1

Environment, Modernity, Inequality

One morning in 1987, on the Southeast Side of Chicago, several African American environmental justice activists, along with their white allies from a large environmental organization, engaged in an act of civil disobedience against an incinerator operator located in the community. They coordinated a lockdown, chaining themselves to vehicles placed in the path of trucks transporting hazardous materials for incineration. The activists held their ground for several hours, in defiance of the company—one of dozens of highly polluting operations in this African American community. By the end of the day, the coalition had turned away no fewer than fifty-seven waste trucks.[1] Hazel Johnson, founder of the environmental justice group People for Community Recovery (PCR), recounted this story on several occasions and was always proud of the fact that her group had led the demonstration. Indeed, this was a remarkable mobilization and impressive act of resistance from within a small, low-income community of color.

This case was important not only because it reflected the power of local community-based activism against environmental inequality—the heavy burden of toxic pollution imposed on poor communities and people of color—but also because it involved a multiracial collaboration between grassroots social movement organizations (SMOs) and because all actors involved in this seemingly local struggle have strong transnational ties. Following this action, PCR staff members would soon travel to and work with activists from Brazil, Nigeria, Puerto Rico, South Africa, and various Native American communities. Their collaborating environmental organization in the lockdown action was Greenpeace, a global nongovernmental organization (NGO) with offices, personnel, and campaigns in dozens of

nations, and the company being targeted in this action was ChemWaste, a hazardous materials subsidiary of Waste Management (WMX). At the time, WMX was the world's largest waste management firm, with revenue in the billions of dollars and operations on several continents. In this light, what appeared to be a conflict between activists and a company in one small community was also reflective of how many environmental justice struggles are simultaneously local and global and how this case foreshadowed the growing globalization of the environmental justice movement.

PCR was born out of a conflict over health and environmental justice that had deep local roots and an international reach. The organization faced insensitivity from local elected officials and government agencies whose charge was to protect the environment and public health. Local activists succeeded by building a support base at home and outside their community to raise the stakes for the offenders, who now faced formidable opposition. PCR's battle against ChemWaste that day occurred at the same moment many global South communities were being targeted by waste firms and chemical producers. Indeed, in some ways, the successes of groups like PCR often placed greater pressure on communities in the global South, where people have command of fewer resources.[2] Transnational environmental justice offenses require transnational responses.

Four Interventions

This book is an exploration of the export of hazardous waste (through trading and dumping) to poor communities and communities of color around the world and charts the mobilization of transnational environmental justice movement networks to document and resist these practices. Building on the work of scholars of environmental justice studies, environmental sociology, social movement theory, and race theory, I argue that the practice of waste dumping across national borders is a form of transnational environmental inequality and is reflective of unequal, and deeply racialized, relations between and within global North and South communities that transnational social movement networks are combating with great ingenuity. I use the term *global South* mainly as a social—rather than strictly geographic—designation meant to encompass politically and economically vulnerable communities. Thus, while I sometimes use the terms

global North nations and *global South nations,* I also include communities of color and poor communities in industrialized nations within the "South" designation (or what some observers call "the South of the North"[3]) and privileged communities in poor nations within the "North" designation (or the "North of the South"[4]). In this way, we complicate the basic spatial, geographic, and cultural dichotomies implied by the global North/global South binary. Thus, we can also draw clear connections between environmental inequalities facing communities domestically and internationally, because these processes are tightly linked, have common roots, and spawn similar responses from citizens and activists.[5]

Every year, northern nations and corporations produce millions of tons of toxic waste from industry, consumers, municipalities, state institutions, computers and electronics products, and agricultural practices. These hazards directly and indirectly contribute to high rates of human (and nonhuman) morbidity and mortality and to ecosystem damage on every continent and ocean system. As long as societies produce this waste, it must go somewhere, but few communities welcome these poisons within their borders. How then do so many communities across the globe end up playing host to these deadly substances? In what ways are they fighting back? In what sense do these conflicts reflect larger historical, economic, and social realities between the global North and South and between groups within these societies? How then do we theorize race, class, nation, and the environment in a transnational context? These are some of the questions I explore in this study, through four *interventions,* or critical contributions to a number of scholarly literatures.

