

Environmental Justice and Precaution: Reimagining Public Risk Representation

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In this study, I consider how public participants respond to institutionalized representations of environmental risk related to fracking. I am particularly interested in moments where participants, reporting marginalization when they attempt to understand or represent risk through environmental regulatory institutions, find or attempt to find agency to shift discussion points about environmental risk.

Participatory processes of energy policy deliberation in the United States often involve publics navigating complex technical and scientific literacies. Increasingly, participants are concerned about how energy technologies might impact both ecological and human health in a specific locality, and how these technologies eventually impact long-term atmospheric stability. My study seeks to understand various literacies in which public participants engage when attempting to represent environmental risks associated with high volume hydraulic fracturing (fracking) in their local communities. In this study, I

consider how local, state, and federal environmental institutions in New York, Pennsylvania, and Ohio situate the “environmental risks” of fracking and how participants respond to those representations. I am particularly interested in moments where participants, reporting marginalization as they attempt to understand or represent risk, find or attempt to find agency to shift discussion points about environmental risk. I seek to understand how participants might invent, rhetorically, to enter into energy policy deliberation¹. I also respond to Sauer’s investigations of rhetorics of risk within science and technology discourses; Sauer (2003) proposes that rhetorical research about risk representation might yield important considerations about risk that is often missed by “conventional forms of analysis” of risk representation (p.6).

Within the adjoining states of New York, Pennsylvania, and Ohio, varied opportunities for public deliberation about fracking emerge, impacting energy policy and practice. In New York, this practice is banned, though storage and transportation of what natural gas is not. Ohio and Pennsylvania, however, continue the practice of fracking, though policy differs widely between and even within these states. Many fracking disposal systems, such as brine wastewater injection wells, that are legal and widely permitted in certain localities in Ohio, are not as extensively permitted in Pennsylvania. This signals, of course, that state borders and the spaces within those borders are “social constructs” of material spaces. Within these constructs, I investigate how “risks” are defined and practiced in different places and in what ways varied public deliberation might inform knowledge making about environmental risks. Among and within these states, disparities in opportunities for participatory deliberation about risk point to environmental justice considerations. Simmons (2007) asserts “Despite requirements that mandate public participation, citizens have very little say and almost no power to influence environmental decisions, even when it affects their own neighborhoods” (p.3). The patterns found in both the marginalization and possible agency of public participants as they navigate literacies in an attempt to represent risk is crucial to consider as infrastructure for technologies like fracking increasingly spreads across the United States.

1 I turn to Eleanore Long’s definition of rhetorical invention as “the generative process by which people respond to the exigencies that call the local public into being” (2008, p. 16).

In my investigation into the complexity in locating the rhetorical notion of “authority” or “ethos” within the possibility for publics to deliberate, I draw upon Schiappa’s (2003) notion of ethos to ascertain what “is” and what “ought” to be in terms of policy. My study of participants reveal multiple, contested authorities based on varied “narratives” of what an environment “is” and “ought” to be within an increasingly modern industrial society that produces progressively unmanageable risks that are difficult to address (Beck, 1987). Environmental issues might be characterized as “wicked problems” or uncertain and high stakes issues that are often embedded in other problems that are difficult to represent, treat or solve (Rittel and Weber, 1973). Traditionally, “solving” these issues has been the domain of scientists and experts. Recently, however, research has called for input by public participation to better address complex problems that may have been exacerbated by experts and scientists themselves (Rowe and Frewer, 2004).

As with many environmental issues, the notion of “consensus” through deliberation is complicated. Varied stakeholders might include local landowners, scientists, health officials, social scholars, politicians and industrialists. Each might point to various types of scientific evidence to make claims across a spectrum of risk assessments related to fracking, each with various conceptions about what science “is” and can predict. Some stakeholders might suggest a positivist notion that the scientific method might lead to an empirical truth, while other stakeholders insist on adopting a post-positivist ideology that critiques the notion of science void of values and biases. Post-positivism suggests, theoretically, inclusion of a larger pool of stakeholders who might be called upon to represent risk. Yet, as my study routinely suggests, in practice, very few individuals are truly granted “agency” to represent and participate in policy related to environmental risk. Environmental rhetoricians Killingsworth and Palmer (1992) point out that the deliberative tools and literate practices citizens must use to participate in environmental risk policy are embedded within dominant narratives of environmental policy. Here, they outline scenarios where institutionally-sponsored literate practices (ways of reading and writing) create institutional agency by orchestrating “instrumental documents” which act as “steering mechanisms” to achieve social solidarity that maintains a hierarchy of environmental policy often invested in standard approaches to

the environment (Killingsworth and Palmer, 1992, p.166). Such mechanisms, then, favor particular energy policies.

