

## Mud, Plastics, and Cancer Alley

As Extractive Thinking through oil and gas production became enshrined in the strategy to restore Louisiana's wetlands, the state was doubling down on attracting investments in petrochemicals, liquified natural gas terminals, and pipelines to supply a growing presence of industrial facilities along the Mississippi River corridor, once known as the German Coast. In a matter of decades, Louisiana has become ground zero for the production of plastic "nurdle" pellets that are shipped around the world to be molded into plastic products. Nurdles are loosely regulated and often spill onto docks and riverbanks during shipment. In August 2020, a containership hitched to the Napoleon Avenue Wharf at the Port of New Orleans dropped a 25-ton container holding hundreds of millions of plastic pellets into the Mississippi River. A thunderstorm had pitched up the already swelled river. Rapids broke the massive cargo ship free of its moorings and sent the container into the river. Authorities waited three days for the storm to settle before attempting to retrieve it. As it was being lifted by crane from the water, the boxcar-like container door opened and spilled 750 million pellets into the water. A local environmental scientist declared it "a nurdle apocalypse."<sup>1</sup> Over the next month, regulators debated who was responsible for cleaning up the accident as scores of tiny pellets washed up along the sandy banks of the river. Eventually, the ship's owner, CMA CGM, hired crews to use leaf blowers and butterfly nets in a halfhearted attempt that ultimately fell on volunteers to painstakingly collect tiny plastic pellets. The pellets bind with pesticides and pollutants and are eaten by birds, fish, and other wildlife, entering the human food web.

Such catastrophic events may occupy news outlets for a time. But the general supply chain is rife with smaller, unmanaged spills of the lentil-size pellets that have become part of an urgent crisis in ocean litter from New Orleans to Sri Lanka. Though not far afield from liquid hazardous waste like oil spills, which are managed by the US Coast Guard, plastic pellets are largely unregulated.

They are ground down by the relentless pounding of oceanic waves into microplastics ranging in size from a grain of rice to something smaller than a dust particle.

Extractive Thinking has transmogrified delta mud into a landscape of plastic waste, whose production creates terrible health conditions for residents who are sacrificed as if they were mud. Here, I examine the ecology and inherently racialized harm behind plastic production as the antithesis of mud and petrochemical production built on the legacy of the plantation economy. Thousands of miles of pipelines carry billions of barrels of oil and trillions of cubic feet of natural gas (produced onshore and offshore) across Louisiana's tidal marshlands through an intricate network of pipelines to refineries and petrochemical plants dotted along the 85-mile Mississippi River industrial corridor, where inland fence line communities face direct industrial exposure. The writer John McPhee noted that Louisiana's industrial plants on the Mississippi "made the river glow like a worm."<sup>2</sup> While the petrochemical corridor is touted by advocates as an important source of thousands of manufacturing jobs, its other monikers, Cancer Alley and Death Alley, speak to the health outcomes and environmental racism that befall fence line communities, which are exposed to the highest concentrations of chemicals in the country, linked to cancers and other respiratory and prenatal illnesses. The prodigious production of oil, natural gas, plastics, resins, fertilizer, and LNG keeps the pipelines humming twenty-four hours a day and showers toxic emissions onto predominantly African American communities. That's in addition to the threats of routine accidents and the constant noise of industrial operations.

Entering the area from New Orleans, the horizon appears incongruent: a vista of tall—sometimes spewing—smokestacks rising over a thicket of cypress forests. Along Highway 61, a dystopian landscape sprouts out of the forests and swamps punctuated by cylinder depots, winding pipes carrying streams of fluid between processing units, distillation columns, enormous storage tanks, and rusty stacks. Along the road, the metallic landscape becomes indiscriminate sprawl as one plant begets the next, differentiated only by branded signs at gated entrances. Elevated pipes cross over the highway to storage tank yards. Steve Lerner describes the scene: "There are catalytic cracking towers, stacks topped by flares burning off excess gas, huge oil and gasoline storage tanks, giant processing units where oil and its derivatives are turned into a wide variety of useful chemicals, and a Rube Goldberg maze of oversized pipes."<sup>3</sup> Here is the stark underbelly of capitalism and consumption, "part of the front end of the system that has forged the American lifestyle by making products cheap and convenient," writes Lerner.<sup>4</sup> Some stacks, blackened and browned, offer a vivid contrast to promotional materials of squeaky-clean facilities disseminated by the Louisiana Chemical Association.

Today, there are two hundred industrial chemical plants and refineries between Baton Rouge and New Orleans. This massive "oil assemblage" of plants produces

everything from insecticides and fertilizers to jet fuel and neoprene rubber. The corridor hosts the world's largest manufacturer of Styrofoam.<sup>5</sup> Louisiana is the second highest producer of US petrochemicals in an area much more condensed than the top producer, Texas. Viewing this industrial landscape up close is depressingly oppressive. Train whistles and clanking railcars echo over the landscape. Pungent odors waft here and there. It's hard to imagine living within the walls of a modest bungalow amid mammoth storage tanks and hissing pipes.

When President Joe Biden rolled out his \$1.2 trillion infrastructure proposal in 2021, he highlighted issues of environmental justice, which some authorities in Louisiana rebuked. "With this executive order, environmental justice will be at the center of all we do addressing the disproportionate health and environmental and economic impacts on communities of color—so-called fence line communities—especially . . . the hard-hit areas like Cancer Alley in Louisiana or the Route 9 corridor in the state of Delaware," Biden said. Louisiana's Republican senator, Bill Cassidy, shot back that the president's use of the term "Cancer Alley" was insulting. "I'm not going to accept that sort of slam upon our state. It sounds like great rhetoric. But again, I don't accept that slam."<sup>6</sup> There are plenty of like-minded industry advocates and lobbyists whose rebuttals are aimed to cast doubt on links between air pollution and poor health.

#### SOWING DOUBT

Whether it's doubt about climate change or the direct causal link between particulate emissions and cancer, *doubt* is an effective defense that slips into the nooks and crannies of correlative evidence. State regulators often downplay health claims by citing a lack of direct evidence when issuing industrial permits. Or they point to the Louisiana Tumor Registry that shows nominal elevations of documented cancer rates. Critics say the Tumor Registry casts too wide a geographic net and fails to account for higher incidences of cancer closer to plants. The registry also fails to document the constellation of illnesses other than cancer, such as respiratory diseases, skin irritations, mental impacts, and miscarriages. It fails to collect data on contributing factors or environmental conditions that people with cancer have been exposed to. "The Tumor Registry doesn't measure exposure to chloroprene or any other chemical," said Kimberly Terrell, who has a PhD in conservation biology and is a staff scientist with the Tulane Environmental Law Clinic. "They measure cancer, which is only part of the equation."<sup>7</sup> This leaves sickened neighbors to offer anecdotal accounts to rebut official estimates. "Proof of causation in the case of cancer or any other suspected environmentally related disease is difficult to produce."<sup>8</sup> Such studies need to not only analyze those living in the proximity of plants but also adjust for those who also drink, smoke, or have a genetic disposition to cancer. Length and concentration of exposure would have to be factored in, in addition to many other factors. "The beneficiary of this

inaction is the chemical industry, which can unequivocally state that there is no proof that their pollution harms neighboring residents.<sup>9</sup> Oil and gas and petrochemical industries are also often awarded long-term local property tax breaks that starve local communities of important revenue sources for public services.<sup>10</sup> Legislative bills are regularly passed to shield industry operators from regulatory oversight and culpability.

