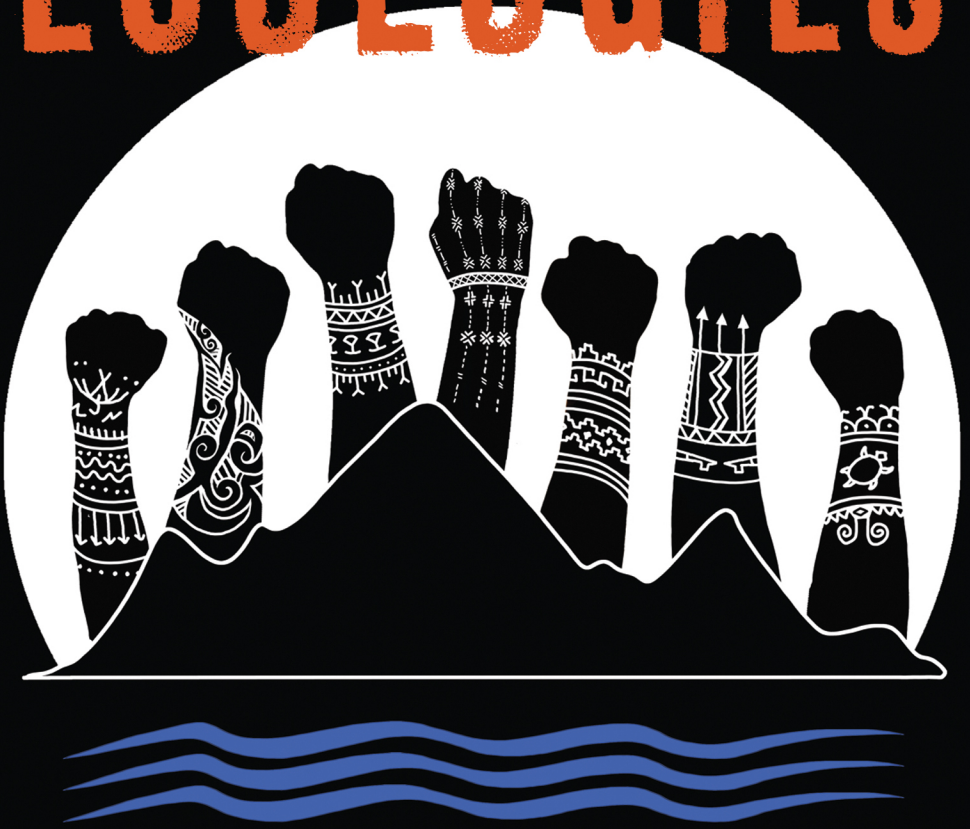


# RACIAL ECOLOGIES



EDITED BY **LEILANI NISHIME &  
KIM D. HESTER WILLIAMS**

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EDITED BY

*Leilani Nishime and  
Kim D. Hester Williams*

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# CONTENTS

## FOREWORD

Racial Ecologies: A View from Ethnic Studies  
*Curtis Marez* ix

## ACKNOWLEDGMENTS xv

## INTRODUCTION

Why Racial Ecologies?  
*Leilani Nishime and Kim D. Hester Williams* 3

## PART ONE. RETHINKING RACE AND ECOLOGY

### CHAPTER ONE

“We Are the Land and the Land Is Us”: Indigenous Land, Lives,  
and Embodied Ecologies in the Twenty-First Century  
*Dian Million* 19

### CHAPTER TWO

An Africana Studies Critique of Environmental Ethics  
*Stephen Nathan Haymes* 34

### CHAPTER THREE

The Artful Things of Climate Change  
*Min Hyoung Song* 50

## PART TWO. LANDSCAPES OF RACIALIZATION

### CHAPTER FOUR

Racial Ecologies: Black Landscapes in Flux  
*Tiffany Lethabo King* 65

CHAPTER FIVE

Working to Live: Black-Led Farming in Detroit's Racialized Economy  
*Jessi Quizar* 76

CHAPTER SIX

Replotting Value: Community Gardens and  
Bessie Head's *A Question of Power*  
*Dominique Bourg Hacker* 90

**PART THREE. VULNERABLE EMBODIMENTS**

CHAPTER SEVEN

Denormalizing Embodied Toxicity: The Case of Kettleman City  
*Julie Sze* 107

CHAPTER EIGHT

Humanizing Animals: Talking about Second Chances, Horses, and Prisoners  
*Erica Tom* 123

CHAPTER NINE

The Ecological Boundaries of Mexican Migrant Women's  
Labor in Empalme, Sonora, Mexico, 1940–1960  
*Ana Elizabeth Rosas* 139

**PART FOUR. ORGANIZING RACIAL AND ENVIRONMENTAL JUSTICE**

CHAPTER TEN

Māori Opposition to Fossil Fuel Extraction in Aotearoa New Zealand  
*Zoltán Grossman* 153