Intervention One: Transnational Waste Trading and Dumping

The first intervention concerns the literatures on the transnational waste trade. These studies mainly focus on the trend of waste shifting from North to South, how these practices reflect global economic inequalities among nations,[6] and how NGOs have participated in shaping multilateral agreements regulating or banning these practices. Drawing on international relations, legal studies, and world systems theory, the first series of scholarly studies of the international waste trade laid the foundation for new questions. For example, this literature paid little attention to how one might conceptually frame this problem in ways that speak to ongoing debates in

race and ethnic studies, environmental sociology, or social movement theory. That is, referring to transnational hazardous waste dumping as environmental racism without linking it to theories of racism—as scholars have generally done—is limiting. Similarly, examining transnational waste dumping without reference to theories of environment and modernity leaves out critical questions of the role of capital and state formation that facilitate this process. Finally, if we focus mainly on the work that environmental movements do within formal multilateral policymaking bodies, we overlook the more routine, informal, grassroots efforts of movements within the very communities targeted for toxic waste dumping and how they build strategic ties to NGOs outside their nations, thus creating influential movement networks. Most important, a focus on movement networks linked to the target sites of waste dumping challenges the perception in the literature that citizens in these nations are powerless victims.

Intervention Two: Environmental Justice Studies and Late Modernity

The second intervention is my effort to place environmental justice studies in a broader framework that considers the toxic nature of late modernity itself. That is, I seek to build on environmental justice studies' focus on how environmentally unequal practices harm vulnerable populations to explore more fully how these inequalities reveal something deeply problematic about the relationship between modernity and the environment.[7] I attend to this concern primarily through a critical reading of theories of environment-society dynamics, focused on the impacts of industrialization on ecosystems and social systems. Ecological modernization theory contends that industries are integrating sustainability goals into their core operations, leading to measurable improvements in ecosystems, while Ulrich Beck's risk society and Allan Schnaiberg's treadmill of production theories essentially argue the opposite—that is, market economies and governments are increasingly socially and ecologically unsustainable in this late modern era.[8] I focus on the extent to which these frameworks hold explanatory power. I find that ecological modernization theory works when coupled with global environmental inequalities, because the latter facilitate the shift of negative environmental externalities from privileged northern communities to poorer, southern communities with people of color majorities.[9] But ultimately the risk society and treadmill of produc-

tion perspectives are more productive for understanding the global dynamics of political economy and toxicity in modern nation-states. I address these questions in greater depth later in this chapter.

Intervention Three: Environment, Race, Class, and Nation

The third intervention is the need to unpack the relationship among modernity, the environment, race, class, and nation. Building on the second intervention, I begin with the claim that the basic functions of industrialized societies (primarily in the global North) involve the production of both intense ecological harm and extensive social hierarchies (primarily by race, class, gender, and nation).[10] The intersection of social inequalities with ecological harm produces environmental inequality both domestically (within nations) and on a transnational scale (between northern and southern nations and regions).[11] Ecological disorganization and environmental inequality and racism are therefore fundamental to the project of modern nation building. The extension of unearned privileges to certain groups and unjust disadvantages to "others" in the context of the systemic manipulation and exploitation of nature is a defining feature of modern nation-states. This dynamic alters our understanding of nation and of the nature of racism and class domination. Not only is the state's existence predicated on the manipulation of the natural environment and the devaluation of people of color, indigenous peoples, and the poor, but the practices of racism and class domination themselves must be redefined as the domination of people and their environment. Thus, in linking theories of modernity, race, class, and the environment, I contend that the exploitation of humans and the environment is a unified practice and is the foundation of racism and class inequalities, a cornerstone of modern nation building itself. These observations build on the work of environmental historians,[12] environmental sociologists,[13] and race theorists[14] who wrestle with the relationships between environmental harm and modernity and the relationships between racism and modernity but do so separately. I intend to join these parallel conversations. More specifically, I ask how we can productively merge environmental justice studies and race theories.

