse social and community impacts, because rapid industrialization connected with fracking booms significantly alters the way of life in these small towns (NPR, 13 December 2012). I talk in depth about the rise of social problems connected with fracking in the next chapter. Given the lack of conclusive research that the EPA has released regarding the ultimate safety of the technology and its potential to harm public health, people who sign gas leases are not adequately informed about the real risks that fracking could pose. Often, financial hardship persuades people to sign gas leases on their land before being properly informed of the potential consequences (Wilbur, 77-81). Ian Urbina, writer for the *NY Times*, reports:

Americans have signed millions of leases allowing companies to drill for oil and natural gas on their land in recent years. But some of these landowners — often in rural areas, and eager for quick payouts — are finding out too late what is, and what is not, in the fine print (Urbina, 1 December 2012).

Thus, a vulnerable financial situation has put many people in a position where they could be endangered and exploited by the gas industry, most of the time without fair compensation (Wilbur, 78-79).

¹¹ For more information about the economic impacts of fracking see Kelsey, Tim. “Economic and Community Impacts of Shale Gas in Pennsylvania.” Workshop On The Health Impact Assessment of New Energy Sources: Shale Gas Extraction. Roundtable on Environmental Health Sciences, Research, and Medicine. House of Sweden, Washington, D.C. 30 April 2012. Conference Presentation.

¹² An additional way that taking a purely economic perspective on this issue in particular misses the mark is by closing off other possibilities for addressing the widespread disparity in economic and environmental burdens in U.S. policy. We should address this widespread systemic inequality as well instead of allow the industry to present fracking as a technological fix for economic inequality.

Furthermore, there should be an acknowledgment of other values aside from the economic value of profit; harm to the environment and public health should themselves be legitimate concerns. In other words, I claim that the burden of proof is on those who claim that economic gain beyond subsistence should outweigh significant harm to public health and the environment. Wilbur in one of his narratives about Victoria and Jimmy acknowledges this attitude:

Victoria and Jimmy were receiving royalty payments, but would have gladly returned every penny, Victoria told me, to have their confidence in the water quality restored and to see a regulatory presence established that would control the drilling “free for all” erupting all around them (167).

To sum up, the two main ways that I argued fracking violates necessary obligations of environmental justice are related. Many individuals in small, rural farm communities atop the Marcellus Shale are already economically disadvantaged. Thus, the potential threat of water and air contamination would disproportionately impact these economically disadvantaged members of society. While the economic impact of fracking is controversial, promises of economic prosperity should hardly outweigh more enduring and uncertain threats to public health and the environment. The obligations to ensure that the less fortunate members of society are protected from decreased quality of life from fracking need to be acknowledged in environmental laws and policies. We must urge regulatory agencies to take responsibility and also accept help from reliable non-governmental organizations so that human rights can be protected.

A central concern for environmental justice is to reduce or eliminate environmental degradation as well as to be mindful of how the unavoidable environmental burdens are distributed. I have already mentioned that I agree with those who criticize Rawls for abstracting away from the particularities of individuals and mistakenly envisioning individuals as mere autonomous and rational agents. Thus, I want to emphasize that even though these formal rights

and obligations of environmental justice are necessary, each individual is not simply an autonomous and independent agent, but complex and interrelational, and situated within various personal circumstances. We should thus recognize that people are situated in particular circumstances, some less fortunate than others and that those particularities should not determine the distribution of public goods¹³- and environmental burdens. All individuals should have a basic right to be protected from the burdens of environmental degradation. But also, we must recognize that to fully grasp the moral implications of fracking we must go beyond mere principles and laws. Justice is insufficient in addressing particular relations, practices, and values that are significant for a good life and that are also threatened by fracking.

Everyone's right to a clean and healthy environment and ability to pursue excellence is something we should care about; our policies should provide the bedrock for societies and their members to flourish together. Policies aimed at this vision are often missing from abstract principles and policies. Virginia Held's care ethics views care as being a more basic moral value than justice (71). She argues that if care were acknowledged as conceptually primary, then policies would be more realistic in addressing the ways in which caring relations are central to our daily lives. While I do not commit to Held's claim that care is primary, her point that justice and care should work or "fit" together to create just policies that are based in and that encourage caring relations is illuminating for the case of fracking, but also for other cases, like education, welfare, and healthcare. In other words, I agree with Held when she says:

Within a recognized framework of care we should see persons as having rights and as deserving of justice, most assuredly. And we might even give priority to justice in certain limited domains. But we should embed this picture, I think, in a wider tapestry of human care (71-72).

¹³ I don't discuss the distribution of public goods here because I am specifically discussing rights and protection from pollution. However, I agree with Rawls' argument for primary social goods and see them as positive rights.

It is important to secure rights of individuals not to be disproportionately harmed from environmental degradation; we must acknowledge that the requirements of justice are basic and foundational such that we must not drop below them. But, justice is insufficient to capture “the wider tapestry of human care.” Justice is necessary for the good society but is not enough because it does not require that we care or how we should care for others. Thus, we must move beyond environmental justice to fully consider the moral implications of fracking.

2. The Middle Layer: Solidarity

In the previous chapter I argued that fracking violates basic obligations of environmental justice, and that environmental justice is insufficient for a full ethical analysis of fracking. In other words, there are significant moral impacts related to fracking, that justice is insufficient in addressing - for instance, threats to solidarity. Here, in the middle layer, I argue that fracking threatens solidarity. Solidarity is placed in the middle because it is closer to concrete and lived experience than abstract, individual rights. However, solidarity is still relatively fundamental because it refers to social relations between people in communities. I will first explain what I mean by solidarity, then claim that this conception of solidarity is valuable. Finally, I will argue how fracking threatens solidarity as I have defined it.

The concept of solidarity that I am discussing draws from Marion Hourdequin's notion of moral solidarity and Virginia Held's account of caring relations. According to Hourdequin, solidarity is a "felt connection or unity" between people in a community that may not only "contribute to moral actions and attitudes but also partly constitute them" (21). The concept of moral solidarity that I will use to argue against fracking parallels Hourdequin's concept of moral solidarity, but not exactly. Below I describe how my view of solidarity differs from Hourdequin's. But first, I agree with her that solidarity constitutes moral relations although the concept of moral relations can be made more meaningful by specifying its content. Held's account of caring relations provides such content for the notion of moral relations. Thus, my concept of solidarity is constituted by a specific kind of moral relation, namely, caring relations.

I also agree with Hourdequin in that solidarity impacts our ability to create a "just climate regime," or policies in response to climate change (18). In other words, solidarity impacts and is impacted by the creation and enactment of just policies. Just policies are necessary to protect

individual rights and thus, to ground and support solidarity. But also, solidarity fosters and enables the creation of just policy. For example, a policy that prohibits garbage dumping in public parks was created because there was some existing care or sensitivity regarding the public's use of the space. When the policy is enacted, people will refrain from littering, but the policy will also foster a public response such that people will become more aware of or responsive to one another's needs regarding the park, and they may engage in activities that go beyond the prescribed policy: picking up after their dog, abstaining from profane language and smoking, etc. In turn, responsiveness, cooperation, and other values are fostered because of the policy against garbage dumping. These relations of responsiveness and cooperation promoted amongst community members are crucial for my notion of solidarity.