In my study, participants easily found permitting documents and policies to enable fracking activity within state and local environmental institutions, but they found few regulatory documents and policies that might halt fracking activity. Indeed, the mechanisms create one discourse to appear as a 'natural' social consensus without having to attend to alternative narratives. Simultaneously, risk reporting assessments and mechanisms vary by locality and state, limiting or encouraging certain definitions of risk. In some states and even within some localities within states, for example, brine injection wells are seen as "safe," while in others they were deemed "unsafe" in terms of proximity to drinking water and seismic activity. Ultimately, the consensus issue about risk in the United States often favors industry practice as usual, in which industries are free to continue activities until risk can be proven, through scientific study, in a definitive manner (Carolan, 2008; Jasanoff, 1987). As such, risk communication scholars call for deeper investigations into notions of scientific "facts" which are used in deliberations to inform policy: "Science itself rarely provides sufficient basis for selecting between different courses of action, given that such action inevitably involves beliefs as to what the future *should* look like (Sarewitz, 1996)" (as cited in Carolan, 2008). Communication risk scholars also suggest that good policy does not depend on traditional linear models of science expertise in which debates about scientific processes might eventually reveal "truth" which is then disclosed to the public, in due course becoming part of policy (Beck, 2011, p. 297).

Perhaps the most notable way uncertain risk representation is problematic for public participants is shown by the way in which many fracking activities are exempt from federal oversight. Known as the "Haliburton Loophole," legislation signed into law in 2005 as the Energy Policy Act exempts fracking from a variety of federal regulatory laws protecting clean air and clean water. Concerned citizens note how such laws make it difficult to position risk in terms of precaution within larger powerful regulatory constructs that assert the ability for experts to regulate risk activity; these often pro-industry expert decisions become the status quo for state and local

risk assessments, often with little input from communities that will be impacted. Concerned citizens argue that this top down approach to risk representation stymies discussions of proactive approaches to risks, such as local health risks, or wider discussions such as global climate change, that might allow participants to consider policies to seriously reduce carbon emissions (Gurule, 2013).

However, competing discursive frames can challenge what Simmons (2007) terms as “pseudo participation” offered to citizens in deliberations about environmental policy (p. 38) that suggest an inevitable future as framed by dominant discourses (Hajer & Versteeg, 2005). My and the study’s participants’ interest in social justice – including notions of precaution and environmental justice, underscores alternative notions of participant agency, particularly when paired with rhetorical inquiry of technical “invention.” To attend to Simmons’ concerns of meaningful public engagement, my research explores scholarship surrounding both precautionary and environmental justice risk reporting perspectives and practices that could add significantly to the way in which stakeholders might contribute to environmental risk analysis and representation. The precautionary principle, more widely practiced in the European Union than in the U.S., suggests that precaution should be taken if there are threats of serious or irreversible environmental harm. This shifts the issue of authority -- scientific certainty (impossible, some argue, to ever pin down) is no longer necessary as grounds to halt an industry activity (Whiteside, 2006).