CHAPTER ELEVEN

A Brief History of Asian American Activism and  
Why It Matters for Environmental Justice  
*Sunny Chan* 170

CHAPTER TWELVE

“Es una lucha doble”: Articulating Environmental  
Nationalism in Puerto Rico  
*Catalina Maire de Onís* 185

## PART FIVE. SPECULATIVE FUTURES

### CHAPTER THIRTEEN

“Wound Intricately throughout My Sphere”: Spatial Subjectivity in  
*Through the Arc of the Rain Forest*  
*Ashley Cheyemi McNeil* 205

### CHAPTER FOURTEEN

Remembering Gojira/Godzilla: Nuclearism and  
Racial Reproduction in America’s Asia-Pacific  
*Yu-Fang Cho* 220

### CHAPTER FIFTEEN

Earthseeds of Change: Postapocalyptic Mythmaking, Race, and  
Ecology in *The Book of Eli* and Octavia Butler’s Womanist Parables  
*Kim D. Hester Williams* 234

### AFTERWORD

Collective Struggle, Collective Ecologies  
*Leilani Nishime and Kim D. Hester Williams* 250

List of Contributors 255

Index 261





## DENORMALIZING EMBODIED TOXICITY

### *The Case of Kettleman City*

JULIE SZE

**T**HIS chapter examines the connections between race, gender, and environment by focusing on one contentious moment in a larger case study of Kettleman City in California's Central Valley. Kettleman City is a small and predominantly Latino farmworker community that faces much industrial, air, and other environmental pollution. It is the site of the largest commercial hazardous-waste facility west of the Mississippi. Over the last decade, Kettleman City has been the focus of tremendous media and policy attention, following a cluster of births of babies with cleft palates and other birth defects. I examine Kettleman City in historical, racial, and spatial contexts to better understand how racial, gender, and spatial politics are connected in ways that make the causes of negative health impacts nearly impossible to prove, thus leading to the status quo, where racially disproportionate environmental and health impacts seem inevitable and naturalized.

Environmental and reproductive injustices are intimately interconnected. Here I examine the power of racialized images of motherhood and childbirth in the activist organizing strategy, specifically in counterweight to the highly technical knowledge about toxic exposures used by regulatory agencies and polluters. In her groundbreaking book, Stacey Alaimo argues that "the human is always the very stuff of the messy, contingent, emergent mix of the material world. . . . The body is enmeshed in social and material systems and systems of domination that are enacted in individual and community bodies, cultural representations, and modes of knowing and thinking."<sup>1</sup> She calls the messy mix of human bodies embedded with one other, with non-human creatures, and with physical landscapes *trans-corporeality*.

This chapter expands Alaimo's notion of trans-corporeality—the intermixing of humans and social systems with systems of political domination—with respect to racial ecologies. Looking at media coverage and at statements of residents from a listening session sponsored by the US Environmental Protection Agency, I argue that the Kettleman City cleft-palate controversy represents a meeting of reproductive and environmental justice in a racially specific manifestation of trans-corporeality. More than a new illustration of Alaimo's concept, the Kettleman City case is a salient example of racial ecologies because the controversy makes visible what is “normal,” accepted, and political in the Central Valley. The activist politics of race, gender, and toxic exposure are constructed through the frame of motherhood and birth defects, which relies, in complicated ways, on normative ideologies of bodily health, even as activists challenge the social and economic structures that deny the bodily health of these women of color and their babies. The politics of gender and motherhood are mobilized by environmental justice activists in the context of anti-immigrant and antinatalist politics in California and beyond, in contrast to attempts by polluters and the state to reject the complex arguments about the cumulative impact of pollution that are advanced by activists.

In her study of controversies over pesticide drift, the sociologist Jill Harrison examines activism, policy, science, and the seeming paradox that pesticide poisoning is both pervasive and invisible. She opens with one of the high-profile cases in Earlimart, a small farmworker town in the Central Valley, where over 170 Spanish-speaking residents experienced nausea, respiratory distress, burning eyes and lungs, and dizziness because of a pesticide-drift incident. The emergency response personnel, who didn't speak Spanish, brought the most severely affected residents to the school, stripped them publicly, and sprayed them with hoses. An investigation revealed that metam sodium, a soil fumigant (and known carcinogen) was to blame.

Harrison shows how the pesticide industry and the state environmental regulatory agency offer a narrative that characterizes incidents like the Earlimart exposure as “accidental” and “exceptional.” She argues that pesticide drift illustrates how the workings of “raw power” shift the burden of pesticide pollution to the bodies of the most marginalized and vulnerable residents.<sup>2</sup> Her articulation of raw power, and the pervasive and invisible normalization of environmental abuse of the most vulnerable populations, is directly relevant to the stories of the individuals and communities in Kettleman City.