I have just given a general description of what my concept of solidarity entails and how it relates to just policy. Now, I will highlight specific aspects of my concept of local moral solidarity. Hourdequin acknowledges that solidarity is a connection *between* people, a felt unity. Thus, solidarity is an emotional relation between members of a community. Held, in her account of care, makes a similar point. She claims that care ethics is "concerned with relations between persons" (52). For Held, care is relational and occurs between people and over time rather than within isolated individuals and in brief moments. Her ethics of care reconceptualizes the concept of a person. In other words, Held challenges the liberal individualist's concept of a person, as an independent and autonomous agent. She claims we are not simply isolated moral individuals - the way in which liberal individualism and much traditional ethical theory imagines - but relational, intertwined, and interdependent with others (52). With regard to solidarity, the relational component is crucial because solidarity is not just an isolated feeling; it is a felt relation or unity *between* and amongst people in a community. The relational component to

solidarity also highlights how justice is insufficient for a full ethical analysis of fracking. Environmental justice and rights focus on individuals as bearers of rights. Securing rights is of course necessary and fundamental, but social relationships are features of our lived experience that are also crucial for the good society.

Solidarity is also not just a feeling, attitude, or disposition between people, but is the active expression of a feeling between people in a community. For Held, caring relations involve certain expressions and practices; examples include but are not limited to: driving your grandfather to his doctor's appointments or providing a simple gesture, like a hug, conversation, or treat for a friend in need. Held claims, "Care is both a practice and a value" (39). She insists that care must be expressed over time and through activity and work. I just mentioned two examples of how care is not just a feeling, but also a practice. As a value, care is an ideal that guides relations and societies, and can be evaluated and admired for how well it is performed. Thus, we should strive for good caring relations and be willing to make changes in order to facilitate good caring. For example, not only should I drive my grandfather to the doctor, but I should also care enough to ask him about how his treatment is going, how he feels today, whether he needs anything else. I could even tell him that I love him, assure him, and comfort him if I think he needs it. Here is a quote that demonstrates care as both practice and value:

As a practice, it [care] shows us how to respond to needs and why we should. It builds trust and mutual concern and connectedness between persons. It is not a series of individual actions, but a practice that develops, along with its appropriate attitudes. It has attributes and standards that can be described, but more important that can be recommended and that should be continually improved as adequate care comes closer to being good care (41).

Solidarity, I claim, is conceptually similar to Held's account of caring relations because solidarity is also a relational practice and value. Solidarity needs to be felt and expressed through certain practices between people over time, and those practices can be evaluated for how well

they are demonstrative of solidarity. Also, solidarity and caring relations share similar emotional components such as, trust, empathy, compassion, responsiveness, and investment.

Furthermore, Held claims, “Caring relations ought to be cultivated, between persons in their personal lives and between the members of caring societies (41).” Thus, Held acknowledges that caring relations occur in both the private and public spaces of our experience. She considers caring relations to be a specific kind of social relation, a kind of relation that is enacted in families *and* societies. Similarly, solidarity includes relations in the home and in the community. In the specific small, rural farm community context that I am focusing on with respect to fracking, public and private relations overlap considerably. I will talk more about the importance and uniqueness of this context below.

Moral solidarity, like caring relations, often involves relations of dependency.

Dependency involves “meeting the needs of particular others.” Held remarks,

The ethics of care recognizes that human beings are dependent for many years of their lives, that the moral claim of those dependent on us for the care they need is pressing, and that there are highly important moral aspects in developing the relations of caring that enable human beings to live and progress (10).

Again, we are not wholly independent individuals. We often rely on others or take responsibility for meeting another’s needs. Community members rely on one another to meet their needs; they support, listen, and provide for each other. Common dependency relations like familial relationships, childcare, and health care make significant contributions to a community’s solidarity and thus, to the overall moral climate of a community. But, other less common dependency relations also contribute to solidarity. For example, people in a community depend on each other when: deciding who to elect, organizing events, constructing parks and buildings; maintaining parks, buildings, roads, rivers, and lakes; and managing and supporting local businesses. The list could go on, especially in ways that are specific to each community. We rely

on particular community members and the whole of our community to provide and maintain necessary goods and services. Hourdequin rightly acknowledges that solidarity consists of dependency relations. She suggests that community members are dependent on each other to provide and maintain the quality of life in the community. She claims that collective action “rests on a foundation of trust, reciprocity, and solidarity, and on particular human relationships” (31). Thus, acknowledging our interdependence also highlights how crucial trust is in supporting relations of solidarity. When someone is dependent on another, trust is the assurance that the other will not take advantage of one’s vulnerability or act maliciously. Dependency relations include meeting the needs of others in ways that involve certain feelings and attitudes. We need to act with cooperation, care, and responsiveness in order to adequately express solidarity. For solidarity to flourish, community members should be responsive to each other’s needs in the same way friends are responsive to each other’s needs, and there should be a mutual understanding of trust between them. Insofar as we acknowledge these dependency relations, we should also acknowledge that our relations with our community are situated in space and dependent on the community itself, the physical place, its features, and the quality of life it provides. Thus, dependency relations between people are also connected and dependent on the particular place the relations occur in.¹⁴

It is important to note the main difference between my concept of solidarity and Hourdequin’s. Hourdequin’s concept of moral solidarity encompasses the global community because her focus is on solving global problems, like climate change. I do not dispute that all members of the global community are somewhat connected and demonstrate global solidarity. Hourdequin’s global solidarity involves great distances between people, thinner bonds, and

¹⁴ This will be discussed further below.
Hotaling

requires imagination to sympathize with the perspectives of others. On the other hand, my concept of local moral solidarity focuses on the small, rural farm community context and as such is more relevant for the discussion of fracking. Solidarity's connection with caring relations also makes the local context more appropriate. Caring relations at the global level would be more difficult to articulate. Consider these thinner and thicker notions of solidarity on a spectrum: on one side, global solidarity encompasses a vast range of people and consists of weaker and thinner bonds that require the use of sympathetic imaginations.¹⁵ On the far other end of the spectrum, there is family solidarity. Not too far from the end there exists local solidarity. Local solidarity is distinctive in particular cities, towns, and communities and consists of thick, *almost* familial bonds between people; local solidarity can include familial relations but also extends beyond the home. Local solidarity is similar to loyalty in that it is an emotional disposition accompanied by practices amongst people who are attached and affiliated within a particular local community. People in local communities have a personal stake in the people that live there, the specific place where the community is located, and the quality of life that the community provides. In small towns, attending high school basketball games is a practice that demonstrates local solidarity. People are invested in the success of the team, recognize the players, their parents, and consider themselves loyal fans. The level of intimacy of these relations varies, especially in the small, rural farm community context because there is considerable overlap between public and private relations and spaces. In many of the rural communities in the Marcellus Shale region of the northeast people demonstrate loyalty, are dependent on each other, and are confronted by each other on a daily basis. However, a worry with regard to loyalty is exclusion. When one focuses

¹⁵ I do not believe that using the imagination is an activity that is incompatible with local solidarity. In fact, I think it is an important component in moral reasoning generally. However, we do not need to use imagination to empathize or take others' perspectives as much when we are confronted with our community members on a day-to-day basis.

and upholds only their closest or favorite relations, there is the potential that they will be negligent and exclude other personal and political commitments.

Conceptualizing solidarity on a spectrum alleviates this worry of exclusion. Even at the global level there are still thin bonds and attachments. My concept of local solidarity does not exclude the global community but these relations will inevitably be thinner. The bottom layer of justice and rights assures that outright exclusion, exploitation, and negligence with respect to certain community members – namely, the least advantaged - are avoided.