#### GLOBAL WARMING AND A SECONDARY MARKET

As global warming depresses the industry's image and bolsters more sustainable energy alternatives, the oil and gas industry is reportedly shoring up product demand through downstream, value-added production in petrochemicals.<sup>11</sup> Fossil fuel manufacturers see plastics as the next frontier of market demand as vehicle consumer demand shifts to renewables. Plastics offer the fossil fuel industry a second life for polluting carbon-based products.<sup>12</sup> Here in Louisiana, billions of dollars in new plastic manufacturing facilities are being planned and at least eleven new LNG terminal projects have been approved, fed by the very same pipelines shredding the state's wetlands. Cumulatively, the new projects would increase Louisiana's emissions by 38 percent.<sup>13</sup> All of this means an onslaught of plastic production, litter, and continued fossil fuel extraction and new pipeline infrastructure through coastal wetlands.

In general terms, petrochemicals are chemicals derived from "substances or materials manufactured from a component of crude oil or natural gas."<sup>14</sup> Starting in the 1950s, oil refineries began to "mine" their process streams for compounds to make higher-value products. Shell in Emeryville, California, and Standard Oil of New Jersey began studying derivatives of their raw materials. By the mid-1950s, American Cyanamid had expanded its operations into Louisiana, followed by Monsanto, to produce fertilizer and ammonia.<sup>15</sup> From 1955 to 1956, approximately \$600 million were invested in new and expanding petrochemical plants in Louisiana.<sup>16</sup> "From 1964 to 1968 . . . petrochemical growth in Louisiana outpaced all other states, including Texas."<sup>17</sup> Companies like Union Carbide and Dow Chemical relocated here. Refineries such as Shell Petroleum Company generated chemical sister plants for secondary markets for newly discovered products like antifreeze, tires, plastic food containers, trash bags, and laundry detergent.<sup>18</sup> In the late 1960s, demand for fertilizers surged. Louisiana became a favorite spot for new ammonia plants, again predicated on the availability of cheap oil and natural gas feedstock.<sup>19</sup> The plastic boom followed, with dozens of plants manufacturing polyvinyl chloride (PVC), polypropylene, synthetic rubber, polystyrene, melamine crystal, and isocyanates for urethanes.<sup>20</sup> "The petrochemical plants have, to a large extent, located where they may obtain the refined off gases which formerly were burned as fuel or flare gas."<sup>21</sup> Since a

large portion of petrochemical raw materials are by-products of refining operations, “it would be expected, then, that petrochemical plants would be most common where the greatest concentration of refineries are found.”<sup>22</sup>

Plastic is perhaps modernity’s ultimate ruse. A material seemingly impervious to leakage, it promises to hold contaminants in a hygienic embrace. Its appeal lies in its sanitary separation, as well as its cheapness. Most plastics are made from extra feedstocks of gas and carbon-based material that are produced through the refining process. Monetizing such waste products that began in the second half of the twentieth century appealed to everyone from housewives to commercial car makers. Today, plastic is the most ubiquitous product in the world and the hardest to dispose of. And even its value proposition of keeping things separate and preserved is false. Over time, plastic itself degrades.

Microplastics have become ubiquitous in not only our visible environment but also the micro space. Plastics have penetrated our very cellular walls. They are in our bloodstream and our food webs. Microplastics are found on the remotest mountaintops, borne by airstreams. They permeate the air of urban cities from vehicle road dust. Researchers have found plastics entering the atmosphere from sea spray. And plastic production over the next decades is expected to rise. There is no place on Earth or within Earth that plastic has not penetrated. “It is in the Arctic, the Mariana Trench—the deepest place on earth, over ten thousand meters beneath the surface of the Pacific Ocean—and on remote mountaintops in the high altitudes of the Pyrenees.”<sup>23</sup> Despite the fact that plastic was designed as a barrier, it has become part of contemporary nature. “Its chemical by-products have been found in everyone who has been tested. The world is now plastic.”<sup>24</sup> Indeed, it seems as if plastic (like the river) has *crevassed* from its intended location to infiltrate everything. There is no natural/synthetic divide anymore.

The passage of the 1966 Federal Water Quality Act would ironically place more pressure on Louisiana communities. Companies began factoring pollution into their costs. Rivers with a high discharge rate, like the Mississippi, made an ideal location in light of coming regulations.<sup>25</sup> As chemical plants and refineries were pushed away or discouraged from expanding elsewhere, they were welcomed with open arms in Louisiana, where they began dotting the landscape of former plantations.<sup>26</sup> Many plants bought riverfront property from former plantation owners who then moved, leaving poorer and minority neighbors behind.<sup>27</sup> “Enabled by state zoning, a wave of chemical plants dropped on African American communities like a bomb.”<sup>28</sup> Of course, activists argue that Cancer Alley does not suddenly halt outside of the New Orleans metropolitan area. There are plenty of industrial sites within Orleans Parish and neighboring Jefferson Parish and even more plants immediately downriver from Orleans in the parishes of St. Bernard and Plaquemines. The entire river corridor from Baton Rouge to the Gulf is part of Cancer Alley in terms of exposure to industrial

emissions. The same river that brought slaves and monoculture to Louisiana has also brought its successor.

### PLANTATION TO PLANT

Infrastructural pipelines and petrochemical plants are part of a historic continuum from plantation land use. The economies of scale of sugar plantations required large plots of land with proximity to the river. After the Civil War, the Freedman Bureau distributed small adjacent landholdings to freed slaves and extended family groups. They left intact the plantations, which in the second half the twentieth century were sold off. “The vast scale of industrialized agriculture necessary for the profitable cultivation of sugarcane laid the ground for the region’s . . . transition to industrial petrochemical production.”<sup>29</sup> Former “freetowns” now stand at the fence lines of industrial plants. “Following the Civil War their towns arose next to the old plantations, and the industry that followed later simply introduced another plantation culture of its own, low wages, minimal employment and the profits going as far away as Germany and Japan.”<sup>30</sup> Names such as the Diamond, Trepagnier, and Good Hope Plantations became ideal sites in the twentieth century for bringing oil ashore for storage and refining. “This exchange of land use—‘from plantation to plant’—has exposed local residents, many of whom descend from slaves, to the life-limiting and protracted threat of harmful pollution.”<sup>31</sup>

Some of the industrial operators restored the ornate antebellum homes. Famous plantations such as Ashland–Belle Helene, Destrehan, San Francisco, and Aillet House were purchased by Shell Chemical, Amoco, Marathon Oil, and Dow Chemical.<sup>32</sup> Restoration efforts are aided by historic preservation grants as well as by the companies themselves. Such practices, note scholars, preserve the aesthetics of white supremacy. When I was on an April 2022 guided bike tour through Cancer Alley, the tour guide pointed out a plaque at the Destrehan Plantation outside of Norco thanking Amoco for restoring the big house. The river road hosting the sugar plantations was once called Millionaire Mile from the nineteenth-century Louisiana sugar industry. “All the beautiful clothes, balls, and furniture, they don’t talk about the enslaved lives that made it possible,” said Sheila Tahir, the tour guide.<sup>33</sup>

As with generalities, there are exceptions. In La Place, Louisiana, the nonprofit museum and childhood home of Kid Ory, an important Black trombonist in early jazz, was once a plantation home. The home was also the epicenter of the largest slave revolt in US history. In 2023, the museum was saved from closing by a grant from a company called Greenfield, which is trying to build a controversial grain elevator ten miles away in Wallace, Louisiana, that would equal the height of the Statue of Liberty. Greenfield’s project is highly controversial. And the Whitney Plantation home in Wallace was restored by Formosa Chemicals and then sold to