The cleft-palate controversy demonstrates how a normalized state of pervasive environmental pollution and social inequality may be exposed and

used by activists in ways that trigger attention from the state. Images of birth defects in babies powerfully communicate the effects of toxic exposures and bodily pollution on the most innocent and vulnerable victims. In Kettleman City, as in Earlimart, the raw power of environmental pollution, like racism, is met by community resistance.

The geographer Ruth Wilson Gilmore defines racism as the state-sanctioned or extralegal production and exploitation of group-differentiated vulnerability to premature death.<sup>3</sup> Pervasive and historical patterns of pollution exposure, toxic contamination, and environmental destruction are not accidental but rather embedded in systems of exploitation. These patterns are exacerbated by neoliberalism, which idealizes market, capital, and consumer subjectivities over communitarian notions of belonging or justice. Farmworker activism and the Kettleman City case are powerful examples of the environmental justice critique of separation: separation between bodies and environmental pollution, between labor and environmental issues, and between race, gender, and environmentalism. Here environmentalism is constructed as both the problem and the activism against racialized trans-corporeality. Attention to the complex relationship between race, class, gender, and environmental exposures, particularly with respect to motherhood, is a core component of antitoxics, environmental, and environmental justice activism.

#### GENDERED, RACIALIZED, AND ACTIVIST HISTORIES OF KETTLEMAN CITY

Since 2007, ten babies in Kettleman City have been born with deformities (chiefly cleft palates). Three died. The State of California initially withheld information about the number of cases; the data were garnered from the birth defects monitoring program run by the California Department of Public Health.<sup>4</sup> Community activism attracted media and government attention, including a study conducted by the Department of Public Health and the Environmental Protection Agency ordered by the governor of California, Arnold Schwarzenegger, and statements of concern from both of California's US senators, Dianne Feinstein and Barbara Boxer.<sup>5</sup>

Kettleman City has 1,500 residents, of whom 97 percent are Latino. Most are farmworkers. The average annual per capita income of the town is \$7,300. The town is surrounded by agricultural fields and exposed to pollutants from runoff. Its drinking water has elevated levels of natural arsenic and benzene from the municipal wells.<sup>6</sup> It is also the recipient of sewage sludge from the city of Los Angeles.<sup>7</sup> In addition, residents are constantly

exposed to diesel emissions from passing trucks on Interstate 5 and Highway 41 and airborne emissions from benzene and old oilfield operations. Residents report high rates of asthma, cancer, and miscarriages.<sup>8</sup>

Because the water is contaminated, residents buy costly water from a source half an hour's drive away. The situation is by no means unique.<sup>9</sup> Water samples from other Central Valley farm towns, such as Visalia, test positive for nitrates from fertilizers and cow manure from large dairy-farming operations. These samples also contain dibromochloropropane, a pesticide banned in 1977.

The Kettleman City cleft-palate cluster was identified in a health survey conducted by community and environmental groups. Local activism over the nearby hazardous-waste facility in 1982 is considered to be one of the foundations of the national environmental justice movement.<sup>10</sup> The landfill is owned and operated by a multinational corporation, Chemical Waste Management, Inc. (Chem Waste). It takes in over four hundred tons per year of hazardous waste, asbestos, pesticides, petroleum, and polychlorinated biphenyls (PCBs).<sup>11</sup> The company has been fined more than \$2 million over twenty-eight years for violations such as the mishandling of PCBs, and most recently for not following proper quality-control procedures.<sup>12</sup>

In 2009, Chem Waste applied for a permit to expand, which was granted by the Kings County Board of Supervisors. Greenaction and El Pueblo para el Aire y Agua Limpio/People for Clean Air and Water filed a lawsuit to block the expansion.<sup>13</sup>

The cleft-palate controversy cannot be separated from the history of development and the social inequalities and racialized pattern of land use in the Central Valley. This is a society highly stratified by race, class, and immigration status. The land use and economic structure of the Valley render poorer and more vulnerable residents subject to greater pollution exposure. The social and environmental conditions of the Central Valley—the highest rates of air pollution in the country, high risks from water contamination, carceral landscapes, high poverty, high mortgage foreclosure rates, and low educational attainment—are not accidental but rather structural.<sup>14</sup>

California's Central Valley region is particularly vulnerable to environmental pollution because of its status as the most productive agricultural region in the world. The region represents 2 percent of the nation's farmland but is the site of the application of 25 percent of the nation's pesticides. According to Harrison, 90 percent of these aerially applied pesticides are liable to drift from the intended sites of application to other areas, including residential areas.

