WHEN RISK TURNS INTO REALITY: THE “CANARIES” IN THE OIL WELLS OF CALIFORNIA

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INTRODUCTION

Despite the emergence and popularization of environmental justice movements, racial injustice in toxic environments remains highly pervasive and obscured. Claims of racial injustice from environmental hazards have been continuously disputed by experts. As a result, the very meaning and perceived reality of environmental risk has been predominantly shaped by scientific expertise.1 In particular, current assessments of hydraulic fracturing in California present a clear case study to understand racially differentiated risk. By virtue of exposure to environmental hazards, people of color in California face the biggest health risk from their surrounding environment.

This logic of racially differentiated risk is environmental racism. Robert Bullard defines environmental racism as “any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color.”2 Furthermore, environmental racism

DOI: https://doi.org/10.15779/Z38CZ32521

* University of California, Berkeley, B.A. I offer my sincerest gratitude to Professor Jessica Walker, who offered her unconditional support and valuable insight in the development of my thesis. A special thanks to the editors of the Berkeley La Raza Law Journal for the opportunity to help bring environmental racism to light. Your guidance is deeply appreciated. To those living to fight another day in toxic environments, this project is dedicated to you.

is a multifaceted problem that is sustained through the omission of race in environmental justice movements and research.

To understand how risk assessments are formed, I have divided this article into three parts. The first part discusses the variables that contribute to the formation of risk and its probability, such as privileging scientific principles while disregarding lived experience. The second part examines the relevance of nongovernmental organizations (NGOs) in addressing environmental racism. Lastly, I compare environmental racism to popular theories of ecology that have shaped the meaning and practice of environmental justice today.

I. PART ONE: PROBABLE RISK

A. The Valid Expert

In 2013, California Governor Jerry Brown signed Senate Bill 4 (S.B. 4) into law as a means to create greater certainty of the possible risks associated with hydraulic fracturing. S.B. 4 was the State’s first major piece of legislation that directly regulated hydraulic fracturing. Citing insufficient information, S.B. 4 set a new framework to regulate well-stimulation technologies, such as hydraulic fracturing, by mandating an independent study to assess potential threats to public health and the environment. The criteria for evaluating risk through this scientific study was the “use of recognized experts, peer review, and publication.”

Indeed, this scientific study was conducted by a set of experts with a diverse set of technical views for the California Council on Science and Technology (CCST) with funding by the California Natural Resources Agency (CNRA). At the time of the CCST study in 2013, only close to two-thirds of the chemicals used in the process of hydraulic fracturing were voluntarily disclosed by the industry. Voluntary chemical disclosure meant that corporations could withhold information to limit the information that is readily available to the public. Safety evaluations from this independent study, however, stem from limited knowledge over incomplete data on chemicals used in hydraulic fracturing. Moreover, the report concludes that:

The toxicity and biodegradability of more than half the chemicals used in hydraulic fracturing remains uninvestigated, unmeasured, and unknown. Basic information about how these chemicals would move through the environment does not exist. Although the probability of human and environmental exposure is estimated to be low, no direct studies of environmental or health impacts from hydraulic fracturing and acid stimulation chemicals have been completed in California.

With voluntary disclosure, gaps in data and thus incomplete scientific

4. Id.
5. Id.
6. The CCST committee members were appointed based on their “technical expertise and a balance of technical viewpoints. For more information, see JANE LONG, JENS BIRKHLZER & LAURA FEINSTEIN, CALIFORNIA COUNCIL ON SCIENCE & TECH., AN INDEPENDENT SCIENTIFIC ASSESSMENT OF WELL STIMULATION IN CALIFORNIA: SUMMARY REPORT. AN EXAMINATION OF HYDRAULIC FRACTURING AND ACID STIMULATIONS IN THE OIL AND GAS INDUSTRY 6 (2015) (available at http://ccst.us/publications/2015/2015SB4summary.pdf).
7. Id.
8. Id. at 34–35.
assessments, it is clear that the influence of corporations in risk formation must not be ignored. Even if we consider full public disclosure like S.B. 4 now mandates, the impact of chemicals on human health and the environment remains largely unknown.\(^9\) This data, whether complete or incomplete, nonetheless continues to shape the future of the industry.