FIGURE 10. Cutting Sugarcane by Hand in Louisiana. The arduous work led to a shorter life span than working on cotton plantations among enslaved laborers. In heavy sugarcane parishes, deaths outnumbered births, requiring more imported slaves. Photo by William Henry Jackson (1843–1942), courtesy Library of Congress, <https://lccn.loc.gov/2016817573>.

a New Orleans lawyer who turned it into the only museum told from the perspective of the enslaved workers and speaks of the particularly harsh conditions of harvesting sugarcane in South Louisiana.<sup>34</sup>

#### THE RISE OF LOUISIANA SUGAR

Enslaved workers were forced to clear the bottomland forest and build the levees. That was followed by grueling work in unshaded fields: first in indigo processing and then sugarcane, which was particularly backbreaking. In sugar parishes, enslaved workers outnumbered whites and experienced a negative demographic birthrate. In other words, population did not naturally expand there. It shrank. Life expectancy harvesting sugarcane was lower than even cotton.<sup>35</sup> Nutrition was also poor. Many workers were lost to disease or suffered injuries in the fields and in hot sugarhouses during fall grinding season.<sup>36</sup> The difficulty of producing sugarcane—a tropical monocrop imposed on a subtropical climate—demanded a frenzied, militarized pace, particularly during the fall harvest season. An early frost could destroy the crop.<sup>37</sup>

Prior to industrial plantations, sugar production was considered so laborious that sugar was reserved as an exotic luxury. Until the twentieth century, sugarcane laborers were engaged in the most dangerous agricultural and industrial work in the United States. Stalks were cut by hand and immediately ground to capture their juice before spoilage. The juice was granulated through intensive boiling and reduction that required skilled, enslaved “suciers.” Geographically, particularly during the domestic period of the slave trade, Louisiana was used as a threatened destination by masters whose workers were not obedient. Treated as mechanical tools, enslaved people were discarded when they had exhausted their use. “For the enslaved, each day began with the ringing of a bell to herald roll call at the industrial sugar factory. The factory consisted of a boiling house, a steam-powered sugar mill, and chimneys spewing smoke and steam into the humid air.”<sup>38</sup> In the sugar mill, alongside adults, children toiled under the constant threat of boiling kettles, open furnaces, and grinding rollers. Khalil Gibran Muhammad writes in “The 1619 Project,” “All along the endless carrier are arranged slave children, whose business it is to place the cane upon it, when it is conveyed through the shed into the main building.”<sup>39</sup> Housing for enslaved people was located along the central road amid fields of cane in close vicinity to the sugar mills. Numerous elements of everyday life, including the time it took for the enslaved to reach the mill from their quarters, were timed and recorded.<sup>40</sup> “Interviews with formerly enslaved people testify to the tendency for pregnant women to labor in the fields throughout their term. If an overseer wanted to whip a pregnant woman, they would notoriously dig a hole in the ground to protect the unborn asset. Some enslaved children were born in the very fields where they would grow up to work away their lives.”<sup>41</sup>

Sugar granulation in Louisiana was perfected by a free man of color named Antoine Morin, whose kettle transformed Louisiana’s economy. Morin was hired by Jean Etienne de Boré, who owned an indigo plantation at Henry Clay Avenue adjacent to present-day Audubon Park in New Orleans. Morin was a chemist and botanist who had emigrated from the French colony of St. Domingue (now Haiti) and built a reputation for sugar production and granulation at the Terreaux-Boeufs Plantation in St. Bernard Parish. He was a “distinguished alumnus of École de Paris.” He laid out de Boré’s plantation in the French Caribbean pattern and, “ladle in hand, supervised the crystallization of de Boré’s first kettle of sugar. That inaugural 1795 sugar harvest demonstrated the possibilities of a successful industry in Louisiana. It required a cash outlay of \$4,000 and 40 slaves (valued at \$1,200 each), but it returned a profit of \$5,000.”<sup>42</sup> In 1796, the sugar crop yielded 100,000 pounds of sugar at \$12,000 profit, or the equivalent of \$3 million today.<sup>43</sup> Encouraged by de Boré’s success, more Louisiana planters undertook sugarcane cultivation, and as early as 1797, more than 550,000 pounds of sugar were exported from New Orleans. By 1801, there were seventy-five sugar mills in Louisiana.<sup>44</sup> Sugar production stretched along the German Coast upriver from New Orleans.

Sugar plantations were also established along the banks of Bayou Lafourche, Bayou Teche, and Bayou Terrebonne and in the Red River valley of present-day Rapides Parish. Since waterborne transportation was the primary means of moving goods before railroads, nearly all the early sugar plantations fronted a navigable waterway. The sugar kettle used on the de Boré plantation now sits by the LSU chemical engineering building. The commemorative marker for the kettle reads, "Used by Jean Etienne de Boré in 1795 to granulate sugar from Louisiana cane for the first time, thus revolutionizing Louisiana's economy."<sup>45</sup> There is no mention of Morin or the brutal conditions of the plantation sugarcane industry.

Word spread of the quick profits to be made in sugarcane. After the United States acquired the Louisiana Territory in 1803, Anglo-Americans from as far as the Atlantic seaboard began arriving. Labor demands for sugar plantations also increased the Black enslaved rural population outside New Orleans. They outnumbered white residents by three to one, which took on its own specter of paranoia and oppression against revolt and uprising. By 1860, Louisiana planters were producing one-fourth of the world's sugar and were among the South's wealthiest slavers.<sup>46</sup>

#### HAITIAN INDEPENDENCE AND LOUISIANA SUGAR

But Louisiana's sugar high was also fueled by a massive slave revolt in present-day Haiti that dismantled the French colonial sugar monopoly. There is a direct link between Louisiana's ascendant sugar industry, Haitian independence, and the Louisiana Purchase. Some scholars argue that the Haitian Revolution led directly to the Louisiana Purchase, which by doubling the size of the United States set the young nation on course to become the dominant force in the hemisphere. From the second half of the eighteenth century until the French Revolution, the French colony of St. Domingue on the Caribbean island of Hispaniola was the richest colonial possession in the world. Many of the colony's early planters established hugely successful coffee, indigo, and sugar plantations. By the late 1750s, the enslaved population of St. Domingue numbered 500,000, which far outnumbered the white population of around 32,000. To establish social control, the French crown created a rigid caste system dominated by "grand blancs," who were French-born bureaucrats and landowners. White planters born in the colony were known as Creoles. Poor whites, or "petit blancs," formed an underclass. People of mixed ancestry and free men, known as *affranchise*, came next in the social hierarchy. At the bottom were enslaved Africans, who accounted for approximately one-third of the Atlantic slave trade.<sup>47</sup>

Despite the attempts of *grand blancs* to maintain control, violent conflicts between the enslaved and white landowners became more frequent, particularly as the revolutionary spirit mounted in France. The continental revolutionaries overthrew the French crown in 1789, and in March 1790, the newly formed

French National Assembly passed the Declaration of the Rights of Man and Citizen (Declaration des droits de l'Homme et du citoyen), which spread like wildfire throughout the French colonies. Eighteen months later, on August 22, 1791, the enslaved people of St. Domingue took control of an important northern province of the colony. When Revolutionary France declared war on England the same year, St. Domingue's white planters quickly agreed to support Great Britain. Most of the enslaved forces backed Spain, which controlled the rest of Hispaniola. Political rights through the idea of *liberté, égalité, fraternité* articulated by continental revolutionaries were legally extended to the free people of African descent in the French Caribbean by law on April 4, 1792. St. Domingue's white planters refused to recognize the decision. These tensions led to conflicts, initially between factions of whites and then between whites and free people of color. In January 1793, the French king, Louis XVI, was executed. Two months later, France declared war against the crowned heads of Britain, Holland, and Spain. On February 4, 1794, the French National Convention abolished slavery in all French colonies, "decreeing that all men, without distinction of color living in the colonies are French citizens enjoying all rights assured by the Constitution."<sup>48</sup> Slave revolts mushroomed throughout the Caribbean in 1795. Large slave owners and merchants abandoned France and the French Revolution.