These injustices have not gone unremarked. The region is also home to a long and radical tradition of labor activism, dating back to the early twentieth century, and personified by Larry Itliong, a Filipino American, and Cesar Chavez and Dolores Huerta, Mexican Americans who led the United Farm Workers union in the 1960s. Much of the early activism for farmworker protection was focused on the effects of pesticides on maternal and fetal health.<sup>15</sup> In 1969 the California Rural Legal Assistance program (CRLA) and its general counsel, Ralph Abascal, filed a lawsuit on behalf of six farm workers who were exposed to DDT. Five of the six were nursing mothers: this was significant because DDT accumulates in breast milk. That lawsuit led to a ban on DDT.

Abascal and CRLA continued the struggle to protect farm workers from pesticide exposure, joining in a successful lawsuit twenty years later against the Environmental Protection Agency that led to an agreement to ban about 85 percent of the pesticides then in use. Yet the health effects of pesticide exposure on farmworkers and on developing fetuses still persist fifty years later.

Motherhood has long been a central component of environmental and antitoxics activism in the United States. In 1978, Lois Gibbs, a working-class white woman, discovered that her son's school in the neighborhood of Love Canal in upstate New York was built on top of a toxic waste dump. She was a leader in the successful effort to evacuate Love Canal, and her activism helped spur regulatory change at the US Environmental Protection Agency. The Love Canal protest helped to catalyze broad concern about exposure to toxics in the home, rather than in industrial workplaces. In the Central Valley, however, this distinction does not always hold, because in many poor Central Valley communities, homes are sited close to industrial agriculture. This lack of clear boundaries and separation is simultaneously a powerful metaphor for the lack of meaningful boundaries between mother and child during pregnancy. Likewise, attempts to protect developing fetuses from industrial pollutants are futile when their mothers are exposed to pesticides both at work in the fields and at home.<sup>16</sup>

Much of the public discourse around Gibbs focused on her identity as a mother and contributed to the perception that environmental activism was motivated by household exposures and threats to children's health. She was criticized in the press as a "hysterical housewife." This label has had continuing resonance. In 1984, a leaked report funded by the California Waste Management Board, called the Cerrell Report, noted that "one occupational classification has consistently demonstrated itself as a strong

indicator of opposition to the siting of noxious facilities, especially nuclear power plants—housewives.”<sup>17</sup>

The sociologist Tracy Perkins describes the gendered social construction of Lois Gibbs’s experience as the traditional women’s environmental justice narrative in which “apolitical women personally experience an environmental problem that launches them into a life of activism to protect the health of their families.”<sup>18</sup> Perkins suggests that elements of this narrative conflate gender and motherhood: women are framed primarily as reproductive beings and assumed to see threats to their children as their most urgent political concerns. This gendered narrative of politicization, which focuses largely on white women, ignores the historical realities and complicated race and class politics at Love Canal and elsewhere. Perkins argues that this gendered narrative does not accurately depict the majority of the women she interviewed in her study of women organizers in the Central Valley, many of whom had become politically active through education, farmworker justice, and poverty issues.

However, the Kettleman City case complicates Perkins’s findings, in part because the attitudes of women of color to motherhood and national belonging are different from those of white women.<sup>19</sup> The focus on connections between reproductive health and environmental justice is an example of a gendered relationship to race, place, and bodies. This relationship is not reductionist, biologically determined, or static. Kettleman City activists signify a return to the earliest roots of farmworker and environmental justice activism, shaped by concerns with social and political forces that disproportionately harm particular bodies—those of working-class women of color and their unborn children.

The Kettleman City case shows that discourses and experiences of motherhood, environmental exposures, and protection vary with class, citizenship, and geographic and social location. Whereas white middle-class mothers are seen as innocent and their children deserving of (environmental) protection from the state, working-class women of color and their children—particularly immigrants without legal citizenship—meet with different assumptions. Their insistence on their right to their experience of motherhood is not predicated on personal factors and biology (i.e., having a baby) as much as on placing that experience within a critique of racialized exposures from pollution that shape that experience. Last, their racialized trans-corporeality is not exceptional but exemplifies an important strand of environmental and reproductive justice activism.

## REPRODUCTIVE AND ENVIRONMENTAL JUSTICE

In the past decade, environmental justice research has begun to take gender much more seriously as a category of analysis, focusing on the ways in which pregnant and lactating women's exposure to pollution makes toxic exposures and their health effects visible.<sup>20</sup> Miscarriages and birth defects are highly visible examples of the connection between reproductive and environmental injustice.<sup>21</sup>

Other examples of reproductive and environmental injustice in the United States are the occupational hazards faced by immigrant woman workers in computer and garment factories before this production largely moved out of the United States in the 1990s.<sup>22</sup> Occupational exposures include particular harms to the reproductive and nervous systems, which trigger elevated rates of miscarriages. Such exposures are not limited to large industries: recent media coverage of the reproductive effects of working in nail salons, where many workers are Asian immigrant women, show the pervasiveness of these problems. In response, community-based organizations and health professionals have designed programs to reduce such exposures.<sup>23</sup>

These examples of toxic exposures exemplify the racialized and gendered ways in which trans-corporeality is lived and experienced. While trans-corporeality is a broad *condition* of contemporary life (and a factor in premature death), the economic and environmental reality experienced by women of color and indigenous women cause them to suffer disproportionate burdens from global environmental pollution. The question here is not whether or how these populations "choose" the conditions of their life and labor. Rather, the racialized dimensions of trans-corporeality inevitably impose these burdens on their bodies, with reproductive consequences that lay bare the brutalities of the current economic and environmental system and histories of domination and violence.