One question in that regard concerns the current discourse and debates over whether today's racial common sense adheres more closely to a color-blind (or postracial) model versus a more visible, structured racial reality.[15]

And while racism may operate differently across national boundaries, the rhetoric of color-blind race relations has become a global common sense, as we see it deployed in the United States, Mexico, Puerto Rico, France, and Australia, to name only a few places.[16] Racism for many theorists has become centered around the question of colorblindness largely because in this late modern era, many of the technologies of racism enjoy greater invisibility. Toward that end, I also grapple with the ideas of racial justice activists and critical race theorists who have consistently described racism through the use of the metaphor of poison or a toxic practice. I develop this metaphor to reveal how theories of racism and theories of environmental justice can be integrated to demonstrate both the symbolic and material toxicity of racism and class domination. Through the concept of toxicity, we understand how racism and class inequalities can simultaneously operate invisibly and quite blatantly, the way risks move through Ulrich Beck's risk society and the way power moves through Allan Schnaiberg's treadmill of production. I argue that racism and class inequalities reinforce each other and become more visible when vulnerable communities confront environmental harm. I address these issues in greater depth later in this chapter.

Intervention Four: Social Movements, Nation-States, and Capital

The fourth intervention I pursue builds on the first three. Here I engage in a conversation with scholars regarding the nature and efficacy of social movements, particularly transnational social movement organizations (TSMOs) and transnational movement networks, and their efforts to combat the environmental inequalities associated with the project of nation building and the globalization of market economies. In so doing, these activist organizations and their networks necessarily work at multiple geographic, geopolitical, symbolic, and cultural scales. This includes confronting state authorities at the local, regional, national, and international levels, as well as efforts to shape and enforce international conventions, treaties, and multilateral environmental agreements; it also involves policy work and negotiations with international financial institutions (IFIs) such as the World Bank and the International Monetary Fund (IMF) and confronting transnational corporations (TNCs) for their social and environmental practices. Local and transnational SMOs featured in this study strategically employ their energies and target authorities at all scales, depending on

which point of access is likely to yield the greatest political payoff. This "venue shopping" is particularly useful when infrastructure or political support is insufficient at any one level.[17] For example, one case features NGOs in the Philippines that invoke the Philippine constitution, the U.S. Environmental Protection Agency's (USEPA) regulatory framework, and the Stockholm Convention on the Elimination of Persistent Organic Pollutants to frame and bolster their argument for the introduction of new waste management legislation in their nation. This tactic was successful and indicates that transnational movements for environmental justice have become quite sophisticated at combating global environmental inequalities in numerous political spaces, using multiple tactics. This is also indicative of a grounded form of global citizenship that is illuminated in practice, through the engagement of a range of institutions. In my effort to draw on the work of social movement scholars, I argue that these researchers might pay more attention to the ways in which national and transnational political opportunity structures are intensely racialized, classed, and routinely shaped by TNCs. Theoretically, this perspective seeks an integration of social movement theory with theories of racism and environmental justice studies around several questions: What are the targets of social movements in a global political economy? What tactics and strategies are movements developing in a globalizing world, and how effective are they? How are transnational political and economic processes racialized and classed, and what is the significance for social movements fighting for justice in poor communities and communities of color? These questions imply critiques of social movement theory, as leading scholars in that field have yet to raise these concerns.[18] I address these questions in greater depth in the next chapter.

Together, these four interventions converge to make contributions to the study of environmental sociology; theories of race, class, and modernity; environmental justice studies; and social movement theory.

The next sections introduce the primary subject of concern in this study: the global trade and shifting of hazardous wastes from communities in the global North to those in the global South. I then interrogate this problem through the lenses of environmental justice studies, the risk society, the treadmill of production, and ecological modernization.