Abolitionist sentiment also led to confrontations by working-class white Jacobin antiroyalists, who demanded equality for all people and abolition of slavery by any means necessary. French revolutionary Jacobins arrived on the shores of New Orleans inspired by the ideology of the *Rights of Man*. "They appeared in the smallest outposts, among the clergy, in all the city's taverns, and among the immigrant merchant community. French, St. Domingue, white, brown and black. Their precise contact with and influence among the slaves, though unknown, was a source of numerous White nightmares."<sup>49</sup> They also inspired paranoia and suspicion among Louisiana-Spanish customs authorities weary of the arrival of international agitators. In 1795, a plot was uncovered at the estate of Julien Poydras in Point Coupée Parish near New Roads, Louisiana, that involved enslaved and local whites along False River. Led by Poydras's overseer, Antoine Sarrasin, the rebels planned to set fire to several buildings and then use the confusion to seize weapons. They supposedly coordinated with individuals from neighboring estates to strike simultaneously. The plot also included a sympathetic white schoolteacher named Joseph Bouyavel, who had read the Declaration of the Rights of Man and Citizen aloud to enslaved men on nearby plantations. "Betrayed by informants among the Tunica Tribe, the plot was uncovered, and trials took place in May 1795."<sup>50</sup> The Tunica by the middle of the eighteenth century found themselves occupying a location between English and Spanish jurisdiction and attempted to curry favor with both.<sup>51</sup> The trial led to the convictions of fifty-seven enslaved people and three whites. "By June 2nd, 23 slaves were hung, their heads cut off and nailed to posts at several

places along the Mississippi River from New Orleans to Pointe Coupée, where they were left for weeks. Others were severely flogged and assigned to hard labor in Spanish fortresses in Mexico, Florida, Cuba, and Puerto Rico. Three whites were deported.” According to the trial documents, the conspiracy was inspired by the revolution in St. Domingue.<sup>52</sup> The conspiracy itself was part of a multiracial abolitionist movement supported by large segments of dispossessed populations in Louisiana and throughout the Caribbean. But conspiracy myths became the cornerstone to justify racist violence and oppression of anyone who opposed slavery and white supremacy. White schoolchildren were taught that the conspiracy proved that Black people were awaiting an opportunity to rise up and massacre all whites and take young white women as love slaves. Myths also targeted whites who opposed slavery as a danger to the survival of the white race. “It was used to enlist white Louisianians regardless of class to defend a racist system that was against the interest of the vast majority of the population.”<sup>53</sup>

A major reshuffling of Western European powers had been set in motion. The unrest in St. Domingue led thousands of immigrants, including many free people of color and white planters, to move to Louisiana in the 1790s and early 1800s. Napoleon Bonaparte had hoped to retake St. Dominique and reestablish the island as a source of wealth for France. In 1800, he secretly negotiated with Spain in the Treaty of San Ildefonso to take possession of Louisiana, which would serve as a breadbasket for St. Domingue.<sup>54</sup> Separate attempts to retake St. Domingue in 1802 and 1803 failed. And by the end of the war, the French army was depleted. More than 80 percent of the soldiers who had been sent to the island had died. When French forces were finally defeated by Haitian rebels, Napoleon no longer saw a need for Louisiana. But he was also keenly interested in keeping it away from Great Britain. He sold the entire colony to the United States in April 1803. Thomas Jefferson’s emissaries, Robert Livingston and James Monroe, negotiated with France initially for the sale of only the Isle of Orleans. Napoleon, who “realized he could use the sale to finance his campaign against Great Britain, offered to sell the entire colony for \$15 million.” Livingston and Monroe agreed to the purchase, and on December 20, 1803, Louisiana became US territory.<sup>55</sup> “Without the Haitian Revolution, it is unlikely that Napoleon would have sold a landmass that doubled the size of the then United States, especially as Jefferson had intended to approach the French simply looking to purchase New Orleans in order to have access to the heart of the Mississippi River.”<sup>56</sup>

By then, in 1803, many of the largest plantations had already converted to sugar production to fill a huge void in the global market for sugar created by the Haitian Revolution. The large influx of St. Domingue immigrants helped further develop Louisiana’s sugar industry. “Although sugar culture came late to Louisiana, it came fully formed, with planters and sugar experts fleeing the French colony of St. Domingue and the slave uprisings and civil wars that would culminate, in 1804, in Haitian Independence.”<sup>57</sup> Antebellum Louisiana accounted for 95 percent of the

sugar produced in the South. Louisiana's product was chiefly raw sugar, most of which was shipped to cities in the upper Mississippi Valley directly from the plantations or by way of New Orleans.<sup>58</sup>

The new US territorial governor, William C. C. Claiborne, was reluctant to allow St. Domingue refugees into Louisiana and wanted an end to the African slave trade. Marronage was also increasing with the booming sugar industry. "Instead of monitoring the entrance of the Mississippi River, Governor Claiborne would have done a better job of paying attention to the worsening working conditions in the cane fields and the sugar mills," writes Ibrahim Seck.<sup>59</sup> There was a growing fear of imported African slaves who had memories of prior lives, whereas slaves born in domestic servitude did not seem to instill the same threat. The United States banned the importation of slaves in 1808. Pleased with the ban, Claiborne still allowed some enslaved persons—referred to as "servants" on ship manifests—into the Louisiana Territory to appease planters' need for labor. Claiborne prohibited the immigration of free men of color but allowed passage of free women of color.<sup>60</sup> Louisiana Creoles with European lineages generally encouraged such immigration, seeing the refugees as potential cultural allies in the struggle against Americanization. Some of the Haitian immigrants became citizens of great standing in the community. New Orleans recorded the entrance of 9,059 French from Cuba in 1809 alone, which included 500 sugar planters, "whose 3000 slaves were authorized by Governor Claiborne to enter in spite of the U.S. prohibition against foreign slave imports into the territory."<sup>61</sup> Between May and July 1809, thirty-four vessels brought nearly 5,800 St. Domingue émigrés to Louisiana from Cuba. Immigrants from Guadalupe and other Caribbean islands soon followed.<sup>62</sup> The number of free people of color in New Orleans doubled, as did the number of French speakers in the city. But the grueling sugar plantation production and rising Jacobin abolitionist sentiment intersected to produce an atmosphere of smoldering resistance. For enslaved people throughout the rest of the New World, "the victory in Haiti—the story of which had spread through plantations across the south, at the edges of cotton fields and in the quiet corners of loud kitchens—served as an inspiration for what was possible."<sup>63</sup>