In all these cases, arguments about reproductive and environmental justice are made in a context of anti-immigrant politics, anxieties about globalization, and the exodus of manufacturing jobs to other countries. These stories are part of a long history of the degradation of the bodies and environments of indigenous populations. Antinatalist attitudes toward indigenous and immigrant women create a context in which the health of their babies is always already politicized. Not only is the health of their children already precarious because of occupational exposures and particular pathways of bioaccumulation of toxic pollutants, but their children's very right to exist is challenged by anti-immigrant social movements and by long



histories of settler-colonial states that have vigorously policed the health and reproductive life chances of women of color. Laura Briggs documents what she calls an expansive “reproductive politics” from feminism and racial justice traditions, in contrast to the reproductive politics advanced by business interests and government agencies. In one salient example, she details how “protection” from lead poisoning by an automobile battery manufacturer was the justification for excluding women (including those past reproductive age) from well-paid union jobs.<sup>24</sup> Defenders of mainstream environmentalism have also been complicit in these injustices. In the 1990s, a strand of the mainstream environmental movement conflated anti-immigration and population anxieties, arguing that immigrants to the United States use more of the planet’s resources than they would in their sending countries and that they would contribute to overpopulation. This anti-immigration strand in mainstream environmentalism has a long history, starting with its connections to the eugenics movement. In tracing this history, Sarah Jaquette Ray suggests that environmentalist discourses draw on normative notions of body, wholeness, and health.<sup>25</sup> Her framework of “ecological othering” is useful, particularly when read alongside Julie Avril Minich’s *Accessible Citizenships: Disability, Nation and the Cultural Politics of Greater Mexico* (2014). In her account of how corporeal images are used to depict national belonging, Minich argues that cultural representations conceptualize political community through images of disability, drawing on artwork, and literature from writers like Arturo Islas Jr., Cherrié Moraga, and Felicia Luna Lemus.<sup>26</sup>

It would be possible to argue that the Kettleman City mothers are relying on the old tropes of virtuous motherhood that have historically shaped mainstream environmental discourse. Their focus on birth defects can also be read as a troubling privileging of normative and idealized healthy bodies and a return to Ray’s notion of disgust as a central mode of environmental politics, in which she challenges the normative ideology of healthy bodies as environmentally clean and virtuous. However, racialized trans-corporeality takes gendered, racialized, and disability studies critiques into account, simultaneously and intersectionally. The problem is not disgust and shame focused on babies with birth defects but the social, economic and environmental system that normalizes pollution exposure and whose effects are manifested in particularly visible fashion through human reproduction.

Recent activism around the Kettleman City cleft-palate cluster is a salient example of the relationship between race, gender, and labor—in both senses

of the word—and between reproductive and environmental justice. The official study that was commissioned to investigate the cluster asked mothers to attempt to figure out the causes of the cleft palate and other birth defects, including enlarged heads, allergies, seizures, and defects in the corpus callosum.<sup>27</sup> The mothers (and their allies) objected to the framing of their personal exposures and behaviors as likely causes. Their testimony deflected focus away from individual factors and toward systemic ones such as outdoor pollution exposure, either from air or water. In the words of Maricela Alatorre, “You want to know if we ever smoked cigarettes or took drugs. . . . I’m telling you that if the dump is allowed to expand, we’ll suffer more damage and illness. Why? Because we are poor and Hispanic. The people who issue those permits don’t care about us getting sick from it because all they think about is money.”<sup>28</sup>

These mothers conjoin their personal trauma with concrete political demands. At a listening session convened in Kettleman City with a number of agency representatives and elected officials, one mother, Daria Hernandez Lorenzo, said, “I’m here because my baby was born like this with his little face deformed and I ask you to not issue any more permits until an investigation is done.”<sup>29</sup> This insistence on political critique and a focus on pollution as a cause of their personal tragedies are persistent. In the words of Magdalena Romero, the mother of America (one of the children who died), “Kettleman City to them is just a pigsty, but we are human beings and we have rights.”<sup>30</sup>

For these mothers, and occasionally fathers, the visibility of the cleft palate and other birth defects is central to the way they stake political claims. Activists bring photos of their babies to political protests.<sup>31</sup> America’s father tattooed a picture of his deceased child on his arm.