I just outlined my concept of local moral solidarity, which includes Hourdequin's notion of moral solidarity and Held's account of caring relations. I conceive of solidarity as constituted by and constitutive of caring relations. Solidarity is interconnected with policy and essential for human flourishing. Local solidarity in the small, rural farm community context is comprised of overlapping public and private relations. I will now claim that solidarity is both instrumentally and intrinsically valuable. Solidarity is instrumentally valuable for people in communities insofar as it adds to the creation and enactment of policies. Solidarity is also intrinsically valuable and something we should care about for its own sake. We should not only value moral solidarity merely as a means to accomplish political or social agendas, but we should work to cultivate it because it is vital for an admirable moral environment conducive to the good life.

In what follows I will explain my claim that solidarity is intrinsically valuable by discussing its specific content and not by providing a justification. I cannot provide the latter due to the nature of intrinsic goods. I claim that local moral solidarity is good in itself and I will explain this claim by disclosing its content and pointing at its valuable features. I discussed above that solidarity constitutes caring relations; both solidarity and care are practices and values

that involve trust, cooperation, and responsiveness. Trust is perhaps one of the most vital values or aspects of a caring society. Held agrees; she says:

To work well, societies need to cultivate trust between citizens and between citizens and governments; to achieve whatever improvements of which societies are capable, the cooperation that trust makes possible is needed. Care is not the same thing as trust, but caring relations should be characterized by trust, and caring and trust sustain each other (42).

Caring relations are characterized by trust, and trust fosters other relations like cooperation and responsiveness. Given the connections I have drawn between care and solidarity, trust is also a crucial component for solidarity. Trust supports and is supported by relations of solidarity in a community. Cultivating trust includes cultivating attitudes and practices; people should feel as though they can depend on and commit to one another, and act in ways that demonstrate such commitments. The small, rural farm community context, exemplifies my claim that trust is vital for maintaining the cohesion of local moral solidarity.

The way of life in the small, rural farm community context illustrates my concept of local moral solidarity and how it's valuable. To an outsider, the context of small, rural farm communities is an aesthetic attraction, charming, and quaint. Country life as a tourist attraction is simple, "sleepy," remote, and the people are friendly (National Public Radio, 13 December 2012). This ideal image of small town charm is partially accurate. Wilbur remarks on the rural way of life in Pennsylvania when he says, people "were used to neighbors stopping by to admire the house, lend a hand, or offer some advice" (130). In small, rural communities there is often this familiar and supportive environment. Small businesses support and invest in the successes and failures of one another, people will know each other's name, car, occupation, family story, and where they hang out. For example, in rural upstate New York where I grew up, we only had one small grocery store. The store is not only a place where people buy their goods, it is also a

meeting place for locals to drink coffee before work, gossip, and watch others as they start the day. However, this notion of small town charm is incomplete because it misses the daily work, struggle, and necessity of maintaining a climate of trust.

For an insider, people in small, rural farm communities are inherently dependent on one another and the land.¹⁶ People must work cooperatively with one another and the land in order to provide for themselves. Daniel Kemmis – bioregionalist, statesman, and former mayor of Missoula, Montana, thinks that cooperation is crucial for the good society. He claims civic virtues are cultivated only when people engage in concrete “practices of cooperation” (Kemmis, 79). Practices of cooperation are concrete practices that bring people together for a common goal. In the rural, farm community context people often engage in these concrete practices, labor intensive practices like farming, building, or tending to the landscape. Kemmis advocates a “revitalization of public life” that includes building solidarity and political cooperation in local communities through the engagement in concrete practices. He notes how “indispensable” trust is for this project: “Such neighborliness is inconceivable without the building of trust, of some sense of justice, of reliability or honesty” (118). I claim that “neighborliness” is an expression of solidarity and also rests on values of trust and cooperation. Thus, Kemmis’ vision of the good society implicitly includes a notion of solidarity.

Trust is necessary for solidarity, but as a mere sentiment it is not enough. “A climate of trust” involves specific attitudes, practices, and activities that constitute a trusting moral environment. Held describes how crucial trust is when she says, “To have a flourishing society, we would need to specify the ways in which persons should trust one another and what they should trust one another to do” (57). By applying the notion of a climate of trust to the small,

¹⁶ This is why water contamination is particularly an issue in farm communities where farmers directly depend on healthy water.

rural farm community context, we can begin to see how it would be possible to specify explicit needs. Held offers a starting point when she acknowledges that caring societies demand cooperation and trust. She says, “To have a caring society, persons would need to trust one another to respond to their needs and to create and maintain admirable caring relations” (57). More specifically, small businesses, farms, and public services depend on the community for business, support, and resources. Small or larger actions can help promote trust and cooperation and thus can support solidarity. It is in the best interest of all community members to foster solidarity by maintaining a climate of trust. Maintaining a climate of trust contributes to the overall moral environment of a community and supports or facilitates a community where members can live the good life. A healthy physical environment is also important in order to support a healthy moral environment.

I acknowledge that there are several downsides to small town life and I do not want to romanticize the small, rural farm community context. But, it is obvious that most rural communities have a small population, limited public resources, and mostly consist of people who are invested in the community’s flourishing. And as such, members of a community are necessarily dependent on one another to participate in an environment of trust, cooperation, and responsiveness. For example, Cindy and Bruce may have campaigned against each other for school board president for months, disagreeing and arguing vehemently about budgeting and other goals; but, if Bruce drives by Cindy’s house and sees her struggling to put up a new fence for her horses, he will stop and lend a hand. This demonstrates how the small, rural farm community context is not always friendly and charming; but community members have a responsibility to be responsive to each other’s needs, which thereby contributes to a climate of trust. Bruce’s behavior can also be understood as the “neighborliness” that Kemmis mentions

above. A climate of trust is a fertile place for solidarity and thus, for humans to flourish. The specific way of life that I just described – that is characteristic of my concept of solidarity – is valuable as a meaningful moral environment. Its unique components of trust and cooperation are values that we should work to promote and protect. The obligations of justice that I discussed in the previous chapter are strict in the sense that they are necessary goods that provide the foundational security needed for society. The obligations of solidarity that I discussed here are necessary for human flourishing but not strict in the sense that individual rights are necessary for society; obligations of solidarity are admirable and favorable for a flourishing life. Thus, we should strive for supportive, trusting, and caring communities that consider the interests of the whole community rather than merely individual economic benefit. A threat to solidarity in this context is a threat to this specific and valuable way of life and a threat to the possibility for a flourishing society.

I just described why my conception of local moral solidarity is valuable and I provided content to the context to which my concept of solidarity is most applicable. Now I argue that fracking threatens this conception of solidarity in the specific context that I have described. I mentioned in the previous chapter that the controversy over various proposed fracking projects is complex and passionately debated. Kemmis provides a description of the kind of complex and divisive issue that fracking is; he does not mention fracking specifically, but remarks instead on the complex interests involved in “gigantic developments” and how these developments impact the small, rural farm context. This passage is worth quoting in length:

These mammoth projects offer jobs to economies, which sorely need them; they also offer vast disruptions to what remains of a rural way of life. So the people of the region are constantly faced with the question of how far they should go in trying to protect a valued way of life, as opposed to creating a ‘climate’ which encourages these job-creating activities. These issues almost always present either/or win/lose choices; they evoke polarization and heated rhetoric; they abound in delays and hearing and rehearing.

Sometimes someone wins for awhile, but almost always we all lose in the sense that more citizens are thrown into despair and alienation – into a feeling that we have ourselves so tied in knots that none of us can do anything (40).

This passage is important because it affirms my claim that fracking threatens solidarity. Kemmis makes the point that “mammoth projects,” which are often large, industrial resource extraction practices, like fracking, threaten to disrupt the rural way of life. The question of whether to allow fracking to industrialize small, rural farm communities is divisive, polarizing, and overflowing with competing national, local, and personal interests.