The experts from the CCST report argue that because so much information is limited, threats from hydraulic fracturing are difficult to determine.\(^10\) Such uncertainty is closely similar to the text of S.B. 4, indicating that “insufficient information is available to fully assess the science of the practice of hydraulic fracturing and other stimulation technologies.”\(^11\) Limited scientific evidence and methodology have dictated the extent to which risk is accepted. While the study revealed discrepancies in risk evaluations, it becomes increasingly clear that the need for additional methods to evaluate risk is needed.

Furthermore, how evidence is accepted as legitimate and valid is also left up to the interpretation and judgment of experts. Such expertise is perceived as having a differentiated legitimacy, a legitimacy more trustworthy than non-experts.\(^12\) However, this “science-only club” diminishes the input and experiences of many community members living near environmentally hazardous areas.

Maywa Montenegro de Wit and Alastair Iles call this sole reliance on scientific principles “thick legitimacy”: a technical process which elevates authority through the “knowledge-making of scientific and political institutions.”\(^13\) S.B. 4 demonstrates the authority and reliance of “legitimate” sources of knowledge in how risk studies should be framed. This exclusive use of scientific principles in assessing risk is what many community members consider part of the problem, rather than the solution.

**B. Los Angeles and Kern County**

Oil wells are predominantly present in low-income, minority communities such as California’s L.A. County and Kern County.\(^14\) Kern County, for example, is one of the most heavily drilled areas in California and accounts for seventy-five percent of the State’s oil production.\(^15\) Kern County has close to 900,000 residents and census data reveals that people of color make up seventy percent of the county’s residents.\(^16\) Latinxs account for about fifty percent of the population, African Americans 6.2 percent, and Asians 5.2 percent.\(^17\)

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\(^9\) Id.
\(^10\) Id.
\(^11\) S.B. 4, supra note 3.
\(^13\) Maywa Montenegro de Wit & Alastair Iles, *Toward thick legitimacy: Creating a web of legitimacy for agroecology* 4 ELEMENTA SCI. ANTHROPOCENE 1, 2 (2016).
\(^17\) Id.
However, disproportionate exposure and thus risk is not confined to the two counties—it is pervasive throughout California. A study conducted by Fractracker Alliance found that of the 352,724 students attending school within a mile of gas and oil development, seventy-nine percent of those students were non-white, and of those, sixty percent were Hispanic.\(^{18}\)

In an interview with Al Jazeera, Rodrigo Romo, the father of one of these students, explains that his daughter suffers from seizures and other health complications—a problem he attributes to hydraulic fracturing.\(^{19}\) Johanna Romo attended Sequoia Elementary School in Shafter, one of the cities in Kern County, where there are three fracked wells within a half mile and forty-five fracked wells within one a half mile distance from her junior high school.\(^{20}\) In an opinion piece that appeared in the Guardian, Mr. Romo argues how hydraulic fracturing near the school led to “unexplainable epileptic attacks” for his daughter, a development even her doctors could not explain.\(^{21}\) At the schools that his daughters attend, Mr. Romo says that “it is strange when people don’t get nosebleeds every day” and that students are often forced inside for weeks at a time because of the fumes and odors.\(^{22}\)

Mr. Romo’s efforts to illustrate the reality of risk, however, runs contrary to scientific principles that say otherwise. As Mr. Romo explains, “my hands a re tied . . . . I can’t do anything for my daughter. I’m very mad because the government does not hear any poor people.”\(^{23}\) His experience, along with that of others in Shafter and the rest of California, reflects the frustration about unrecognized sickness and being able to do very little about it.

The Kern County Board of Supervisors has not heeded to the concerns of residents like the Romo family. They were recently sued over their approval of an ordinance that could permit up to 70,000 new oil and gas wells in the county.\(^{24}\) For students like Joanna, education is intertwined with risking personal well-being. Her headaches and seizures are a reminder of the oil wells near her school, which she feels may be the cause of her illness.\(^{25}\) The efforts of this family to make public their experiences and narrative as grassroots expertise is not only what gets overlooked by scientific principles, but also may be a way to bridge gaps in data.