The prominent use of visual images is a key feature of environmental activism and, consciously or not, reprises the thalidomide controversy of the 1960s.<sup>32</sup> The images of damaged babies and cleft palates have visceral effects: they are self-consciously intended as a powerful political message. The pictures of the babies represent everything from personal anguish to political outrage. Centralizing these images serves to hold corporate polluters, and the social and environmental systems that support them, accountable for the harm.

Although the centrality of visual images and storytelling to activism assumes a close relationship between the image and the truth, scholars recognize that interpretation of these images and stories may be deeply contested. This tension was exemplified in the listening session in Kettleman



Alejandro Alvarez shows his tattoo in memory of his baby daughter, Kettleman City, California, July 18, 2009. Photo by Tracy Perkins.

City. According to one participant, Angela Borroyo, “Once upon a time, Kettleman City hills was pretty, beautiful green, clean air, everything was beautiful. . . . Right now, there’s no business, everything’s dead, everyone’s sick. . . . Before, there were no allergies, Valley Fever. . . . It’s not about a job, it’s not about money, it’s about life and babies.” Borroyo paints a verbal picture of a landscape transformed by industrial siting. She outlines a stark choice between profits and health, and she argues that babies and human lives outweigh economic development.

Although the claim here is not explicitly racialized, Borroyo’s assertion of the right to have babies, and of residents to live on their own terms in Kettleman City, is *itself* a racialized claim of politics and belonging. Others dispute this characterization on the basis of their own positionality and experience. One older, white community member, who lost her own child in 1958, commented, “We’ve always had Valley Fever [a damaging fungal infection endemic in the Central Valley] . . . It’s not just Kettleman City, and it’s not you against us. It’s not brown against white, or black against white, or purple against green. It is people.”<sup>33</sup>

## RACIAL TRANS-CORPOREALITY AS CUMULATIVE IMPACT

Racialized trans-corporeality is both intimately connected to and an extension of the racial dimensions of global production and exploitation. Racialized motherhood and claims to bodily health in Kettleman City are not a simple reprise of virtuous motherhood but rather a radical claim to community and belonging. This section focuses on how racial trans-corporeality functions in addition to problem diagnosis, but in solution and theory building and knowledge production, in what is known in public health terms as “cumulative impact analysis.” Traditional risk-exposure analysis looks at single sources, not the cumulative and interacting effects of multiple exposures. In other words, racial trans-corporeality and cumulative impact analysis connect things often seen as distinct (race, gender, and ecology in the former and different pollution exposures in the latter). This making of connections is a political stance as well, as a form of intersectionality.

As a result of community activism and media attention, the governor of California ordered the state Environmental Protection Agency (EPA) and Department of Public Health (CDPH) to conduct an investigation of the reported birth defects and the Kettleman City environment.<sup>34</sup> The study ruled out the toxic waste dump as a cause.<sup>35</sup> It found that “although the overall investigation found high levels of pollutants in the air, water and soil of Kettleman City, the comprehensive investigation did not find a specific cause or environmental exposure among the mothers that would explain the increase in the number of children born with birth defects in Kettleman City.”<sup>36</sup> In essence, health investigators found the town’s pollution levels to be on a par with those of similar communities elsewhere.<sup>37</sup> There was nothing unique about Kettleman City that could link the polluted air and landscape to the cleft-palate births.

Community activists blasted the study and, by extension, conventional measures of investigatory health research. According to Maricela Alatorre, a local activist and resident, the study involved no testing of blood or human tissue for pesticides.<sup>38</sup> She commented: “We’re very, very disappointed. The state left us with a monster on the loose in town, and we don’t know where it will strike next.”<sup>39</sup>

The disappointment and fury the community members felt were not surprising. As scholars of environmental justice and public health have noted, traditional scientific practice is often at odds with community-based claims. Mainstream research methods require a high threshold of statistical significance, a large data set, and reproducible results. It is very

hard by these measures to establish a causal link between environmental pollution and health effects.

In response, some public health scholars have developed tools and methodologies for assessing the cumulative impact of environmental and other hazards. The idea is that “racial or ethnic minority groups and low-income communities have poorer health outcomes than others [and are] more frequently exposed to multiple environmental hazards and social stressors, including poverty, poor housing quality, and social inequality.”<sup>40</sup> Cumulative impact analysis recognizes multiple hazards and stressors with synergistic effects. Thus, individual biological susceptibility and social vulnerability to illness and birth defects are connected.

Cumulative impact research attends to social, health, and environmental vulnerabilities. It places community members at the center when setting research agendas, asking relevant questions, and collecting data. Working with environmental justice activists in Kettleman City and elsewhere in the Central Valley, public health and social science scholars have developed integrative methodologies that combine multiple factors: a cumulative environmental hazards index (CEHI), a social vulnerability index (SVI), and a health index (HI). Together these indexes form what some have called a cumulative environmental vulnerability assessment.<sup>41</sup> This form of assessment addresses the major shortcomings in the CDPH and EPA study on Kettleman City by reframing definitions of harm and vulnerability.