Wilbur also suggests that the issue has the power to tear neighbors apart. For Wilbur the gas controversy has created divisiveness and polarity within small communities. He reports on a woman’s dismay with regard to the controversy:

The conflict was creating divisiveness within the community, which she found to be one of the most disturbing aspects of the gas rush. ‘The people who’ve known me and my children growing up and who loved my husband are just treating me like I’m the enemy or something,’ she lamented (154).

The example highlights how fracking is especially threatening to solidarity in the small, rural farm community context. Divisive issues like fracking especially threaten the unique closeness and familiarity between people in small communities. This divisiveness threatens solidarity because the climate of trust and cooperation, crucial for solidarity, is threatened. A decision whether to sign a gas lease on your private land can be a matter of heated conflict.¹⁷ People that are desperate for the money are often willing to sign gas leases more quickly than those who do not need the money. This tension regarding the desire for money and the anxiety about unknown potential impacts is not conducive to a climate of trust or solidarity. Because the small, rural

¹⁷ The “not in my backyard” mentality is the idea that from a distance many people support fracking as long as the potential consequences remain distant. Many people want to reap the economic benefits from the industry as long as the environmental and health impacts remain isolated. The potential consequences from fracking are possibly widespread and have the potential to put neighbor against neighbor. Also see Hamel, Stephanie C. *Gas Drilling and the Fracking of a Marriage*. Coffeetown Press, 2011 for a personal account of just how divisive the fracking question is.

farm community context involves considerable overlap between public and private relations, a threat to solidarity disrupts the tight-knit familial and neighborly relationships between community members. The tension between neighbors about signing leases can cause resentment and mistrust, and I already claimed how crucial trust is for solidarity.

When fracking moves into these towns, the town will undergo significant transformations. The rapid industrialization of small towns and influx of transient populations transform the valuable way of life that I described above. This transformation will inevitably impact local moral solidarity. Wilbur captures the fear that some people have regarding how fracking will transform this specific way of life: one woman he interviews says (with regard to fracking): “I’m afraid it’s going to change the whole character of the place” (56). Incidentally, one of the only points that advocates and opponents of fracking agree on is that fracking will certainly “change” small communities. (National Public Radio, 13 December 2012). Below I argue that the ways this change is manifested is through various concrete social problems.

On the other hand, Wilbur’s report could be so construed as to suggest that community members will band together even stronger after the development of the gas industry. Community members have, in fact, banded together to demand higher rates for royalties and to confront the industry when accidents and spills went undocumented or were irresponsibly taken care of (Wilbur, 36, 87). The fact that people have banded together after accidents and catastrophes does not mean that fracking helps build solidarity. Such evidence merely attests to the fact that, in spite of fracking and its damaging impacts, certain community members will nevertheless support and help one another when need be. If anything, the fact that these instances demonstrate solidarity can be attributed to these particular communities being resilient. Community members that support, care, and help one another despite the industrial development exemplify what is

admirable about solidarity and why we should be protecting it. This reinforces my point about how crucial solidarity is for the small, rural farm community context.

Specific ways that fracking threatens solidarity are related to the concrete social problems, often referred to as “growing pains,” that are currently on the rise in towns where fracking has already begun (National Public Radio, 13 December 2012). These social problems include: theft, drug use, violence, abduction, homelessness, sexual crime and violence, and domestic violence. Catskill Mountainkeeper, among others, have listed and reported the rising social problems that correlate with the industry’s development. They claim:

Shale gas development is dramatically denigrating [sic] the way of life in communities across the country. It is putting strain on local infrastructures, bringing increased crime and drug use and adding burdens to law enforcement and local social services (Catskill Mountainkeeper).

Furthermore, Roxanna Witter has published a report on Garfield County, Colorado, which shows how violent crime rates and drug crime rates have nearly doubled within a five-year period that correlated to the industry’s development (Witter et al., 33). There have been many documented cases of an increase in rape in fracking towns. Wilbur reports that in rural Pennsylvania, there were problems with Cabot employees using illegal drugs and alcohol on the well site (142).

The rise in social problems illustrates the ways that fracking fosters a climate of mistrust and threatens solidarity. In communities where violence, rape, drugs, and theft are prevalent or a rising threat, people are less likely to spend time mingling in town. People will feel scared, uneasy, and distrustful of their neighbors and will engage less with one another out of fear. These social problems could also exacerbate inequalities within the community. The impact of inequality is one of the ways Hourdequin claims solidarity can be threatened. She argues that introducing inequalities “undermines the basis for trust and a sense of common purpose that are important elements of solidarity” (26). Thus, social inequalities threaten solidarity by degrading

unity, fostering mistrust, and weakening cooperation. Hourdequin focuses on *new* social inequalities. I have discussed in the previous chapter new and existing inequalities in the context of social and environmental injustices with regard to fracking. Here, I focus on more subtle inequalities, which the development of fracking contributes to. The first inequality could best be described as a socioeconomic or demographical tension, and is specifically localized in the particular communities where fracking has brought about rapid development. The second inequality is an existing social tension that is exacerbated by the social problems that fracking has sparked.

The fracking industry brings in many out of state workers. These workers are largely transient and as such, have little historical or personal stake in the community; their interests in moving into town are typically to profit from the industry. The inequality or socioeconomic tension between locals and transients is brought about due to changes in cost of living and involvement (or lack of) in the community. The cost of living has been reported to skyrocket during the industrialization of these small communities. This transformation impacts the locals who may have been living in the area their whole life. Some people may not even be able to afford to continue living in the small community where they grew up, established a farm or business (Healy). The development of transient “man camps” is also common; man camps are temporary dwellings for drill rig workers. They are established because the rapid industrialization of these small towns leaves little time for proper accommodations to be set up beforehand (Healy, Witter, National Public Radio, 13 December 2012).¹⁸ Growing mistrust and resentment due to rising social problems, the physical separation of man camps, and the

¹⁸ By cost of living, I am referring to taxes, food, and rent, to name a few. Also, because of the rapid influx of people, there is a shortage of housing and police services.

depletion of a sense of familiarity, result in the fracture of social cohesion, or separation and inequality between locals and transient workers.

Kari Lyderson reports that the lifestyle of an average drill rig worker is often reckless. Bars and strip clubs are popular places where workers hang out, which has fostered more alcohol and drug abuse, as well as an environment for violence. Bar fights are also becoming a bigger problem in the community (Brown). Lyderson reports that the workers' lifestyle impacts the physical and emotional well-being of the workers in addition to the community: she claims workers suffer from "impacts from working outside in freezing weather, emotional isolation, poor nutrition, drug use, heavy drinking and epidemics of sexually transmitted diseases that are all common among transient workers" (Lyderson). The concern for these social problems gained more attention when a schoolteacher from eastern Montana was raped and murdered by two men seeking wealth from the fracking boom in the Bakken Shale region of Montana and North Dakota. This has raised awareness about the changes that are taking place due to the rural industrialization, and what should be done in response. Matthew Brown reports that the fracking boom in Montana "means an abrupt end to the days of unlocked doors and reflexive trust" (Brown). I am not claiming that all of these transient workers – most of which are men - necessarily bring bad behavior and crime into communities. The job pays very well and is often thought to be a great opportunity for young men. However, since these workers are often transients, they are unfamiliar with the community and unknown to the local community members. Many of the small, rural farm communities that I am most interested in here have an established sense of familiarity, which the rapid influx of transients threatens and disintegrates.