C. Resilience as Environmental Justice

In 2015, over 100 South L.A. community members went out in protest of

\(^{18}\) Kyle Ferrar, FracTracker Alliance, Hydraulic Fracturing Stimulation and Oil Drilling Near California Schools and Within School Districts Disproportionately Burdens Hispanic and Non-White Students 5 (2014).


\(^{21}\) Id.

\(^{22}\) Id.

\(^{23}\) New Report Questions the Safety of Fracking in California, supra note 19.


\(^{25}\) New Report Questions the Safety of Fracking in California, supra note 19.
hydraulic fracturing. Dressed in fluorescent yellow shirts, activist called themselves “canaries,” holding picket signs that said, “set these canaries free.” In a photograph of the protest taken by Haya El Nasser, protesters sit inside a steel-like cage to allude to the idea of being “canaries in a coal mine.” Their collective effort to create localized resistance to the denial of risk is an alternative to create their own meaning about the realities that they face.

While these communities do not have the same resources as their white counterparts, they still do not lack the resourcefulness to resist. The environmental justice movement highlights participatory processes as communities being able to speak for themselves. For residents who feel like “canaries” because of hydraulic fracturing, having an equitable and influential role in political and scientific decision making is essential to disrupt the practices that disproportionately disadvantage minority communities.

Bullard argues that residents in Los Angeles have experienced some of the worst pollution. Communities are tasked with the burden of “crumbling infrastructure, ongoing economic disinvestment, deteriorating housing, inadequate schools, chronic unemployment, a high poverty rate, and an overloaded healthcare system.” For example, African Americans do not have the same opportunities to “vote with their feet” and simply move away from these issues. Residents who live in what is described as the “dirtiest” zip codes are minorities who lack the economic and political means to leave as a form of protest.

Activism thus becomes a battle over the very process of decision making and giving meaning to non-traditional evidence. As traditional processes fail, community groups are forced to look to alternative processes to validate their concerns and personal experience as their own expertise, so that they can have a say in the ultimate decision. Articulating the experiences of marginalized groups in toxic environments only as vulnerable and voiceless contributes to ignoring alternative forms of giving value to non-traditional forms of expertise such as narrative and protest.

Race is an independent factor in the allocation of environmental risk, burden, and hazards. The lack of certainty in the scientific community as to whether hydraulic fracturing actually incurs adverse health effects takes on a different meaning when ninety-two percent of people affected are people of color. While expert opinion is legitimized in authority and trustworthiness from political and scientific institutions, these same institutions disenfranchise the agency of people of color.

In the case of hydraulic fracturing in California, as risk is minimized,

27. Id.; see also Appendix 1 & 2.
28. Id.
31. Id.
32. Bullard, supra note 2, at 267.
33. Id. at 270.
34. Id.
35. Id.
36. FERRAR, supra note 18, at 5
exposure to risk increasingly becomes racially differentiated. As a result, future consideration of how risk is racialized should situate race at the forefront of decision making.

D. Grassroots Expertise: Narratives, Stories, Citizen Efforts

Rule by expertise has meant the disenfranchisement of people of color in resisting environmental threats. In Kettleman City, California, for example, the opportunity for public comment on a waste permitting process opened up only after years in which decisions to permit had already been taking place. In places like Kettleman City, traditional means of making environmental decisions leave out community members from evaluating the desirability of environmental projects. Furthermore, in these public hearings, documents are not always translated in the respective languages of the community they concern themselves with. And, notices for public comment are not always publicized. They are posted in local newspapers in small fonts that are easily overlooked. Moreover, documents presented at public hearings are often written in “such technical language that they are inaccessible even to relatively educated people.”

Presenting obstacles to the inclusion of community decision making in evaluating proposals for hydraulic fracturing further removes residents from voicing their opinions but does not render them voiceless. The incorporation of narratives—as first-hand experience in validating the impact from risk—is what Gwen Ottinger regards to as a “powerful way . . . to be heard” and to create collective knowledge against pollution. This is especially important for community members who “refuse dominant narratives about them, and advance their own, alternative understandings of their communities, how they’ve been treated, what is owed to them by regulators and other dominant groups, and what their future should look like.” Collective efforts that are inclusive of both community and scientific experience challenge dominant, taken-for-granted, expert narratives that remain so pervasive in maintaining environmental racism.