The Global Waste Trade

Since the end of World War II, industrialized nations have generated increasing volumes of hazardous chemical wastes, a result of technological developments across all industry sectors and a culture of increasing acceptance of risk in late modernity. Today it is estimated that nearly 3 million tons of hazardous waste from the United States and other industrialized nations cross international borders each year. Of the total volume of hazardous waste produced worldwide, 90 percent of it originates in industrialized nations. Much of this waste is being shipped from Europe, the United States, and Japan to nations in Latin America, the Caribbean, South and Southeast Asia, and Africa. This is a global problem paralleling the domestic struggle against environmental inequality within the United States. And as with all other forms of racism and inequality, it is historically contingent on forces that are in constant tension and therefore change over time. In fact, the problems of the global environmental racism and inequality have intensified over the past two decades, revealing how fluid and dynamic social hierarchies can be.[19]

There are four principal reasons for this shift of toxic burdens to the global South. First is the exponential increase in the production of hazardous waste and the emergence of more stringent environmental regulations in industrialized nations. These changes have increased the costs of waste treatment and disposal in the North, which are magnitudes greater than in most southern nations. Similarly, the typical legal apparatus found in industrialized nations is much more burdensome when compared to the lax regulatory regimes in many nations in the South, which allow dumping at a fraction of the cost. This is due partly to a comparatively more influential environmental movement sector in industrialized nations, which has successfully produced a regulatory structure that provides a minimal level of oversight over polluting firms. The unintended consequence of this environmentalist "success" in the North is to provide an incentive for the worst polluters to seek disposal sites beyond national borders.[20]

A second factor pushing hazardous waste beyond northern borders is the widespread need for fiscal relief among southern nations. This need—rooted in a long history of colonialism and contemporary loan and debt

arrangements between southern and northern nations—often leads government officials in the South to accept financial compensation in exchange for permission to dump chemical wastes in their borders.[21] Many observers (for example, economists and business leaders in northern countries) have described these transactions as "economically efficient," while others (for example, African elected officials and environmentalists in the South) prefer the term *garbage imperialism*.[22]

The third driving force behind the international export of hazardous materials is the seemingly inexorable power of economic globalization, which has a logic that dictates that industries must cut costs and increase profits or simply fail.[23] Economic globalization allows and requires firms to access global (consumer and commercial) markets and labor forces, increase automation, and improve efficiencies in a twenty-four-hour economy that is more interdependent than ever before. The same logic applies to industries that manage the hazardous waste that market economies produce: they must access markets and buyers where the prices result in increasing their profits and reducing their costs. This means those wastes will be traded and dumped in nations and communities where, as a result of unstable states and vulnerable economies, pricing will be more profitable to waste management firms and brokers.

The fourth reason for the global waste trade is a racist and classist culture and ideology within northern communities and institutions that view toxic dumping on poor communities of color as perfectly acceptable. This ideology is best exemplified in an infamous internal World Bank memo authored in 1991 by Lawrence Summers, then chief economist and vice president of the World Bank:

> Shouldn't the World Bank be encouraging MORE migration of the dirty industries to the LDC [lesser developed countries]? I can think of three reasons. . . . 1) A given amount of health impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. I think the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable and we should face up to that. 2) I've always thought that under-populated countries in Africa are vastly UNDER-polluted, their air quality is probably vastly inefficiently low compared to Los Angeles or Mexico City. 3) The concern over an agent [pollutant] that causes a one in a million change in the odds of prostate cancer is obviously going to be much higher in a country where people [actually] survive to get prostate cancer than in a country [with higher mortality rates].[24]

No less disturbing than the content of the Summers memo are these points:

• In Summers's response to journalists and activists who later confronted him about the document he simply replied that the memo was meant to be "ironic." He did not deny the memo's content or its policy implications.