Sara Jerving claims that the industry's social impacts disproportionately harm women more than men. She claims: "In Dickinson, North Dakota, there has been at least a 300%

increase in assault and sex crimes over the past year,” which has been attributed to the fracking boom (Jerving). The rapid rise in the male population alongside the rise in violent and sexual crime has increased fear particularly among women. The rise of sexual violence and the fear and mistrust that this initiates among women is not conducive to solidarity. Moreover, the sexually violent behavior reinforces negative stereotypes about men as aggressive and violent and diminishes caring relations within the private and public spaces where women and men come together. Thus, these social impacts that fracking engenders exacerbate an existing inequality in these communities, namely between women and men.¹⁹ Unfortunately, health services and the police force are often unprepared for this rapid increase in people and crime. This unpreparedness puts people in greater danger, diminishes confidence, and further fosters the fear, mistrust, and resentment within the community.

Since various public services are unprepared for the rise in social misconduct, existing police and health services in these communities are heavily burdened. Many small communities already have public services that are understaffed and underfunded. Instead of maintaining these services and creating other community building programs, fracking distracts and detracts from these efforts. Energy, time, and money are thus spent reacting to the rising problems rather than establishing and nurturing a solid community.

To sum up, my concept of local moral solidarity is inspired by Hourdequin’s notion of moral solidarity and Held’s account of caring relations. I claimed solidarity is a felt unity between members of local communities that constitutes and is constituted by caring relations. Solidarity is also interconnected with the creation of policy. I then argued that my concept of

¹⁹ Lyderson adds that chemicals used in fracking fluid have been linked with birth defects and “spontaneous abortions,” or the unintended loss of the fetus. Impacts on reproduction will harm both women and men but mostly women who endure the brunt of the physical and emotional burden of childbirth. The topic of how fracking specifically impacts women is very interesting, but unfortunately I do not have the space to fully explore it.

local moral solidarity is both instrumentally and intrinsically valuable. The threats to solidarity that I have highlighted are morally legitimate and should be something we care about, and something that is seriously considered before the industry continues to develop. Especially in the small, rural farm community context, solidarity is necessary for a community (and its members) to persist and to flourish. The relationships, activity, and virtuous behavior fostered by solidarity are conducive to the behavior that contributes to human flourishing. In order to complete the moral argument against fracking, we must now ascend to the top moral layer, human flourishing.

3. The Top Layer: Human Flourishing and the Good Life

In order to situate where we are in my moral argument against fracking, it will be helpful to reflect on where we have been. In chapter one, or the bottom layer, I argued that fracking violates the individual rights prescribed by environmental justice. Chapter one laid the bedrock in the sense that obligations to individual rights are necessary and fundamental for solidarity and the good life. But, as I have argued, justice is insufficient to capture all of the moral concerns fracking raises. In the middle layer, I highlighted important values that obligations of justice are insufficient in addressing, such as care, trust, and cooperation. In the second chapter, I argued for a concept of local moral solidarity constituted by these values. My concept of local moral solidarity is distinctive to the specific small, rural farm community context. I claimed fracking threatens local moral solidarity as I defined it.

The bottom and middle layers of my argument are interconnected; the bottom is necessary for the middle; and the middle specifies or adds to, the bottom. This was illustrated in chapter two with the example of the policy against garbage dumping in public parks. Not only does a community with solidarity initiate just policies, like the policy that bans garbage dumping, but also, the creation and enactment of the policy promotes and encourages behavior that is conducive to solidarity. Thus, solidarity and just policy mutually enforce one another.

Additionally, both of the preceding layers are necessary for the top layer, human flourishing and the good life. Here, at the top layer of my moral argument, I claim that fracking threatens the good life and human flourishing not only indirectly via the threats discussed in the preceding layers, but also because it directly impedes human flourishing. I argue that the top layer provides the strongest case against fracking because I point out how fracking and its associated industrial activity directly inhibit the virtues that lead to excellence in everyday life.

My argument will be in three parts. I will begin by outlining a general and basically uncontroversial notion of human flourishing and the good life. Then I will quickly describe how fracking threatens the good life indirectly via the threats discussed in the preceding layers. These indirect threats to the good life and flourishing highlight the interconnection between the three layers. Next, I focus on how one's ability to flourish is influenced by the specific material context and setting in which they live. The material context refers to the particular physical setting and environment that make up daily life. The particular arrangement of our material context can inhibit or encourage flourishing. Fracking alters the specific rural material context such that it directly inhibits flourishing and the good life. Finally, I claim that fracking not only collides with the good life by impeding flourishing; fracking also encourages a culture and life that displaces flourishing.

To begin, I will sketch a general concept of the good life. This is important because it will show what exactly fracking threatens. Outlining a specific account of what the good life is or what it means for humans to flourish is thought to be controversial. Many people are wary about any framework that is not neutral with regard to what specifically constitutes the good life because governments that dictate a certain vision of the good life can be coercive and oppressive. George Sher tackles the question of neutrality in his book *Beyond Neutrality*. He highlights that the basic liberal view operates on a principle of neutrality in which governments should remain neutral regarding the specifics of the good life. The neutrality view typically holds that individuals should be able to choose for themselves what constitutes and how to achieve the good life.

However, as Sher shows, many who favor neutrality neglect the fact that governments wield enormous power and thus, have the potential to coerce and oppress even within a

seemingly neutral framework. Furthermore, Sher points out that many governments that claim to operate with a neutral framework are not neutral at all (106-128). He rightly concludes that there are ways to outline what constitutes the good life and human flourishing that make intuitive sense. Note that the insufficiency of individualism was discussed in chapter one when I claimed justice and individual rights were necessary but insufficient for the good life. Sher suggests what this outline of the good life might look like when he says, “Few would deny that it is good to possess knowledge and insight, to excel at what one does, to display various virtues, and to stand in close and loving relations” (199). Simply put, I draw the following three features of the good life from Sher’s list: cognitive, practical, and communal. The cognitive feature refers to the pursuit and achievement of knowledge. The practical feature includes engagement with physical activity. Lastly, the communal feature involves developing and maintaining meaningful relationships. This last component was important in the previous chapter when I discussed solidarity as a relational practice and value between members of a small community. Now with this short list in mind I will discuss how the good life is influenced by the material context in which one lives.

I have suggested that the bottom and middle layers are necessary for the top layer. Now I will explain how exactly the threat to justice and solidarity indirectly threaten the good life. At the bottom layer I argued that fracking violates obligations of environmental justice. Fracking is currently exempt from existing environmental laws and regulations - like the Clean Air and Water Acts. The lack of research conducted on the effects of fracking prevents new laws and regulations from being created or effectively implemented. If fracking were included in existing regulations such as the Clean Air and Water Acts, we could recognize formally how it violates these policies and threatens environmental justice. Until remedial measures are taken, fracking

violates environmental justice and threatens our ability to live the good life. Even if current policies or new policies include and enact regulations to mitigate the environmental and public health threats that fracking pose, moral threats would still remain that, as I have argued, justice is insufficient in addressing.