#### DESLONDES REVOLT

In all, ten thousand St. Domingue refugees arrived in Louisiana between 1809 and 1810. About one-third of them were white elites, another third were free people of color, and the remaining third were enslaved people who belonged to either the whites or free Blacks. The year 1810 had been marked by growing tensions of revolt in a series of regional upheavals. In Mexico, the Catholic priest Miguel Hidalgo sought to end colonial rule and abolish slavery. In the nearby West Florida parishes, which today are part of the state of Louisiana, a group of white landowners had just proclaimed an independent state from the Spanish regime. The fear of armed insurrection was in the air.<sup>64</sup> Louisiana officials were distracted by

the explosive population growth that was taking place in just a few weeks. The disruption presented Charles Deslondes and his followers with an opportunity.<sup>65</sup> January 8, 1811 was cold and rainy. That night a group of enslaved men of the André plantation (now the Kid Ory Museum) surrounded the house, broke in, and killed André's son. Deslondes, according to court records, was André's overseer, an enslaved slave driver, who had been brought to Louisiana from St. Domingue. Armed with rifles, sabers, oak sticks, and other work tools, the rebels proceeded downriver toward New Orleans. They managed to set fire to property on adjacent plantations along the way and add recruits to their ranks. The plantation owner, André, was head of the local militia and escaped across the river to round up nearby planters.<sup>66</sup> By the next day, a stream of panicked whites entered New Orleans with breathless accounts of the uprising.<sup>67</sup>

Gen. Wade Hampton, a wealthy slaveholder from South Carolina, was quartering with troops in New Orleans to support the white-led revolt in Spanish West Florida parishes on the north shore of Lake Pontchartrain. Governor Claiborne ordered regular US Army troops under General Hampton to the scene of the insurrection. They joined with sailors from Commodore John Shaw's brig, the *Syre*, to total about a hundred men to confront the revolt.<sup>68</sup> On January 9, the governor activated the entire militia of the city and suburbs of New Orleans into service.<sup>69</sup> The number of rebels, meanwhile, had increased to several hundred men (eyewitness accounts vary widely from 150 to 500). Some wore uniforms. Drummers beat time as the rebel army marched downriver carrying flags and armed with knives, muskets, and machetes, chanting, "On to Orleans!" where they intended to establish a free territory. "Additional participants joined the ranks at the plantations of Labranch, Bernoudi, and Charbonnet, Butler, McCutcheon, Livaudais, and Arnould before marching on to the Destrehan plantation."<sup>70</sup> General Hampton referred to "roads half leg deep in mud," which the rebel army slogged through doggedly on their march downriver.<sup>71</sup> By that evening, one more planter was dead. Rebels made camp at Jacque Fortier's plantation, 25 miles outside of New Orleans. As Clint Smith points out, the relative discipline and organization of enslaved people, many of whom came from different countries in Africa and spoke different languages, is quite remarkable.<sup>72</sup> The conspirators had laid the groundwork for several months through secretive planning using coded language to avoid tipping off eavesdroppers.

The next day, having covered 6 miles, they arrived at the plantation of Jean François Trepagnier. Federal forces drew near at dawn on January 10. André's forces engaged Deslondes's group at François Bernard Bernoudi's plantation.<sup>73</sup> The US Army was well armed against the rebels, and the battle was predictably one-sided. In André's words, "We made considerable slaughter" (*un grand carnage*). About twenty-five enslaved rebels died in the attack. The rest dispersed into the cypress swamps, where they were tracked over the next few days. Deslondes's hands were chopped off, the bones in his legs were shattered by bullets, and he was burned over a bale of straw. A trial took place on the plantation of Jean

Noel Destrehan from January 13 to 15. A total of forty-five death sentences were administered without appeal, and twenty-two rebels received some kind of physical punishment. Each execution took place in front of the plantation at which that person was imprisoned. Heads were mounted on poles at the site where each was accused of committing his crime “in order to frighten all malefactors who would attempt any such rebellion in the future.”<sup>74</sup> For months, the heads along the levee looked like “crows sitting on long poles.”<sup>75</sup> Mutilated bodies “would have flanked your path for miles—monuments to the savagery of the sugar interests and the irrepressible quest of enslaved people for liberty,” writes Thompson.<sup>76</sup> In addition to those killed in action, twenty rebels were reported missing. By January 16, the planters requested an end to arrests.

Most of the slaves killed were between twenty and thirty years old and described as skilled suciers, which was a blow to the local labor pool.<sup>77</sup> In neighboring St. John the Baptist Parish, a separate trial led by Achille Trouard sentenced seven enslaved rebels to death. According to Seck, historian of the Whitney Plantation, much of this history is still being uncovered. St. Charles Parish has managed to preserve many documents (in contrast to St. John the Baptist and Orleans Parishes). The gravesite of François Trepagnier features a headstone in French saying that he was killed by “negro rebels,” which testifies to the event. There are also primary documents in the Hill Library at LSU stating that planters would be reimbursed a third of the appraised value of each house burned during the insurrection. In addition, Governor Claiborne approved payments of \$300 for each slave that was executed or killed during the rebellion.<sup>78</sup> Slaveholders were reimbursed for killing their slaves. General Hampton was “impressed” by the savagery of the Creole planter posse, writing “they are equal to the protection of their property.” As a result, he was reassured to “invest heavily” in Louisiana sugar land. Louisiana’s statehood was also on the line. “Claiborne hoped to assuage the fears of Louisianans and those in Washington, D.C., proving that he maintained control over his post and possessed the resources to suppress insurrection without external assistance.”<sup>79</sup> Commodore Shaw likewise applauded the savagery as an example: “Had not the most prompt and energetic measures been thus taken, the whole coast would have exhibited a general sense of devastation; every description of poverty would have been consumed; and the country laid waste by rioters.”<sup>80</sup>

#### CRACKDOWNS AND SLAVERY EXPANSION

Deslondes and his followers fell short of their goal. But they shook Louisianans to the core. “Despite the measures taken by Claiborne’s administration and future leaders to tighten racial control, including increased patrols and a more vigilant militia, Louisianans never again felt complacent in their own safety.” The 1811 revolt exposed additional regions of the country to the

horrors of slavery. “Some northerners also used the insurrection to support their argument that Louisiana is not admitted into the United States, citing their fear that Louisiana posed an ideological and institutional threat to national stability and harmony.”<sup>81</sup> The insurrection, and crackdown, helped spur the abolitionist movement. It is important to remember that heavy-handed enforcement of racial discrimination was in response to fear of losing territorial control. But there was never another slave insurrection in Louisiana. “To engage in open rebellion was tantamount to suicide,” Smith writes.<sup>82</sup> He points out that our country’s teachings about slavery, painfully limited, often focus singularly on heroic slave narratives at the expense of the millions of ordinary men and women: “Part of the insidiousness of white supremacy is that it illuminates the exceptional in order to implicitly blame those who cannot, in the most brutal circumstances, attain superhuman heights. It does this instead of blaming the system, the people who built it, the people who maintain it.”<sup>83</sup> We forget the main lesson that the vast majority were regular people. This ordinariness is used to legitimate oppression, which is its own quiet violence.<sup>84</sup>

However, if rebellions were rare, white panic over alleged slave conspiracies were common. The records of colonial and nineteenth-century Louisiana are filled with documents alleging planned insurrections and “massacre of the whites,” writes Fabor. In 1804, for example, New Orleans residents sent Governor Claiborne a petition alleging a plot by all the slaves in the city and insisting that he investigate and punish the guilty slaves “without any compassion.”<sup>85</sup> Claiborne saw no evidence of a serious threat, and the panic passed—a trend that would be repeated. “According to the historian Brion Davis,” Smith writes, “for nearly 70 years, the image of Haiti hung over the South like a black cloud, a point of constant reference by pro-slavery leaders.”<sup>86</sup>