Cumulative impact research attempts to translate the elevated risk, the synergistic effects, and the interlocking effects of political, economic and ecological systems into terms that public health and regulatory agencies understand and can act on. This task is challenging and highly political. Racialized trans-corporeality is a starting point for activism as it moves into changing terrains of knowledge production.

## CONCLUSION

In 2014, the California Department of Toxic Substances Control granted a ten-year permit for the landfill expansion in Kettleman City, promising residents, “You are safe.”<sup>42</sup> Community members then filed administrative complaints of racial discrimination in the approval.<sup>43</sup> In August 2016, the state Department of Toxic Substances Control and the EPA announced an agreement with two environmental groups that ended the civil rights complaint. The state said it will take environmental justice factors into account when reviewing Chemical Waste Management’s pending application to

renew its operating permit and in reviewing any expansion application submitted within three years. The agreement also provided funds to improve public health and environmental quality in Kettleman City.<sup>44</sup> In addition, the Kings County Board of Supervisors approved a health survey to study the links between an area landfill and birth defects and disease, although some residents remain skeptical about the study, which is based on surveys funded by the polluting facility.<sup>45</sup>

The activism in Kettleman City was one important moment in an ongoing struggle for environmental and reproductive justice. Although the activists never used the terms *racialized trans-corporeality* or *racial ecologies*, these concepts can advance our understanding of environmental justice theory and social movement building. It connects the Kettleman City case to other examples of pollution that hit women of color and indigenous women particularly hard. The goal of environmental justice activists in Kettleman City and throughout the Central Valley is to *denormalize* existing environmental and social conditions of injustice and pollution by naming, showing, and highlighting conditions of racial trans-corporeality, and to bend the raw power of exploitation—environmental and otherwise—into new social and material realities.

#### NOTES

- 1 Stacy Alaimo, *Bodily Natures: Science, Environment, and the Material Self* (Bloomington: Indiana University Press, 2010).
- 2 Jill Lindsey Harrison, *Pesticide Drift and the Pursuit of Environmental Justice* (Cambridge, MA: MIT Press, 2011), 1.
- 3 Ruth Wilson Gilmore, *Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California* (Berkeley: University of California, 2007).
- 4 Eiji Yamashita, "Kettleman Birth Defect Cases Double," *Hanford Sentinel*, March 9, 2010.
- 5 Jacques Leslie, "What's Killing the Babies of Kettleman City?" *Mother Jones*, July–August 2010.
- 6 Louis Sahagun, "Grieving Kettleman City Mothers Tackled a Toxic Waste Dump," *Los Angeles Times*, April 1, 2010.
- 7 Mark Grossi, "Kettleman City Reaps Toxic Harvest of California Castoffs," *Fresno Bee*, January 2, 2013.
- 8 Jonathan London, Ganlin Huang, and Tara Zagofsky, *Land of Risk, Land of Opportunity* (Davis: UC Davis, Center for Regional Change, November 2011).
- 9 Carolina Balazs, Rachel Morello-Frosch, Alan Hubbard, and Isha Ray, "Social Disparities in Nitrate-Contaminated Drinking Water in California's San Joaquin Valley," *Environmental Health Perspectives* 119, no. 9 (2011): 1272–78.

- 10 Luke Cole and Sheila Foster, *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement* (New York: New York University Press, 2001).
- 11 Leslie, "What's Killing the Babies of Kettleman City?"
- 12 Louis Sahagun, "Toxic Waste Dump Ruled Out as Cause of Kettleman City Birth Defects," *Los Angeles Times*, November 23, 2010.
- 13 Ibid.
- 14 The social and environmental ills of the Central Valley and the resulting activism are the focus of recent research and public outreach projects, including Voices from the Valley ([www.voicesfromthevalley.org](http://www.voicesfromthevalley.org)), a collaborative, online outreach project involving university researchers and community members that highlights the photos and narratives of women environmental justice activists in the region.
- 15 Laura Pulido, *Environmentalism and Economic Justice: Two Chicano Struggles in the Southwest* (Tucson: University of Arizona Press, 1996).
- 16 Julie Sze, "Boundaries and Border Wars: DES, Technology and Environmental Justice," *American Quarterly* 58, no. 3 (2006) 791–814.
- 17 Cerrell Associates for the California Waste Board, "Political Difficulties Facing Waste to Energy Conversion Plant Siting," 1984, [www.ejnet.org/ej/cerrell.pdf](http://www.ejnet.org/ej/cerrell.pdf).
- 18 Tracy E. Perkins, "Women's Pathways in Activism: Rethinking the Women's Environmental Justice Narrative in California's San Joaquin Valley," *Organization and Environment* 25, no. 1 (2012): 76–94.
- 19 Ruby Tapia, *American Pietàs: Visions of Race, Death, and the Maternal* (Minneapolis: University of Minnesota Press, 2011).
- 20 Julie Sze, "Gender and Environmental Justice," in *Routledge Handbook on Gender and Environment*, ed. Sherilyn MacGregor, 159–68 (London: Routledge, 2017).
- 21 Ibid. Another issue is the elevated pollution in Arctic Native populations as a result of persistent organic pollutants (POPs). POPs are highly toxic, long-lasting, chlorinated organic chemicals, often from industrial sources, that can accumulate in animals and ecosystems thousands of miles away from their point of origin. Health effects of POP exposure include higher rates of infectious diseases and immune dysfunction and negative effects on neurobehavioral development and height. When a Nunavik midwife in the Arctic collected breast-milk samples from a "clean" environment as control samples for a study, researchers were surprised to find that these samples contained POP concentrations five to ten times higher than breast milk from women in southern Canada and among the highest ever recorded. David Leonard Downie and Terry Fenge, eds., *Northern Lights against POPS: Toxic Threats in the Arctic* (Montreal: McGill University Press, 2004).
- 22 The sociologists David Pellow and Lisa Park document the numerous hazards faced by computer production-line workers, mostly nonunionized,