The potential water and air contamination would limit access to fundamental material goods, like clean water and air. These material goods are fundamental because they are goods that are necessary for a healthy life, let alone flourishing. Without these fundamental and necessary goods, people would be hindered in their engagement with certain basic activities, such as washing clothes, dishes, or walking outside. I argued in chapter one how the disproportionate threat to public health is an injustice. But this violation of justice also inhibits human flourishing. Others have recognized the necessity of clean air and water in the pursuit of the good life. For example, Laura Westra argues that these material goods are basic human rights and a precondition for moral agency. She claims, “that an environment fully capable of supporting life is a human right, not simply an option desired by certain groups, such as affluent Westerners” (80). Westra adopts her view of the necessity of material goods from Aristotle. She claims that clean air and water are human rights and a “precondition” to “live the moral life and to achieve happiness” (Westra, 83). If people are unhealthy because of polluted air and water, they will be hindered in their ability to pursue knowledge, engage with physical activity, or have meaningful relationships. To clarify, my first reason that explains how fracking constrains our ability to flourish is revealed by following the implications of the argument I made in chapter one. Fracking violates the individual right to access necessary material goods. These material goods are necessary for flourishing, therefore, fracking also threatens flourishing.

In the middle layer, I argued that fracking threatens local moral solidarity or the excellence of a community. I discussed how solidarity is relational and includes both feelings and activities. Local moral solidarity includes feelings and actions of trust between community members. Community members are dependent on one another in a variety of ways particularly in small, rural farm communities. Thus, dishonest and deceitful behavior will degrade the climate of trust that is crucial for solidarity. Solidarity is crucial for the flourishing of a community and as such, the flourishing of its members. Even if one is not fully invested in all community activities, one is dependent on her fellow community members in a variety of ways. One's ability to live the good life will be significantly impeded if the community is hostile and dangerous. One will be unable to trust her fellow community members and be inhibited as to the relationships she can develop. Without a moral environment where trust, cooperation, and reciprocity are valued and practiced, we will be deficient in our relations with others and as such, our quality of life will be diminished and unfavorable.

Now I will discuss the direct threat that fracking poses to human flourishing. The specific material context in which one lives influences one's ability to flourish. The material context refers to the specific, physical, and substantive environment that particular communities are situated within. Not only does the material context include the natural landscape, rivers, mountains, or forests; it also includes artificially constructed environments such as buildings, roads, and infrastructure that maintain the physical structure of communities. The possession of knowledge, activities of engagement, and involvement in meaningful relationships – all of which constitute the good life - are encouraged or inhibited by the specific material context in which we live. Consider Albert Borgmann's notion of Churchill's principle. He names the principle after

Winston Churchill, who said, “We shape our buildings, and afterwards our buildings shape us” (Borgmann, 5). In length, Borgmann describes Churchill’s principle:

The ways we are shaped by what we have built are neither neutral nor forcible, and since we have always assumed that public and common structures have to be one or the other, the intermediate force of our building has remained invisible to us, and that has allowed us to ignore the crucial point: We are always and already engaged in drawing the outlines of a common way of life, and we have to take responsibility for this fact and ask whether it is a good life, a decent life, or a lamentable life that we have outlined for ourselves (6).

The connection between Sher and Borgmann is now clear; we cannot be neutral about what constitutes the good life. Particularly for Borgmann, our material context has a “force” in “drawing the outlines” of the kinds of lives that are available to us. The material context impedes or encourages what one knows, does, and whom one spends time with.

Borgmann offers television as an example. Television has infiltrated American homes and has become an increasingly routine activity. The material arrangement in our household can encourage mindless and endless television viewing (Borgmann, 115). By placing the television in a convenient and comfortable location in our home, arranging our sofa or chair in a way that enables constant viewing, and placing the remote control on the coffee table right next to our comfortable sofa or chair, we are encouraging endless television viewing. This material arrangement inhibits the good life by detracting from other activities that are conducive to flourishing. Activities like playing sports, running, planting a garden, etc. are abandoned if we are constantly drawn inside by the comfort and luxury of the sofa and television. Watching television is mostly a passive affair and thus, distracts people from each other. Communal activities like playing music with friends, creating art, cooking a meal, or having a conversation are engaged with less. By arranging our homes to encourage mindless activity it decreases the incentives to engage in cognitive activity. Television viewing encourages entertainment and thus, stifles curiosity and knowledge of the central features of our world, like geography, history, and

science to name a few. By making television viewing so easy we encourage it and thus inhibit and shut out the good life.

Analogously, the ways our public material context and spaces are arranged also influence flourishing. Consider cities or towns with municipal facilities that are kept clean and available. For example, a town park that is centrally or conveniently located, has ball fields, nature trails, a swing set, historical plaques, etc. and is looked after or maintained, encourages people to utilize the space. People will be inclined to spend time in the park, discover information about the town's history, engage in outdoor activities, talk to each other, and organize community events. Community members can congregate at the ball fields on summer nights to watch games and celebrate victories together. Children can run, play, and familiarize themselves with the contours of their community. If a small community decides to ban fracking, the reason is not that they wish to shut out possibilities for economic development, but because fracking alters the arrangement of the material public space in ways that restrict possibilities for the common good and the good life.

The worry Borgmann has, and I share it, is that the prevalence of the neutrality view encourages indifference to Churchill's principle. The long quote above expressed Borgmann's concern that the influence of our material context is often overlooked. He also recognizes this when he says, "Awareness of Churchill's principle is dim;" and we are "obtuse" regarding Churchill's principle (5, 115). We neglect the fact that the shape of our material context shapes us. If we realize Churchill's principle we could become empowered to live and create more purposefully and in ways that are conducive to our flourishing. Borgmann says:

What is missing is an appreciation of the material and cultural, the real, background conditions, that are governed by Churchill's principle. The task is to turn that principle in favor of the good life and the good society (162).

Thus, we should purposefully arrange the material context of both household and community to empower our pursuit of the good life, rather than constrict or impede it. Now, the decision whether to allow fracking should include considerations for the ways that the industrial transformation will impede or encourage flourishing. I argue below that the material context that fracking engenders impedes flourishing and thus, the current practice should be abandoned.

Realizing Churchill's principle means appreciating and understanding the ways our material context, both natural and artificial, are morally laden. In other words, our place - its natural and artificial features - shapes what we know, do, and whom we spend time with; it encourages or inhibits who we can and will become. I have talked about the artificial material context in the home (with respect to television), and in the community (with respect to the municipal park); but we are also influenced by our natural environment or landscape.²⁰ There is considerable overlap between the artificial and natural in our material context. By addressing both the natural and artificial components separately I do not intend to draw a rigid line between them. Both the natural and artificial make up our particular material setting. For example, the river that runs through a town is natural and encourages behavior in the community; people can float, swim, or fish there. The bridge that we construct that is artificial also encourages behavior of the community; people can cross the river more efficiently. But, the bridge may restrict behavior as well; activity may be limited due to the way the bridge constrains space for floating, swimming, or fishing. Garbage or other industrial debris - which are often discarded or abandoned near riversides - are examples of artificial material objects that not only inhibit possible activity, but can also endanger people who engage in river activities. Both river and bridge constitute the material context. With regard to fracking, I will argue below that it alters

²⁰ This view is maintained and elaborated on in a variety of ways by many thinkers in the bioregionalist movement. I will talk specifically about this below. See Daniel Kemmis's *Community and the Politics of Place* and Paul Shephard's "Place in American Culture."

both the natural and artificial material context in communities such that it inhibits the good life. I also suggest that fracking not only inhibits flourishing, it also propagates a culture that displaces the good life.

Fracking alters the natural environment in small, rural, farm communities. I have already mentioned several times that there is potential for fracking to contaminate water and air.

Polluting the natural environment quite clearly inhibits flourishing. Take for example air pollution. Wilbur reports that one woman noticed significant changes in air quality with the development of fracking. He says:

Occasionally, blasts shook the ground and made her heart skip. Those she could do without, she told me. She also noticed from time to time, a foreign smell behind her house that she linked to the venture. It was unlike the familiar smells of grease, quarry dust, and heavy machinery that her boys routinely brought into the house on their work clothes (78).