• The World Bank has indeed funded many toxic technology transfer schemes around the planet. Since the time of the Summers memo, those trends have continued, particularly in places like India and the Philippines, underscoring that the ideological position reflected in the memo was linked to the World Bank's actual policies.

• The consistency of the core reasoning of the memo with economic theory as it is taught to millions of university students each year and practiced by business leaders every day.[25] This is why global justice activists often critique the World Bank and IMF as sites of economic imperialism.[26]

• That the ideology that supports dumping on poor nations is also racist, because the peoples of most poor nations are primarily non-European peoples of color, and poverty is highly correlated with race around the globe.[27] Even the term *lesser developed country* (LDC) harkens back to theories of modernization that are infused with racism in that "economic development" is a code phrase for the degree to which a society can be considered civilized.

Despite the existence of numerous global conventions, international treaties, and national legislation in many countries that are intended to regulate and even prohibit the hazardous waste trade, toxic dumping in the global South continues. And environmental and social justice advocates continue to monitor and resist these practices.

The Waste Trade and Global Inequalities

Scholars of environmental justice studies and international relations have begun to tackle the question of global environmental inequality and racism. Much of the existing research on this topic comes from legal scholars wrestling with problems of international and domestic law on the waste trade—specifically, the legislation and treaties enacted to control these activities.[28] The legal literature centers mainly on one major pressing question: To what extent can domestic regulation and international agreements

control or minimize the waste trade? A growing body of social science research has begun to pay attention to the social and economic driving forces behind the waste trade.[29] Even a cursory examination of the nations that are importing waste (legally or illegally) into their borders makes it clear that they are states on the geopolitical and economic periphery, have endured colonization in the past several centuries, and often are populated by a majority of people of color. For example, France colonized the African nation of Benin, which, even after independence, remains in debt to France and several international financial institutions as it attempts to rebuild its economy. French waste traders recently offered to pay Benin large sums of money as compensation for accepting toxic cargo. Pellow, Weinberg, and Schnaiberg reported in 2001 that Benin's motivation to accept such payment stemmed largely from its desire to repay its loans to France—hence, the term "toxic colonialism" and a brief explanation for one of the causes of global environmental inequality and racism.

Jennifer Clapp's book *Toxic Exports* is an outstanding analysis of the waste trade and the international NGO response to it through the Basel Convention, an international agreement among nations intended to ban waste shipments from global North to global South nations.[30] The history of the waste trade and NGO efforts to shape international policy that Clapp presents is authoritative. But there are questions that remain. For example, how is the global transfer of hazardous wastes and technologies linked to the struggle for environmental justice domestically in global North and South nations? How do transnational environmental justice movement networks mobilize against the hazardous waste trade outside official policy venues?

The movement against toxic dumping in poor neighborhoods and communities of color in the United States emerged during the 1980s, just as the movement against the global waste trade was taking shape. These two parallel events were not disconnected. Shortly after the movement for environmental justice in the United States made headlines in the early 1980s, activists and policymakers began to take notice of similar patterns of environmental inequality around the globe. The Basel Convention was signed in 1989, during the height of the environmental justice movement's visibility in the United States. It is also probably not coincidental that Greenpeace, which has been involved in struggles against environmental inequality

across the United States, has been the principal advocate for a ban on the transnational trade in hazardous waste.[31]

Some scholars have noted that the majority of waste trading occurs among rich nation-states. For example, during the 1980s, at least 90 percent of the U.S. hazardous waste shipped abroad went to Canada, legally.[32] Much of the waste produced in North America and Europe is exchanged for compensation among these nations in a legalized system of toxic trade.[33] This is largely because the receiving nations have the technology to treat and manage such wastes and have negotiated for what they view as a fair price for the exchange. These practices began to change in the late 1980s as the cost of waste management skyrocketed, a result of relatively strict regulatory frameworks in northern nations. The export (whether through trade or dumping) of hazardous wastes to nations in the global South increased at the time and was problematic because, unlike trading among northern nations, few southern nations possess the infrastructure to properly treat and manage these wastes, and a fair price is hard to come by in such an unequal transaction. So while the majority of wastes produced in the North may remain within member nations of the Organization for Economic Cooperation and Development (OECD, and should, if the Basel Convention is adhered to), a significant portion of the most toxic of wastes still finds its way to the South.