Slavery, meanwhile, expanded dramatically in the Lower Mississippi Valley, driven by international demand for sugar and cotton and a growing domestic slave trade. After the importation of slaves was banned, a more nefarious rationalized and gendered brutality took hold. New Orleans became the domestic slave trading capital. By 1860, the number of enslaved people had multiplied sixteen-fold, with over 331,000 enslaved.<sup>87</sup> “By the time slavery was abolished in 1865, more than five hundred sugarcane plantations formed a seamless mosaic straddling both sides of the lower Mississippi River.”<sup>88</sup> Until recently, most popular narratives lionized benign plantation masters and reminisced about the bygone era of the *lost cause* and luxurious living among the planter class. Despite the gap in the official historical record, oral histories of the revolts were shared by Black families of the area.<sup>89</sup> Margie Richard, a community activist who led a successful campaign for a fair buyout of homes contaminated by Shell Oil, famously tapped into the Deslondes revolt with the rejoinder recited

by local organizers: “If my ancestors were willing to be killed for standing up to slavery, I can surely stand up to Shell.”<sup>90</sup>

#### FREETOWNS AND ENVIRONMENTAL REDLINING

After the Civil War, the brief period of Reconstruction spawned “freetowns” of former plantation workers who were ceded parcels by the US Freedman’s Bureau from the very plantations they worked. They may have been in the same cottages along the side or central thoroughfare in the rear. W. E. B. Du Bois wrote in 1901 that the Freedman’s Bureau was the government’s attempt—however fleeting—to answer the deeper issue of race in America that the Emancipation Proclamation seemed to intensify: “What shall be done with the slaves?” The Freedman’s Bureau was created by Congress in 1865 and closed in 1872.<sup>91</sup> It was directed by Oliver Otis Howard, a Union general whose name adorns Howard University; he sought to transition four million newly freed slaves into a free-labor society. “An honest and sincere man, with rather too much faith in human nature, little aptitude for systematic business and intricate detail, he was nevertheless conservative, hard-working, and, above all, acquainted at first-hand with much of the work before him,” wrote Du Bois.<sup>92</sup> Many of these freetowns became historic African American hamlets; and later easy marks for industrial expansion.

In St. James Parish, a hamlet by the name of Freetown was founded by former slaves in 1872.<sup>93</sup> Situated on the former Pedescleaux-Landry sugar plantation, it was once a bucolic agricultural community. Its degradation happened relatively slowly, as petrochemical plants began moving in next door. Eventually, residents became stranded in place. Their homes were stripped of the characteristics that made them livable. This, according to Rob Nixon, constitutes the slow violence. There are many such examples of multigenerational residents finding themselves today squeezed between industrial behemoths on former fields and forests that were transformed by heavy industry before their very eyes.<sup>94</sup> “Ecological degradation, climate change and cancer risk are contemporary inheritance, and by-products of colonial genocide and slavery,” writes Forensic Architecture, a UK-based firm that advocates for environmental justice communities.<sup>95</sup> Currently, there are proposals to build or expand three plants in St. James Parish, where 14 percent of the land is owned by chemical companies and over 40 percent of the parish is wetlands.

In 2014, the St. James Parish Council passed a comprehensive land-use ordinance that quietly rezoned large portions of its predominantly Black 5th District from residential to residential/industrial, which is “a particularly pernicious type of zoning ordinance,” where industrial facilities and residential homes stand side by side without adequate buffer zones.<sup>96</sup> The introduction of the land-use

ordinance initially included language reminiscing about a bygone era of “luxurious living and delightful ease” when acres of land “were counted by thousands and slaves by hundreds.”<sup>97</sup> Several St. James Parish Council members, including the president, are current or former employees of the petrochemical industry. The plan rezoned the majority-Black community of Burton Lane as “industrial” and the majority-Black community of Welcome as “existing residential/future industrial.” Data collected in the 5th District shows that residents have been exposed to emissions that can reach 765 times the levels considered safe by the EPA.<sup>98</sup> In the single community of Convent, a small town on the Mississippi River in St. James Parish between Baton Rouge and New Orleans, eleven chemical plants lay within a few miles of the town, which is 80 percent African American with a 40 percent poverty rate.

In April 2022, the Environmental Protection Agency under President Biden said it was investigating whether two state agencies discriminated against Black residents when they approved permits for two chemical plants and a grain terminal in St. John the Baptist and St. James Parishes. The probes followed a visit in January 2022 by the Biden-appointed EPA administrator Michael Regan, who promised a crackdown on racially biased permitting decisions in Cancer Alley. The probes focused on the approvals by the Department of Environmental Quality and the Department of Health and Human Services for three major projects that would produce likely carcinogens of chloroprene and ethylene oxide,<sup>99</sup> as well as volatile carbon monoxide, benzene, formaldehyde, nitrogen dioxide, and particulate matter called PM<sub>2.5</sub>.

According to the EPA, residents at the census tract near one of the plants owned by Denka experience the highest risk of cancer in the United States.<sup>100</sup> In response to the complaints, Denka shot back that there were no widespread elevated cancer rates in St. John Parish compared to the state average, based on the Louisiana Tumor Registry. “The complaint (filed against Denka) claims local, state and federal officials have turned a blind eye to health impacts in the area, but in fact these agencies have been studying the situation long before these groups got involved—and choose to consider real science rather than sensational pseudo-studies.”<sup>101</sup>

## LULUS

Proposals to site a new industrial facility are often sold to a community in terms of the jobs it will create. This tradeoff may be viewed as a kind of economic blackmail foisted on hardscrabble neighborhoods with otherwise few job opportunities.<sup>102</sup> The residents of Cancer Alley are repeatedly told that fighting the influx of new plants will kill jobs, as if they must accept the industry that poisons them. “Residents along fence lines with heavy industry often experience elevated rates of respiratory disease, cancer, reproductive disorders, birth

defects, learning disabilities, psychiatric disorders, eye problems, headaches, nose bleeds, skin rashes, and early death.”<sup>103</sup> Air pollution is compounded with “the stress and tension of noise and squalor.”<sup>104</sup> What was sold as an economic booster becomes an economic drag. Residents become entrapped by poor real estate equity in undesirable areas, which land-use professionals call “Locally Unwanted Land Uses,” or LULUs. Study after study affirms that minority communities face an uneven pollution burden compared to white counterparts, even those with lower incomes. For example:

- Researchers from the University of Colorado at Boulder reported in 2008 that African Americans with household incomes between \$50,000 and \$60,000 live in neighborhoods that are, on average, more polluted than the white households with \$10,000 less earnings.<sup>105</sup>
- African Americans are much more likely to live near toxic pollution and are exposed to 38 percent more air pollution than white Americans.<sup>106</sup>
- Likewise, in neighborhoods with “clustered facilities,” people of color make up 69 percent of nearby residents. Such disparities were repeated in nine of ten US EPA regions and 40 of 44 states with hazardous waste sites.<sup>107</sup>
- Fines levied on polluting industries are also unequal. An examination of 1,100 Superfund sites reveals that the average fine imposed on polluters in white areas was 506 percent higher than the average fine imposed in minority communities.<sup>108</sup>
- Meanwhile, white residents experience a “pollution advantage” in the goods they consume, according to a 2019 study in the *Proceedings of the National Academies of Sciences*. Whites consume more goods and services than Blacks and Hispanics, yet are exposed to less air pollution associated with the production of those goods and services. Meanwhile, Blacks and Hispanics bear a “pollution burden” by consuming more air pollution and fewer goods and services. “Low-income and minority populations, living adjacent to heavy industry and military bases are required to make disproportionate health and economic sacrifices that more affluent people can avoid.”<sup>109</sup>
- In St. James Parish, a GIS study found that polluting industries were located in areas with the highest percentages of African Americans, the lowest average household income, and the most residents without a high school diploma. Meanwhile, the residents employed by the plants tended to live the farthest away, were wealthier, were better educated, and were more likely to be white.<sup>110</sup>

A recent peer-reviewed academic study from Tulane University found direct correlations between cancer incidences and cancer risk in Cancer Alley census tracts. Researchers controlled for parish-level smoking and obesity rates. They pulled the most recent cancer data from the Louisiana Tumor Registry (2008–17) and estimates of race, poverty, and occupation from the US Census Bureau’s American Community Survey (2011–15) and estimated cancer risk due to emission point sources from the EPA’s National Air Toxics Assessment.