- low-income Asian and Latina immigrant women in Silicon Valley, California. D. N. Pellow and L. Park, *The Silicon Valley of Dreams: Environmental Injustice, Immigrant Workers, and the High-Tech Global Economy* (New York: New York University Press, 2003).
- 23 Julia Liou, Catherine Porter, and Thu Quach, "Policy Recommendations to Reduce Toxic Exposures for Nail Salon Workers," *AAPI Nexus: Policy, Practice and Community* 9, nos. 1–2 (2011): 43–50.
- 24 Laura Briggs, *How All Politics Became Reproductive Politics: From Welfare Reform to Foreclosure to Trump* (Berkeley: University of California Press, 2017).
- 25 Sarah Jaquette Ray, *The Ecological Other: Environmental Exclusion in American Culture* (Tucson: University of Arizona Press, 2013).
- 26 Julie Avril Minich, *Accessible Citizenships: Disability, Nation, and the Cultural Politics of Greater Mexico* (Philadelphia: Temple University Press, 2013), 3.
- 27 Leslie, "What's Killing the Babies of Kettleman City?"
- 28 Sahagun, "Toxic Waste Dump."
- 29 Official transcript of listening session, August 12, 2009, in author's possession (no longer accessible online).
- 30 Sahagun, "Toxic Waste Dump."
- 31 Ibid.; Leslie, "What's Killing the Babies of Kettleman City?"
- 32 Ibid.; Dunaway, *Seeing Green: The Use and Abuse of American Environmental Images* (Chicago: University of Chicago Press, 2015).
- 33 Listening session, August 12, 2009.
- 34 California Birth Defects Monitoring Program, "Birth Defects in Kettleman City," [www.cdph.ca.gov/Programs/CFH/DGDS/Pages/cbdmp/documents/Birth%20Defects%20in%20Kettleman%20City.pdf](http://www.cdph.ca.gov/Programs/CFH/DGDS/Pages/cbdmp/documents/Birth%20Defects%20in%20Kettleman%20City.pdf), accessed December 3, 2017.
- 35 Sahagun, "Toxic Waste Dump."
- 36 California Birth Defects Monitoring Program, "Birth Defects in Kettleman City."
- 37 Sahagun, "Toxic Waste Dump."
- 38 Jesse McKinley, "In California, Birth Defects Show No Link," *New York Times*, November 22, 2010.
- 39 Sahagun, "Toxic Waste Dump."
- 40 R. Morello-Frosch, M. Zuk, M. Jerrett, B. Shamasunder, and A. D. Kyle, "Understanding the Cumulative Impacts of Inequalities in Environmental Health: Implications for Policy," *Health Affairs* 30, no. 5 (May 2011): 879–87.
- 41 Ganlin Huang and Jonathan London, "Mapping Cumulative Environmental Effects, Social Vulnerability, and Health in the San Joaquin Valley, California," *American Journal of Public Health* 102, no. 5 (2012): 830–32.
- 42 Louis Sahagun, "Waste Facility Allowed to Expand, Despite Community's Health Concerns," *Los Angeles Times*, May 21, 2014.



- 43 Lewis Griswold, "Kettleman City Activists Charge Racial Discrimination in Toxic Dump Approval," *Fresno Bee*, March 20, 2014.
- 44 Lewis Griswold, "State, Kettleman City Advocates Settle Dispute over Toxic Waste Landfill," *Fresno Bee*, August 10, 2016.
- 45 Eman Shurbaji, "Board of Supervisors Approves Kettleman City Survey," *Hanford Sentinel*, May 31, 2016.