African scholars and investigative journalists in global North nations were among the first and most outspoken critics of the international trade and dumping in hazardous wastes, defining this practice not only as an issue of ethics and morality but labeling it racist.[34] Philosopher Segun Gbadegesinn writes: "Since Africa has not been involved in generating the wastes, and since its people have not derived any comparable benefit from the outcome of the activities that led to these wastes (other than the accumulation of debt and poverty), it is unfair to impose on her the burden of waste disposal. . . . Toxic-waste dumping uses Africa as the dunghill for unwanted poisonous by-product of the excess consumption of developed nations."[35] Echoing this point of view, West African scholar Mutombo Mpanya writes,

> Africa is perceived of as a continent of immense jungles, populated by naïve people who are guided by corrupt and unintelligent leadership. . . . An official from Rodell Development, Inc., asked to comment on the possible health hazards its

toxic waste shipment, bound for Liberia, might pose to the indigenous population responded, "If anything happens to the Africans because of the waste, that's too bad. It's not our problem." Basically, the policies of industrial countries are designed to turn the lands of Africa and other Third World nations into landfills—the garbage dumps of prosperous industrial powers—in order to keep the Western world beautiful.[36]

Mpanya calls attention to the historic and contemporary potent and popular images of Africa as wild, untamed, corrupt and immoral, and unclean.[37] He also underscores the relational nature of environmental inequality and racism: that it is largely about concentrating hazards in others' backyards in order to keep one's own backyard clean. Another study reinforces this perspective: "Exporting hazardous waste results in higher environmental quality in the country of export, while the costs for proper waste management are externalized to the importing country."[38]

Government officials and activists in global South nations have been up in arms about the waste trade since the 1980s, and like some African scholars, they have emphasized the view that racism and historically rooted political economic relations are at the root of this practice. One West African head of state famously referred to waste dumping on the continent as "toxic colonialism."[39] An official of an overseas environmental organization told a U.S.-based journalist, "I am concerned that if U.S. people think of us as their backyard, they can also think of us as their outhouse."[40]

The waste trade really began when exporters targeted Africa in the 1980s, then moved to Latin America and South Asia, and then Eastern Europe, revealing both the power of transnational and grassroots movement networks to push traders from one part of the world to another and a racial global hierarchy that is all too familiar. For the past half-millennium, Africa has served as the world's primary colony for precious natural resources and slave labor. Viewed through this historical lens, the trajectory from slavery to colonialism and toxic waste dumping should surprise few observers. More generally, the dumping of toxic waste from global North to global South reflects the continuing corporate quest for the "path of least resistance"[41] as much as it embodies the practice of securing global race and class privileges.[42] And as R. Scott Frey argues, sending poisons to poor nations around the globe adheres to the historical pattern of siphoning wealth out of these former colonies, but it is also a new form of exploitation because it involves the export of "anti-wealth"[43]—the opposite of

wealth—substances that drain a country's resources and poison its ability to produce resources in the future.

Race, class, and national inequalities are the primary drivers behind this drama, but the story is more complex. The environmental and environmental justice movements in the North have unwittingly contributed (at least partially) to the flow of destructive multinational corporate operations and hazardous wastes to the South.[44] As one environmental sociologist writes, "Ironically, the development of a North American environmental justice movement, which provided for greater environmental protection and greater citizen involvement in the [industrial facility and hazardous waste] permitting process, contributed to an intensified assault against native peoples in the Third World."[45]

Andrew Szasz documented the extraordinary success of the U.S. movement for ecopopulism during the 1980s and 1990s in its efforts to oppose the opening or expansion of landfills and incinerators across the nation at that time,[46] which built up enormous pressures on industry to find new dumping grounds. Grassroots opposition increased dramatically, and public hearings were a visible flash point for grievances. As one author noted: "Presently, it is very difficult in several industrialized countries to site new landfills or incinerators, and the situation has been described as an 'environmental emergency.' In fact, this is one of the reasons why hazardous wastes are being exported."[47]

Not surprisingly, the international dumping of hazardous wastes spiked during that period, creating a crisis of global environmental inequality and leading activists and governments to agree to the Basel Convention in 1989 and its amendment, the Basel Ban on North-South waste flows, in 1995.