The inclusion of narratives is not taken into account in decision-making processes; and where they are, they are not seen as valid claims. Narratives such as Mr. Romo’s present a unique opportunity to fill research gaps that have left people of color unprotected from environmental hazards. When communities speak for themselves or seek such opportunity, their claims are brushed aside because they are seen to lack rigor. Making the decision-making process accessible is essential to provide an avenue for people of color to speak for themselves and for their community, rather than adhering to dominant narratives of those external from those communities and impacts they claim to face. Narratives embody resilience, protest, and disputes over considerations of valid knowledge.

Using narratives as a non-traditional approach to expertise provides an alternative route for community residents to contribute to the formation of knowledge

37. Cole & Foster, supra note 30, at 110.
38. Id.
39. Id.
40. Id.
42. Id.
and resist injustice. Data has often overlooked the lived experiences of people—as valid data points in the process of not just identifying instances of environmental racism, but also as a way to understand legitimacy. At the frontline of resistance and protest, in disputes with both government agencies and corporations, narratives bolster credibility and provide a competing interpretation to expert knowledge. 43

E. Awareness of Risk and Preparedness

In California, people of color are ninety-two percent of those who live within one mile of oil and gas developments. 44 More specifically, sixty-seven percent of residents are Latinx, eleven percent African American, thirteen percent Asian, and eight percent white. 45 According to a Natural Resources Defense Council (NRDC) report in 2014, these are the same people who also face the worst pollution threats in the state. 46 They are, in other words, the stakeholders who have most to lose from hydraulic fracturing.

The disproportionate risk from environmental hazards is what a report by the Institute of Medicine calls a “kind of double jeopardy” for low-income and minority populations, in which higher exposure, coupled with limited knowledge and political disenfranchisement, present disproportionate health risk and unequal life chances. 47

A growing body of literature is starting to challenge the failure of government actors and industry to recognize harm. A report published in 2016 by the Clean Air Task Force (CATF) found that over 1,780,000 Latinxs lived in counties in which oil and gas developments were present. 48 The CATF report also found an elevated risk of both cancer and asthma as a consequence. 49 Furthermore, estimates by the EPA’s National Emissions Inventory (NEI) may have underestimated emission reports, and as a result, these estimates of cancer and asthma risk could be higher. 50

Hydraulic fracturing has been attributed to serious accidents, adverse health effects, water and air pollution. 51 A substantial number of people living in communities where hydraulic fracturing takes place, report respiratory, neurological, dermatological issues, and unusual odors. 52 Furthermore, residents who believe their health has been negatively impacted have also reported higher psychological stressors from being unable to hold the industry accountable. 53 In fact, seventy-nine percent

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43. Id.
44. Id. at 13.
45. Id.
46. Id. at 13.
49. Id.
50. Id.
52. Id.
53. The report by Adgate, Goldstein, and McKenzie make reference to a longitudinal study
believed they have been denied or provided false information by the industry.\textsuperscript{54}

For many of these residents, hydraulic fracturing is not what it could mean for their health, rather what is already is: health outcomes that are tangible. Residents not only see corporations deny “dumping of toxic waste” but also its relationship to their poor health outcomes.\textsuperscript{55} When traditional models of assessing risk privilege uncertainty as an acceptable standard, incorrect assessments inevitably expose already vulnerable communities to a greater degree of danger.\textsuperscript{56} Such pattern of denial and inconsistent data is seen to be yet another tactic by polluters to hide incriminating evidence.\textsuperscript{57}

As public health agencies dispute their health claims, residents see them as supporting corporate polluters.\textsuperscript{58} Status quo studies of environmental risk have strict resource limitations and are not specific to hydraulic fracturing.\textsuperscript{59} Disputes over how data is considered valid, credible, and legitimate reveals the “need for substantive research” on hydraulic fracturing.\textsuperscript{60} Furthermore, the lack of funding by government entities, public partnerships, and the industry itself contribute to the explanation for why gaps in data exist—risk research is not sufficiently funded.\textsuperscript{61}