There are other accounts where people have noticed a considerable difference in the air near fracking sites (Stein). Aside from serious public health concerns, which are under-researched, damaging the air quality also limits the activities that people will feel inclined to participate in. If methane gas leaks into the air, parents will most likely keep their kids inside; thus, the quantity or amount of outdoor activities that kids partake in, like playing in the yard or riding bikes - which are vital for their intellectual and social development - will be reduced. By not being able to get outside, kids will also have fewer opportunities to make friends, explore and develop an understanding of the layout of the town, the forests, the waterways, and the local flora and fauna. Especially in the rural farm communities that I have been focusing on, outdoor activities are a cornerstone to the particular way of life.

Not only will the potential for air and water contamination limit the amount of outdoor activities that people can engage in, but the alteration of the natural landscape will diminish the

quality of experiences aimed at the good life. Engaging experiences such as swimming, fishing, hunting, hiking, camping, etc. would be diminished and degraded due to the changes that fracking engenders. Take for example, Wilbur's report:

By the fall, noise from well pad construction and drilling echoed through the hills and hollows of Dimock. In specific places and for certain periods, the din was loud and sustained. In other spots, it amounted to little more than persistent background noise, occasionally punctuated by a boom or a sustained jet like release. Flatbeds hauled rigs, generators, tanks, and massive pieces of plumbing to fields and woodlots cleared and leveled with crushed stone. Heavy excavation equipment cut a network of pipelines through field and woods (75).

Wilbur vividly describes the transformation of the material and physical environment: from natural landscape to industrial complex. The industrialization of small, rural farm communities disrupts the experiences one is able to have in the surrounding environment. Trucks, drills, and crushed landscape replace quiet back roads, the song of local birds, and the gentle rolling of hills—which at one time characterized the area. The landscape is cut and constructed to be conducive to resource extraction and profit, not intellectual pursuits, virtuous activity, and caring relationships.

For example, Ken Ely, another landowner that Wilbur interviews, usually participates in a hunting excursion with members of his family and friends. The hunting excursion is more of a ritual than a quest for “trophies.” He says:

Trophies were fine, but it was the stories and the family ritual that sustained Ken. He was leading the good life; and sometimes, at family gatherings, he liked to daydream out loud about ‘the better life.’ When they were done drilling, that would be the better life. [...] The better life for Ken would have to wait. After one well was completed on his property, another was begun. Vertical wells were redeveloped into horizontal wells. Large clearings became staging areas for frack tanks, and some of them leaked (Wilbur, 79).

“The better life for Ken would have to wait” because Ken’s rural surroundings were being industrialized by fracking. Sooner or later, fracking may also encroach on “the good life” that

Ken had been leading. He would have to travel farther away from the well sites, changing his hunting environment and thus, altering the experience. Part of the reason the hunting trip was a ritual was that afterward all of the men would go back to the house, cook, drink, and enjoy each other's company. If the men had to travel far distances to find a hunting area, perhaps the outing would happen less frequently, the banter afterward would get cut short, and the connection that the practice had with his specific homeland would be diminished. I am not saying that any one change to these experiences is inherently destructive, but the cumulative changes that are induced because of fracking will diminish the quality that the experience once had. The good life, for Ken, would be impeded because of the constraints fracking imposed on the activity that is valuable to him, in the place that is valuable to him, and to the time spent with people who are important to him.

Aesthetically, the drill sites alter the look of the rural landscape. Again, Wilbur reports how the view from Ken's porch had changed: "His once commanding view of the countryside, framed by birdfeeders and hanging plants, was now filled with machinery and men in hard hats" (78). There are concerns that fracking will negatively impact the life of the visitor to many regions of the Marcellus (Catskill Mountainkeeper). People who desire to hike, camp, fish, hunt, or swim are going to be less inclined to seek these engaging activities in places where drill rigs, well sites, and industrial activity are so strikingly present. If the possible places where people can recreate together, learn how to build a fire and set up a tent are limited due to increasing industrial activity, this should be a significant moral concern. Jessica Knoblauch interviews a woman from Cooperstown, New York – a town that recently banned fracking – on how detrimental fracking would be to the particular landscape. The woman being interviewed says,

"The essence of this area is its rural, nineteenth century landscapes. [...] Industrial shale gas extraction would completely destroy this region's biggest assets" (Knoblauch).

Within the bioregionalist movement, many have argued that there is a connection between place and culture. The basic idea is that culture is dependent on place. Daniel Kemmis claims that, "No real culture – whether we speak of food or of politics or of anything else – can exist in abstraction from place. Yet that abstraction is one of the hallmarks of our time" (Kemmis, 7). This view, I suggest, is compatible with Churchill's principle. We shape, construct, and alter our material context and are then supported, shaped, and constrained by it. Both Borgmann and Kemmis agree that we are often indifferent to the way place is fundamental in shaping our lives. Kemmis claims that by cultivating awareness of the connection between people and place, we can revitalize community life in a variety of ways. He claims we need to pay attention to how communities are tied to their particular landscape and share it together. Communities share and are tied to a particular place in a variety of ways. Restaurants should serve the kind of food that is capable of growing in the area, the attire of the people will reflect the climate in the area, and the activities that people engage in will reflect the topography and shape of the particular place. For Kemmis, not only will the realization of this commonality help bridge polarized politics; it will also promote the cultivation of civic virtues, such as trust and cooperation – virtues which promote meaningful relationships and thus, contribute to the good life.

Kemmis makes an important point about local economies that is relevant to my discussion of fracking. He claims that, "the imperatives of place should play a role in shaping the market" (101). Building an economy to match the place, Kemmis claims, requires keeping capital localized, and making sure the various projects reflect, embrace, and work with the

particular place, its characteristics, and the people that live there. For example, when Missoula, Montana attempted to utilize its large timber resource to heat homes, it neglected the fact that because Missoula is located in a valley, the smoke from wood burning stoves would stay in the valley, thereby creating very poor air quality. Even though this particular idea localized capital, it did so at the expense of air pollution. Kemmis says economies “must be an appropriate response to the possibilities and the limitations of the place” (Kemmis, 90). Those in favor of fracking claim that it will benefit the local economy, but Kemmis cautions us against abstracting from the particular place and the people there solely for the pursuit of economic growth. Fracking is even worse than his wood burning example because the natural gas industry is not local; the companies are centered somewhere else, most of the profit goes somewhere else, the gas is pumped to be used somewhere else, and most of the employees come from somewhere else. The only connection that the industry has to these particular places in the Marcellus is to the particular ground above the shale deposits. Thus, not only is fracking incompatible with the particular places it seeks to industrialize because it allows the vast majority of capital to escape the local economy, but also because of the way it transforms the material context and diminishes a particular way of life. The industrial development in these places does not reflect the place, the contours of the land, or empower the people. In fact, the industrial development destroys the place, the contours of the land, and the connection people have with it. Fracking is detached from the particular places it seeks to develop, the Marcellus being one instance. A quote from Wilbur demonstrates why fracking is unfit for many of the particular places in the Marcellus. He says:

In northern Appalachia, the rugged, wooded hills – and changeable weather – were causing problems for crews used to the open, arid landscapes of Texas and Oklahoma. Although the Marcellus is the second largest contiguous expanse of shale gas known in the world, the terrain that covers it affords little open space to work in, plenty of obstacles, and close proximity to sensitive water supplies. Drilling and support crews had little margin for error (82).