They found a statewide link between cancer rates and carcinogenic air pollution in marginalized communities. “These findings are consistent with the firsthand knowledge of Louisiana residents from predominantly Black, impoverished, and industrialized neighborhoods who have long maintained that their communities are overburdened with cancer.”<sup>111</sup> This reaffirms what activists of color have been saying for years: environmental racism is not one of slurs and epithets; it is more subtle and more powerful. It’s racism of neglect.

While they bear the brunt of pollution, environmental justice communities likewise suffer from inadequate protections from the Louisiana Department of Environmental Quality (DEQ), which is charged with regulating one of the busiest clusters of industrial activity in the world, is perennially underfunded, and is reliant on archaic methodology and self-reporting by the polluters themselves.<sup>112</sup> In January 2021, the Louisiana Legislative Auditor issued a scathing report of the inadequate enforcement practices by DEQ, which took nearly twenty months to issue enforcement actions after a plant operator failed to properly report emission violations. “Auditors also found it could take as long as nine years from the time a company was cited for violating emission standards before it was ordered to pay a fine or had a settlement approved requiring the company to pay for a mitigation project.”<sup>113</sup> That means the plant could excessively pollute for more than a decade before being forced to stop. The department also doesn’t adequately track the penalties it has assessed or whether penalties were even paid. Plant reports are mailed to DEQ and then manually scanned into the agency’s database, which the audit says results in unreliable reporting on when and whether the reports were received.<sup>114</sup>

The department also only considers the effects of individual chemicals emitted by plants, instead of considering the holistic impact of their combined effects. Nor does it conduct or mandate regular air monitoring. Meanwhile, there is also little granular air monitoring by federal or state agencies. Instead, the EPA models a “Risk-Screening Environmental Indicator” database to identify potential high-pollution areas. Plants with emissions that exceed certain threshold levels are required to report them to the government. “According to EPA data, the number of industrial plants in Louisiana that reported their toxic releases grew from 255 to 320 in the last three decades, an increase of 25 percent.”<sup>115</sup> Louisiana has the highest toxic air emissions per square mile of any state, based on data gathered by the US Environmental Protection Agency’s 2018 Toxics Release Inventory. The state in 2018 averaged 1,239 pounds of toxic air released per square mile, well ahead of runner-up Ohio, with 899 pounds per square mile.<sup>116</sup>

Louisiana also far out-spills every state in the nation, magnifying exposure of co-pollutants to marginalized communities.<sup>117</sup> And at least thirty facilities in Louisiana marshes contain the most toxic chemicals allowable by the EPA, which makes them particularly dangerous in hurricanes. During

emergency shutdowns that happen with regularity during the fall hurricane season, for instance, harmful “spot plant flaring” legally releases tons of pollutants that magnify exposure of the toxic payloads inside plants. The plants themselves are structurally at risk from storm damage, often unbeknownst to nearby residents.<sup>118</sup>

#### HURRICANE IDA

Even as I write this, fence line communities are still recovering from the most powerful hurricane to ever hit Louisiana. Category 5 Hurricane Ida ripped through the Mississippi River corridor on August 29, 2022, sixteen years to the day after Katrina. Ida raked across hundreds of chemical facilities and left a million people without power. Half of the nation’s petroleum refining and natural gas processing capacity is based along the Gulf Coast.<sup>119</sup> Ida left behind miles of visible oil slicks in coastal waters.<sup>120</sup> Power outages knocked offline seventeen state air monitoring sites, as well as the hotline for the Louisiana State Police, whose hazardous materials unit handles toxic emissions. Still weeks after the storm, blazing flair-offs and black smoke could be seen belching from smokestacks, which is associated with emergency releases. The lack of electricity at other refineries and the inability to supply steam and nitrogen to the massive flares indicated that toxic chemicals were being improperly released without burn-off.<sup>121</sup>

After Hurricane Laura made landfall near Lake Charles in August 2020, it took several days for the DEQ to deploy mobile air monitors.<sup>122</sup> This is the context of vulnerability that residents face. Adding insult to injury, Louisiana’s perverse Industrial Tax Exemption Program removes 80 percent of a plant’s value from local tax rolls for up to ten years, depriving communities of critical tax resources for libraries, schools, and clinics.<sup>123</sup> Residents in Cancer Alley live in a perennial state of emergency from catastrophic storms, floods, toxic releases of chemicals, and spills. Such trauma is compounded by stay-indoors orders, negligent oversight, and poor health outcomes and morbidities from diseases like COVID-19. People with the least resources and legal knowledge to resist are burdened with presenting a cogent case of harm against powerful actors with the backing of the state regulatory apparatus. This is a particular challenge when environmental degradation appears naturalized in the form of floods and storms, or as invisible toxins in the air and water. Such embedded, imbricated effects can be easily veiled. In effect, any earnest attempt to correlate hazards with emissions and their impact on communities is left to the enterprising solutions of residents themselves, who document excessive chemical releases using low-tech EPA “grab bucket” kits, whose samples must be tested in a private lab. The samples add legitimacy to residents’ stories of respiratory illnesses, skin irritations, cancer, stillbirths, and general trauma. With the tools of citizen science, they have managed to challenge assertions by powerful authorities



FIGURE 11. Rise St. James founder, Sharon Lavigne, protests the state's approval of a \$12 billion plastics facility proposed by the Taiwan-based Formosa, which purchased 2,400 acres of the former Buena Vista Plantation. Her efforts not only halted the project, but she was recognized with the 2021 Goldman Environmental Prize for her grassroots organization work. Photo courtesy of Steve Pavey.

who downplay emergency events. "Climate change to them is not an existential threat," says Tahir, who leads social justice bike tours for the Louisiana Bucket Brigade. "They're in the trenches."<sup>124</sup>

#### RESISTANCE IS MOUNTING

A renewed sense of energy has taken hold among residents who are publicly and forcefully protesting plans by companies with powerful backers to build or expand operations. One of the region's community organizers, a retired schoolteacher, Sharon Lavigne, said she just got tired of the lies and growing sickness. She began organizing against the \$12 billion Formosa plastics project in St. James Parish. That was in 2018. The efforts of her group, Rise St. James, has so far managed to notch several victories. "I felt desperation living in a world full of pollution and people dying," Lavigne explained. "Homes depreciated. Our way of living changed since industry invaded us."<sup>125</sup> Lavigne, who was recognized in 2021 with the Goldman Environmental Prize, the second recipient in Cancer Alley, said the governor and local parish and port officials welcomed Formosa

without notifying residents. The Taiwan-based company purchased 2,400 acres on the former Buena Vista Plantation.