The failure to establish awareness of potential danger further alienates residents from preparedness, resources, and support. Risk is further exacerbated when public health officials depict adverse health claims as exaggerated or outcomes of substance abuse.\textsuperscript{62} In response, Phil Brown argued:

\begin{quote}
[I]f this occurs, it must be seen in context: community fears are too often brushed aside and data has been withheld . . . lay claims may be erroneous. But this is the price paid for past failures and problems . . . . Exaggerated fears may be understood as signs of the need to expand public health protection, rather than justifications to oppose lay involvement.\textsuperscript{63}
\end{quote}

The burden of proof is shifted to the communities most impacted, but whose knowledge and experience is not recognized credible because it’s not seen as legitimate. When expertise cannot account for environmental racism, activists must then not only take ownership of a problem that they are not accountable for but also redefine how causal responsibility is understood.\textsuperscript{64} The uncertain risk from hydraulic fracturing has often meant that policy-makers and scientists prefer to accept “false negatives to false positives” while community residents who feel the health

\begin{itemize}
  \item conducted by Kyle Ferrar. J. Ferrar et al., \textit{Assessment and longitudinal analysis of health impacts and stressors perceived to result from unconventional shale gas development in the Marcellus Shale region}, 19 Int'l J. of Occupational and Envtl. Health 104 (2013).
  \item Adgate, Goldstein & McKenzie, \textit{supra} note 51, at 8314.
  \item Id.
  \item Id.
  \item Id.
  \item Brown, \textit{supra} note 12, at 373.
  \item Id.
  \item Id.
  \item Adgate, Goldstein & McKenzie, \textit{supra} note 51, at 8314.
  \item Id.
  \item Id. at 8315.
  \item Id. at 8314.
  \item Brown, \textit{supra} note 12, at 378.
  \item Id. at 378–79.
  \item Id. at 359.
\end{itemize}
consequences choose otherwise.65

Environmental racism renders at-risk communities to a kind of “invisible violence” in toxic environments.66 This is a form of slow, hidden, and obscured violence that is not formally recognized as such. Invisible violence is structural in the sense of political and scientific institutions that deny sickness. It is not new. In 1984, the Cerrell Associates gave a report to the California Waste Management Board (CWMB) on indications to where placing new incinerators would be best suitable. The report focused on targeting “lower socioeconomic groups” should be targeted, who they perceived to be more docile and without necessary resources to respond.67 In other words, to place projects that actively promote illness and literal suffering is tied to the social acceptance of which communities are more likely to be accepted as disposable. Recognizing that health disparities are also a product of environmental projects we remain so uncertain about, is necessary to foster positive public health outcomes for underrepresented people. Consequentially, when surrounding environments become poisoned, so do the people’s well beings. The lack of accountability and responsibility to address research gaps, incorporate communities, and racial inclusion in decision making separates racism from mainstream understanding of our climate.

II. PART TWO: NGOs & GOVERNMENT

A study of 293 environmental organizations and government agencies and found that ethnic minorities did not occupy more than twelve percent of their leadership roles and sixteen percent of general staff and board.68 More specifically, Latinxs held 2.3 percent and African Americans 4.6 percent—among other racial minorities—of overall leadership positions.69

These organizations that decide how to allocate resources and leadership on environmental issues are defined by a “racial gulf”.70 Considering the 3,200,000 members of these organizations and agencies, “very few minorities are members or volunteers.”71 In part, this is the explanation for why issues of environmental racism do not take as much priority as it does for those affected. Environmental agendas are developed in isolation from those who face most risk, harm, and consequences from environmental racism. This racial gulf described in organizational decision making has serious consequences for the environmental protections that pertain to the development of hydraulic fracturing in California.