I have just explained how by altering the material context of the natural landscape, fracking inhibits the features that constitute the good life. Now I am going to discuss how fracking inhibits flourishing by transforming the material context of the artificial landscape. Wilbur describes several materials that fracking introduces to a community: “A single well requires between 900 and 1,300 round trips by trucks hauling equipment, water, sand, chemicals, and flowback to and from the site before production can begin” (82). Fracking is an industrial process that utilizes a variety of materials and machines such as trucks, drills, pipes, water, chemicals, and sand. These materials are not destructive to the good life in themselves, but they generate an industrial environment that inevitably transforms the rural farm environment that once was. Truckloads of water need to be carried to the drill site daily. The amount of truck traffic (and traffic overall) in small communities increases drastically when fracking comes to town (Urbina, 1 June 2012). Runners who are used to the privacy of back roads may be forced to alter the activity or stop it altogether. Kids that may have been able to ride their bikes to town or school may have to rethink this activity, thus limiting the possibilities for exercise, outdoor recreation, and meaningful engagement with peers. In chapter two, I discussed the rising social problems in small communities where fracking is booming. These social problems are also moral problems; they threaten the safety of people in towns, making them fearful and less likely to be active within town and engage with one another in cooperative practices.

Perhaps one could argue that while fracking may not be compatible with the particular places in the Marcellus region, fracking may be a good fit elsewhere. I acknowledge that my argument is specific to the rural farm community context. However, most of the places in the U.S. where fracking is occurring or being pursued are small, rural communities. Nor do I think it would be reasonable to assume that all of the impacts I have outlined in the previous chapters

and above would simply disappear by shifting focus to a different place or context. Fracking and its industrial activity are such that the moral threats it poses will occur in most places, especially regarding water and air pollution.

Finally, I argue that by altering the material context, fracking not only inhibits the good life, it promotes a culture of consumption and materialism that displaces flourishing. Fracking promotes this culture of consumption through the exploitation of land and people for the extraction and consumption of fossil fuels. It does so in the guise of a clean energy alternative, a particularly insidious way mainstream rhetoric promotes fracking. The mainstream rhetoric characterizes fracking as a way to mitigate the environmental impact of the mass consumption of fossil fuels. It champions natural gas as a “cleaner” bridge fuel - a bridge from oil and coal to alternative sustainable energy sources like wind or solar (McKibben). But the main consequence of the turn to natural gas is the local and global perpetuation of the culture of consumption. It encourages and propagates a culture that displaces cognitive, active, and communal flourishing with indoor and solitary activity. Particularly in the rural farm context that has been my focus throughout this paper, the industrial constraints on outdoor and interactive activity diminish a way of life. Activities that are specific and crucial for people who live in these rural farm communities – like hiking, camping, fishing, farming etc. - are the very activities that are discouraged. Fracking is inimical to the good life not only by altering the environment such that it is inhospitable to human flourishing, but also by promoting a kind of prosperity inside the home that leads to clutter and distraction, to a life that is shaped by “hyperconsumerism” (Arnold, et al.). According to a case study of middle class homes in southern California, “More than half of the families in the Los Angeles study spent zero leisure time (none for kids, none for parents) in their back yards during our filming” (Arnold, et al.). Moreover, the study reports that

most of the leisure that is spent indoors is solitary. Thus, affluence in American culture diminishes the good life by keeping people indoors and separated from one another. Since this culture depends on and encourages the extraction and consumption of energy resources – of which fossil fuels are the most dominant - fracking for natural gas propagates this culture.

To sum up, in this chapter I argued that fracking directly inhibits the good life and human flourishing. I first outlined a general and uncontroversial account of what features constitute the good life. Then I briefly described the indirect ways fracking inhibits the good life -by way of justice and solidarity – both of which are necessary for the good life. Churchill’s principle helped me to specifically illustrate how fracking inhibits the good life by its alteration of the material context. I highlighted several ways that fracking alters the natural and artificial material environment of rural farm communities. The transformation of the material context in these places specifically limits and impedes the features that constitute the good life. Finally, I claimed that not only does fracking alter the environment such that people are kept inside; but fracking also promotes a culture of affluence and consumption that displaces the good life. Instead of excelling at outdoor activities and engaging in meaningful relationships, the culture of consumption promotes isolated and indoor activity that weakens the good society. Fracking – by being a process to extract natural gas – encourages and propagates this culture. Rather than continue the culture of consumption, the desire for the good life should empower us to find alternatives to fracking in particular, and fossil fuels in general.

Conclusion

In this paper, I analyzed fracking and articulated its moral impacts. The three layers of the argument against fracking reveal, from different perspectives, why fracking is morally objectionable. I argue against fracking at the bottom layer from the perspective of basic individual rights. Fracking disproportionately harms individuals through air and water pollution. The individuals that are impacted by fracking are misinformed about the potential risks partly because the technology is under-researched, and partly because the industry takes advantage of the unfortunate economic situation in many fracking communities. The promise of economic prosperity is overemphasized and the risks are understated. But justice does not guarantee that people will care about what happens to the groundwater, their neighbor's health, or the impacts on any small farm community. Justice is insufficient when it comes to acknowledging or requiring emotional and relational components to living the good life. Local moral solidarity is both a practice and value that describes the emotional and active relations between people in a community. These bonds between people in a community are inherently relational and interdependent; they include trust, care, and cooperation. I argue that fracking threatens solidarity because it fosters mistrust and deteriorates these important caring relations. Finally, fracking also establishes a material context that inhibits human flourishing. The material transformation of small, rural farm communities, which fracking facilitates, inhibits human flourishing. Cognitive, communal, and active engagement with the landscape whether through recreation, ritual, or work is hindered and diminished because of the specific way that fracking industrializes the rural landscape. The material context that fracking engenders further promotes the culture of consumption and thus, displaces the good life.

In addition, I have argued throughout that the layers of the moral argument are interconnected. The bottom layer of environmental justice is necessary for the middle layer of solidarity and top layer of human flourishing; the former is fundamental such that individual rights are basic and should be ensured for everyone. But, securing justice does not guarantee the good life. Individuals are not abstract, isolated, and independent; they are also complexly emotional, relational, and interdependent. The middle layer of local moral solidarity focuses on these community relations. The bottom layer of environmental justice is necessary for the middle layer of solidarity, but solidarity also adds and contributes to the creation of just policies. At the top layer, I focused on the material context that fracking generates. Fracking alters the natural and artificial material environment such that human flourishing is inhibited and the good life is impeded. Fracking further engenders the culture of consumption, which not only impedes the good life, but also displaces it. In order for humans to flourish, the bottom and middle layers need to be secured and actively cultivated. As such, the bottom and middle layers are necessary for the top. On the other hand, people living the good life will be more likely to advocate for solidarity and just policies. In this way, the top layer adds to the middle and bottom as well.

The moral layers are interconnected - just like the fracking process - and mutually reinforce each other. I have argued that fracking poses threats to each layer directly and indirectly. Unfortunately, there has been little or no discussion on the potential ethical implications that fracking poses. The mainstream perspectives are typically divided between those concerned with either the environment or with the economy, and these positions have largely been oversimplified. There has been a disregard and indifference to the moral implications that fracking poses. I have articulated three interconnected moral arguments or perspectives for why fracking should be seriously reconsidered and possibly banned. This

argument should appeal to a wide range of people and cross the divide between the environment and the economy. My hope is that by making the moral implications of fracking explicit and by appealing to a range of perspectives, people will be empowered to vigorously confront the challenges ahead and reclaim what it means to live the good life.

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