According to its air permit application, Formosa would be the single largest emitter of ethylene oxide and benzene (both carcinogens) in a state that averages the highest toxic air emissions per mile in the country. “They aren’t informing the community about toxic air pollutants that will poison us. . . . We have to defend our community.”<sup>126</sup> Lavigne’s organization partnered with the Louisiana Bucket Brigade, Healthy Gulf, and the Center for Biological Diversity to successfully petition the federal government to halt permit approvals for the Formosa project, which was dubiously named the “Sunshine” project. The Formosa footprint along the west bank of the Mississippi includes chemical complexes, ship and barge docks, railroads, and power lines adjacent to the river, as well as wetlands. The lawsuit by Rise St. James cites several environmental factors: loss of wetlands in construction, pollution of single-use plastics, and toxic emissions. It also alleges the Army Corps of Engineers failed to consider environmental damages and public health risks under the National Environmental Policy Act. Petrochemical companies are also required by federal law to identify historic properties and cemeteries threatened by development. Rise St. James alleges that the Corps failed to adequately consider the harm to slave burial grounds on the site, which is a violation of the National Historic Preservation Act: “The Plastics Facility is sited on two 19th century sugarcane plantations, which include two cemeteries that contain the remains of enslaved people.”<sup>127</sup>

Plants typically hire for-profit archaeological firms, who are incentivized to produce reports favorable to plant owners.<sup>128</sup> “If they find positive evidence of remains there, that puts a sinker torpedo in their plans,” said Justin Kray, a cartographer.<sup>129</sup> Formosa’s private archaeology firm, Cox-McClain, dug near but missed four gravesites of the Arcadia cemetery, which is known to the community. The Formosa archaeologist relied solely on a single historical survey that omitted most of the cemetery remains of the period. The 1894 Mississippi River Commission report is a poor index for what the firm was supposedly investigating, according to the researcher Imani Jacqueline Brown. An investigation of the US Coast Survey Maps of 1877 and 1878 lists several markings of cemeteries on the Formosa footprint, located at the Eline, Acadia, and Buena Vista Plantations. “The [Cox-McClain] firm came to the conclusion that there were not cultural resources on site that should impede Formosa’s development.”<sup>130</sup> A simple cross-reference of the other two maps would lead to a substantively different conclusion. However, such due diligence rarely occurs. Brown, who is a researcher with Forensic Architecture, studied over fifty field reports from different for-profit archaeologists and found a systemic lack of regard for antebellum Black cemeteries. In 2015, a cemetery with a thousand artifacts was uncovered on the Monroe/Houmas and Bruslie Plantations, now owned by Shell Oil Company, during a survey for a proposed expansion of the Shell Convent Refinery. For decades, Black residents of

neighboring communities had attempted to alert archaeologists and state officials to the locations of these cemeteries.<sup>131</sup>

#### RECLAIMING THE NARRATIVE

On September 14, 2022, a state judge tossed out Formosa's air permits, telling state regulators to start from the beginning. In a thirty-four-page ruling, the Nineteenth Judicial District judge said the department wrongly approved the permit without conducting a full environmental justice analysis to see if the plant disproportionately harmed minority communities.<sup>132</sup> Meanwhile, the Corps of Engineers announced on November 14, 2020, that it would reevaluate its wetlands permit for Formosa Plastics. In the intervening period, Rise St. James's archaeology consultants confirmed evidence of a slave cemetery on the property. On August 18, 2021, the acting commanding general of the US Army Corps of Engineers ordered the Corps to prepare an Environmental Impact Statement to assess Formosa's potential impacts on the quality of the human environment in the region, potentially delaying the project for years. "The Army Corps has finally heard our pleas and understands our pain. With God's help, Formosa Plastics will soon pull out of our community," said Lavigne. "Nobody took it upon themselves to speak for St. James Parish until we started working to stop Formosa Plastics. Now the world is watching this important victory for environmental justice."<sup>133</sup>

Brown and Forensics Architecture say there is likely a cemetery for enslaved people at each of the five hundred plantations that lined the river before the twentieth century. Comparing satellite imagery with earlier aerial photographs and historical surveys, some of which were hand-drawn, researchers can reconstruct a landscape that once existed. They focus on anomalies in the landscape that may represent ruins of sugar mills or groves of trees that marked where enslaved people were interred. A basic understanding of "plantation spatial logics" would point researchers to likely sites. Colonial land grants issued territory by parcels marked in 40 to 80 French arpents, or 1.5 to 3 miles, from the river to the back swamp. The land would have been accessed by a main plantation road. The industrial sugar mill and the enslaved quarters would reside on this grid to the rear. Larger plantations may contain two cemeteries, one at the end of the first arpent and one at the end of the edge of the second arpent. Enslaved cemeteries were near the back swamps. As we have read, those swamps were drained during periods of increased cultivation, so some remains became marooned in the middle of cultivated fields, which can now be identified as topographic anomalies. Over time, a sacred grove becomes part of the landscape. "Logic tells us that if people were enslaved on this land and they died on this land, chances are they are buried on this land," said Lenora Gobert, a genealogist with the Louisiana Bucket Brigade. "Every plantation has a cemetery. They lived there, they died there, they are buried there."<sup>134</sup> While state archaeologists often identify cultural resources on high ground near river levees,

enslaved interments are more likely to occupy the lower “liminal zone” behind plantation houses near or within the forests. “While we have no data on cemeteries beyond the forests’ edge, it’s probable that cemeteries exist within them,” says Brown. Anomalies within these “zones of probability” should be investigated for possible remains.

While state law allows a company to dig up the historical remains and move them, the local activists believe that enough negative publicity will push policy makers and local council members to reevaluate their support of such projects. They also hope to apply pressure to the financial backers that issue bond sales for them. “Our work is to craft the narrative,” said Anne Rolfes, founder of the Louisiana Bucket Brigade. “Do you think Formosa is going to try to dig people up? That would be a serious error.”<sup>135</sup>

Much history of African American freetowns is yet to be written. It has behooved the plant owners to obfuscate historical claims these communities have to the area. With some exceptions, local tourism projects reconstruct plantation homes and a benevolent spin on the brutality of a slave economy. Yet new artifacts are being documented despite resistance by corporate landowners. Such knowledge here is power. Formosa, for example, had been told to fence off the gravesite discovered in 2015 and maintain a certain distance from it but was captured on drone footage violating the stay-away order. Subsequently, the Louisiana Legislature passed a law in the 2021 session banning drones from pipeline operations. “It’s a response to what’s happening. Every punch we give, they run to the legislature to implement dictatorial tactics that won’t work,” said Rolfes. “It shows our strength.”<sup>136</sup> This history faces hostile forces. Forensic Architecture identified 1,200 possible interment sites from a mosaic of 1940 aerial images. Fewer than 350 of them remained in 2021. The Louisiana Department of Economic Development identifies 200 “development-ready” sites along the river. Those in areas slated for development need to be urgently investigated, writes Brown. “Moreover, the entire landscape is revealed as holding historical and cultural value that we can still recover.”<sup>137</sup>

This ongoing struggle highlights historical connections to the political economy of plantation agriculture and the contemporary petrochemical industry that replaced it. It also serves as a hopeful coda to community efforts to reclaim the notion of “public good” through civil disobedience, marches, legal claims, and public pressure on banks that fund the fossil fuel industries. Armed with buckets and bullhorns, residents of Cancer Alley have transformed their private suffering into a public battlefield. On the streets, in the courthouses, in the media, their confrontations are breaking the historical cycle of racialized violence. Louisiana already ranks number 1 in the nation of per capita petroleum consumption because of its petrochemical and oil and gas industries.<sup>138</sup> Residents are writing historical counternarratives to the pastoral antebellum South to help return sovereignty to those who have lived and labored here for

generations. “If we keep that logic in mind on this process it makes sense of what we are trying to do,” Gobert said during a Zoom workshop. “W. E. B. Du Bois once said the Negro has no history. In 2021, if the Negro has no history, he’s expendable. We’re showing he is not expendable. We are building a cultural defense against the petrochemical industry.”<sup>139</sup>