The national, mainstream, and collective efforts of environmental organizations and government agencies are not just influential, but decisive on which issues of environmental injustice will be addressed. Overall membership and leadership of such efforts uniquely to invite an influx of white people. Today, the movement itself “remains largely white” and still focuses on issues that are important

65. Id. at 374
67. Bullard, supra note 2, at 268.
68. DORCETA E. TAYLOR, PREPARED FOR GREEN 2.0, THE STATE OF DIVERSITY IN ENVIRONMENTAL ORGANIZATIONS 2 (2014).
69. Id. at 50.
70. Id.
71. Id. at 4.
These agendas that have generally focused on issues of wilderness, wildlife resources, pollution, and population control since the emergence of the environmental justice movement. Rather than responding to the development of environmental racism, the attention of NGOs and government agencies has been historically been elsewhere. The lack of diversity and inclusion allows for a kind of selective justice, in which issues of environmental racism are treated as secondary, if at all. True environmental justice, therefore, requires the voices, experiences, leadership, and inclusion of people of color.

The absence of racial inclusion reinforces the strength of structural barriers that prevent active participation in affected communities. Even when hydraulic fracturing is opposed on a mainstream, it still ignores the origins that permitted its development so extensively in the first place: environmental racism. Future concessions to roll back development, if through the sole reason of climate concern, may reduce hydraulic fracturing in some areas, while leaving development in minority communities untouched. Questions of why people of color, are not exposed to hazard to the same extent are questions of white privilege. White privilege underlies both institutional and overt racism. Even when white people do not intend to disadvantage people of color, “because they are unaware of their white-skin privilege, and . . . social and economic benefits by maintaining the status quo, they inevitably do.”

The status quo is environmental organizations and agencies remaining predominantly white while excluding issues of environmental racism.

Control over which environmental agendas get pushed by NGOs can further obscure environmental racism under the veil of white mainstream environmental movement. NGOs that claim to advocate an agenda of environmental justice generally assume the inclusion of efforts to address environmental racism. Environmental justice does not adequately deal with race, and can instead simply create the idea that it is being addressed under a broader strategy of environmental justice that is shaped by white privilege.

In 2016, President-elect Donald J. Trump announced a renewed federal commitment to the coal-mining industry and to Environmental Protection Agency (EPA) regulations that stood in the way. By 2016, U.S. crude oil production rose close to thirty percent since 2005. In a national context, climate change is typically understood as rising sea levels, drought, and natural disasters. In other words,

75. Id. at 15
76. For example, the EPA EJ Agenda includes efforts to address racial inequality, as it has done for years, yet they remain substantially present throughout the United States without significant national efforts to address it. EJ 2020 Action Agenda: EPA’s Environmental Justice Strategy, ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/environmentaljustice/ej-2020-action-agenda-epas-environmental-justice-strategy (last visited Nov. 20, 2017).
mainstream conversations about climate change are not contextualized in or largely associated with the topic of race. If national conversations about fossil fuels and climate change favor maintaining environmentally unsustainable practices, what does it mean for environmental racism? Theda Skocpol argues that “severe weather events will not cause global warming to pop to the top of the national agenda.” That we need “fresh strategies . . . based on new understandings of political obstacles and opportunities.”

A. When Hazards are Desirable

California has no explicit regulations to limit the distance of hydraulic fracturing to schools, hospitals, and residential areas. Furthermore, the oil and gas industry is not held to community-notice requirements when planning to drill near schools. Racial minority exposure to oil drilling reveals a disproportionate spatial relationship of inequality, in which the burden of establishing risk is placed on communities of color.

In evaluating the benefits of hosting facilities that would cause serious pollution and waste, cities with high unemployment see the prospect of new jobs as more of an immediate necessity than considering possible environmental impacts. A waste facility, for example, “dangles the promise of jobs before communities,” including the promise of funding local community organizations. However, as it relates to in mitigating potential environmental impacts, like the funding of local health care, companies have not done so for current residents, leaving the environmental consequences to the responsibility of the community. The likelihood of which cities become toxic environments should not be a prior question before one of environmental racism, which creates those conditions in the first place. Government actors and NGOs have a responsibility to the safety of these communities and to uphold principles of precaution and inclusion when risk is racially differentiated.