Similarly, my study also explores frameworks of environmental justice that attend to discursive possibilities that acknowledge expanded notions of citizen risk reporting in space and time (Holifield, Porter and Walker, 2010; Nixon, 2011; Walker, 2010). Concepts like environmental justice challenge normative views of the environment and the relationships humans have with environmental spaces. While the term “environmental justice” has shifting meanings, the framework generally points to a critical theoretical approach that questions production of inequalities of environmental hazards and risks in complex social and political contexts. Inherent in this discussion are complex scales of time, including time frames of justice, and a critique of invisible and slow environmental violence

(Nixon, 2011). These vulnerabilities are deeply embedded within the way humans interact in space: “the distribution of vulnerabilities ...does not map neatly onto census-defined demographic groups” (Holifield, Porter and Walker, 2010, p. 9). Environmental justice seeks to acknowledge materialities of both human bodies and geographical spaces that are often ignored in typical environmental risk policies and practices. Environmental justice attends to constructed notions of stigmatized and misrecognized spaces, which are often reinforced discursively. This became important since much unconventional fossil fuel extraction and disposal occurred and is occurring in or around poor communities in the Appalachian regions of Pennsylvania and Ohio.

How, then, might notions like the precautionary principle and environmental justice, not typically represented in institutional regulatory risk reporting mechanisms, become part of risk deliberation? In my study, the answer lies in the *techne* employed by participants themselves. Here, acknowledgment of Long’s (2009) discussion “of the debate over the use of *techne* in local publics” in terms of “invention” and “interventionism” suggests that “*techne*” itself is a complicated issue that warrants additional scholarship within rhetoric and community-literacy studies (p.16-17). However, Long (2009) also points to emerging possibilities of *techne* by referring to rhetoricians Atwill and Haskins who see *techne* as “the tools of discourse that take knowledge beyond the propositional and conceptual and into the realm of wise action” (p. 20). Herndl and Cutlip (2013) point specifically to environmental activist engagement through technology that situates scientific rhetorical studies towards praxis. Simmons and Grabill (2007) discuss groups that gather and represent complex technical information to networked community groups in an effort to expand communicative practices surrounding environmental risk (p. 437). Here, communities access technology to “invent” and “perform persuasively” valued knowledge given a complex rhetorical situation (p. 422).

Several of the stakeholders in my study were involved in such persuasive performances in technically complex rhetorical spaces. For example, stakeholders involved in “citizen science” initiatives are taking active roles in complex, technical, but often localized,

scientific studies (Conrad and Hilchey, 2011). Grassroots participants in all states also found ways to “invent” to counter traditional risk representation through online networks of knowledge making: reading, interpreting, and sharing (and, at times, composing) highly technical scientific and social science studies that explore risks in the emerging practice of fracking not yet seen in policy; sharing resources to find ways to navigate print and online procedures sponsored by local, state and federal environmental regulatory agencies to make informed public comment about emerging concerns about environmental risk and policy; sharing policy processes that result in instituting bans for various aspects of the fracking industry; involvement in meaning making about risk by providing information for and interpreting emerging community technical tools such as the *FracTracker* online mapping site (which includes environmental justice mapping “layers” in geographical representation); sharing legal information about risk related to fracking; and sharing print and multi-modal narrative representations of risk. Simmons and Grabill (2007) suggest rhetorical models that position “citizens themselves as producers – of knowledge, of values, of communities” (p. 437). For example, in my study, the statewide ban in New York on high volume hydraulic fracturing can be, in part, traced to grassroots efforts that present HVHF as a public health risk, a position that considers both precautionary and environmental justice. An investigation of communicative patterns found within the activist grassroots representation of possible health risk reveals that highly technical literate networks, coordinated by citizens, eventually gained agency, bringing issues of precaution and environmental justice to environmental risk deliberation that impacted policy. The New York Department of Conservation states the fracking ban is partly based on the public concern of health issue uncertainties. I contend that this policy formation suggests that citizens, who might be impacted by potential uncertain risks, must more routinely be a part of deliberation in policy formation related to fracking regulation.² While such policy formation only regulates one aspect of the fracking industry in New York, and the ban developed only after concerted public challenges to the dominant discourse which favored industry, my study contributes to emerging scholarship

2 I also suggest that human health is just one risk of many that public participants might represent more broadly in future policy discussions. Wider notions of risks to ecological health are also important considerations for public participant contributions to environmental deliberation.

that suggests public participants might more fully contribute to discourses about environmental risk. Once community members, as agents, are truly able to use mechanisms that reveal ideologies of both the precautionary principle and environmental justice in public discussions, new patterns of environmental communication can occur, and new “authorities” about the environment can emerge.

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