The Cerrell report also pointed to expected support from “chambers of commerce, industrial development committees, utility companies, and perhaps labor unions,” even if opposition would arise from the general public. The report further concludes that development can be determined through interviews of the representatives of such groups and through a historical case study of resistance in the region. These are, however, similar agencies and groups examined in the report, in which representatives were predominantly white. Although the Cerrell report goes back over thirty years, the basis of decision making that results in where the damage will occur has often presupposed the consideration of communities of color as

80. Id.
81. Ferrar, supra note 18, at 1.
82. Id.
84. Id.
85. Id.
87. Id. at 23.
vulnerable communities. Although I do not attempt to track if the process of deciding potentially hazardous projects by least resistance has changed, if at all, I point to the legacy of an economic cost-benefit analysis that contributes to the formation of disproportionate risk. The latter criteria, of analyzing community history, is an examination of recent environmental activism that could produce organized movement that challenges the desirability of these industries. As such, even the very existence of these groups challenge the desirability of incinerators.

Environmental injustice will inevitably persist in the form of environmental racism as long as it has the freedom to circumvent regulations, operate through uncertainty, and develop a toxic industry in unprotected communities. Pollution, toxin releases, air quality degradation seems to be so pervasive and permissible because it is situated in minority communities. Little to no regulation on the industry with perceived lack of resistance from marginalized groups makes oil and gas development possible. It is in places like Kettleman City and Los Angeles that the fossil fuel industry, in part, is able to persist through victory over small struggles rather than national ones. Alleviating environmental racism is then a necessary condition to attain climate solutions—the alternative is continued environmental injustice.

Adverse health and environmental impacts from hydraulic fracturing must evaluate risk from factors beyond scientific data. For many communities, they grow to distrust experts who minimize their struggle to attain safe environments. Because the burden of risk is so unequal, perhaps the principles of legitimate expertise should be broader. Ultimately, hydraulic fracturing in California presents a challenge to the well-being of many minority communities, who have been historically targeted and treated as disposable because of their perceived vulnerability. From L.A. County and Kern County to the rest of California, it is clear why many residents are distrustful of and oppose traditional expert opinions. Gaps in evidence, understandings, and risk formation should function to propel a precautionary approach, in preventing further danger to what is already at risk, disenfranchised, but continuously-resilient communities.

III. PART THREE: A NEW THEORETICAL APPROACH?

There is no theoretical foundation that is specifically situated in the ecological empowerment of people of color, as a movement and practice. In the context of environmental racism, research act as a kind of magnifying glass to zoom in and identify disproportionate inequality. However, it does not zoom out to look at the broader structures that affect the subject of study. Justice-based theories are too broad in scope and are often co-opted to cater to white-centered agendas. For example, environmental justice is not solely about race—it is an intersection of many theories of justice that incorporate class and gender explanations. Environmental justice scholarship has been largely dictated by predominantly white organizations that are overly represented on environmental issues. Issues of environmental racism have not been adequately prioritized. This is to say that broad theories like environmental justice that claim to cover for things like environmental racism cannot do so as long as they are dictated by a group that is not the stakeholders. As a result, research that solely identifies inequality and theories that half-heartedly address environmental racism do not facilitate the movement and empowerment of those affected.

Identifying environmental racism has intrinsic value to transform research across disciplines. As researchers, we must ask, how can our research translate into movement and practice? Empowerment as advocacy, movement, and practice is not the centrality of these theories, but rather a presumed after effect. Perhaps a new theory that pertains to the racialized violence in environmentalism needs to be adopted as a guiding framework and practice.

A. Socialist Ecology

Traditional ecological theories can have applications that can help one better understand environmental racism. Utilizing new theoretical frames to change the direction of environmental movement does not mean abandoning its theoretical foundation. For example, Bookchin’s popular theory of social ecology argues that “the very concept of dominating nature stems from the domination of human by human” as a product of structural and social hierarchy. Bookchin’s work offered a “coherent theoretical underpinning to the work of a generation of ecological and anti-authoritarian activists.” His work greatly influenced the U.S. green and anti-nuclear movement. As a result, the theoretical foundation that many environmental movements continue to be built on today should utilize its principles to advance resistance against environmental racism. Especially when human to human domination is so clearly articulated by environmental racism.

B. EcoFeminism

Ecofeminism emerged from the connection between feminism and the environment, aligning these struggles into a transformative movement. Ecofeminism quickly turned into a social movement, embodying principles that sought out the empowerment of women in the environment as symbolic. This followed McGee’s argument of social movements as ideological, rather than structural. McGee argues that “a theory of movement, therefore, must determine the identity and meaning of the consciousness which inspires us, as citizens and scholars, to seek and see ‘movement’ when we look at historical and social facts.

Ecofeminism emerged a non-traditional theory that acted as both a theory and practice for the empowerment of feminism in ecology. Ecofeminism directly concerned itself with meaning-making through movement as practice, rather than “presuming the existence of movements” through an examination of the “structures of social norms systems.” Framings of environmental racism seem to question such structures but do not seem to create the same sites of movement that the emergence of ecofeminism did for white women. Ecofeminism theorists concerned themselves with meaning-making through movement, inclusion, and the empowerment of women in a field that aimed to exclude them. Much like ecofeminism, new theories of

91. Id.
93. Id.
94. Brammer, supra note 92, at 243.
95. Leila R. Brammer, “Ecofeminism, the Environment, and Social Movements,” Gustavus
Environmental racism must go beyond a tunnel vision of identifying inequality, to then transform the field of environmental justice and change the meaning of what environmental justice looks like.

Socialist ecology and ecofeminism provide a clear example of unity between movement and practice. Currently, it seems that the framing of environmental racism is focused on identifying the role of race in the production of disproportionate environmental harm. But unlike socialist ecology and ecofeminist theory, for example, environmental racism does not situate itself in movement-making. Julie Sze argues that “the question that remains is not, are environmental and social inequality linked? but, why and how does the link seem unbreakable? The role of social science research, if indeed focused on remediating problems of inequality, environmental and otherwise, has to do a much better job of naming the roots of these problems.” Similarly, instead of asking whether minorities or facilities came first, new questions should concern themselves with “who or what keeps people living adjacent to undesirable conditions?” Both questions point to the necessity of moving beyond a standard of solely identifying relationships of inequality, even though that is a crucial first step, it should not be treated as the last.

**CONCLUSION**

Simply put, environmental racism is an issue of environmental justice; and while identifying it is critical, it is not enough. Hydraulic fracturing in California is one example of racialized risk as developed through uncertainty, scientific expertise, and lack of racial inclusion in organizational decision making. Although current research is insufficient, the standard of legitimate authority and evidence needs to be considered in context. As mentioned, ninety-two percent of those exposed to potential risk from hydraulic fracturing are people of color. Community residents feel as though they are being lied to by the industry while their illness is denied. Yet, their efforts to give value to alternative forms of evidence, such as lived experience, continue to illustrate the need for broader strategies to assess and implement strategies of precaution. These are disputes over what is considered as valuable forms of knowledge production that gives credible meaning to the formation of risk in communities of color.

While NGOs have advanced broader notions of environmental justice, to make tangible changes in the lives of many, they have historically failed to address environmental racism. Environmental justice is inadequate to fully address the implications of environmental racism. Often, it eclipses environmental racism by focusing on other issues that are more important to privileged actors that are not impacted. Their monopoly over which environmental issues get pushed does not remove them from the responsibility of environmental racism but may instead work to exacerbate it.

Environmental racism has worked to identify disproportionate risk and impact as mediated by race. While it has generated awareness over the meaning of

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Taylor, supra note 83, at 147.
race and the environment, it has functioned differently than other environmental movements. Often, it seems as though environmental racism is the identification of problems, rather than the central focus of movement-making—even when this is a core first step. Identifying these issues is essential and cannot be separated from movements, assuming that it will inevitably result in the form of inevitable movements is a dangerous assumption. Ecofeminism and socialist ecology, in particular, worked to identify problems in a culture of environmentalism while actively fostering movement.

In the counties of Shafter and Los Angeles resistance has manifested in opposition to projects that inflict illness—even when they are not formally understood and recognized as environmental racism. Their refusal to be the “canaries” in what seems like a health experiment revolving around the oil and gas industry, is a refusal to be treated as disposable. Their leverage of lived experience against expert opinion has challenged standards for evaluating risk. Without the inclusion of an alternative form of validating claims and what is considered as expert knowledge—as both scientific and community based—the oil and gas industry will continue business as usual, with the protection that uncertainty has historically provided.