There are two lessons here. The first is a cautionary tale in that social movements in the North should perhaps be more careful about how they approach the problem of domestic pollution, given the realities of economic globalization. There is a second, more hopeful, lesson: social movements have extraordinary power and can change the policies and practices of some of the world's largest corporations and most powerful governments. That nexus of state and corporate power is what I call the *political economic opportunity structure,* and movements are becoming adept at engaging those forces.[48] The real challenge is how to guide that power in ways that produce more progressive outcomes.

Environmental Justice Studies

Since the early 1970s, an increasing number of scholars in the United States have focused on the distributive impacts of environmental pollution on different social classes and racial and ethnic groups. Hundreds of studies have concluded that people of color and low-income populations bear a disproportionate burden of environmental exposure. Known variously as environmental racism, environmental inequality, or environmental injustice, this phenomenon has captured a great deal of scholarly attention in recent years.[49]

During this same period of scholarly interest in environmental inequality, a powerful social force, the environmental justice movement, emerged from within communities of color and poor and working-class white communities around the United States that have been inundated with air, water, and soil pollution.[50] The neighborhoods, playgrounds, schools, and workplaces where these populations "live, work, and play"[51] have been unequally burdened with a range of toxics, pollution, and hazardous and municipal waste from industry, agriculture, the military, and transportation sources.[52] The environmental justice movement is a grassroots response to the decline in quality of life as our society reinforces existing social—particularly racial, class, and gender—inequalities. As environmental degradation expands, we can expect that more and more communities will experience a similar outrage and contribute to the environmental justice movement.

Researchers from a range of disciplines conclude that the causes of environmental inequality and racism in the United States are varied and complex—for example:

• The tendency for corporations and governments to follow the path of least resistance in their decision making about where to locate toxic facilities and other environmental hazards.[53] Regulators and owners of noxious industries are very much aware that poor neighborhoods and communities of color have significantly less political clout than other groups, so there is less risk when they concentrate locally unwanted land uses (LULUs) in these areas.

• Housing market dynamics that frequently result in the colocation of people of color and environmental hazards.[54] Redlining and informal racist practices by lending institutions and real estate firms produce residential segregation and restrict the physical mobility of certain groups in or near toxic zones.[55]

- The exclusion of community voices and public participation from environmental policymaking processes, including urban planning and rural natural resource extractive activities, while special interests such as industry are often deeply involved.[56]
- The relative invisibility of people of color and working-class persons from the mainstream, national environmental movement in the United States.[57] This typically includes organizations like the Sierra Club, the Audubon Society, and the National Wildlife Federation. This absence of cultural and class diversity is believed to reflect a narrow worldview of environmental problems and solutions, which typically excludes the experiences of immigrants, poor people, indigenous peoples, and people of color.
- Racially and economically inequitable urban planning regimes and zoning practices.[58]
- The widespread violation of treaties with indigenous nations in North America.[59]
- A relatively weak labor and occupational health movement in the United States.[60]

One overarching social force that runs through each of these causes is institutional racism. Institutional racism is evident when institutions (governments, corporations, agencies, and even large environmental organizations) make decisions that appear to be race neutral in their intent but often result in racially unequal impacts.[61] The laissez-faire approach to zoning in the city of Houston (there is no zoning) is a case in point. Within such an arrangement, one would expect a matrix of factors to influence the location of LULUs, yet nearly all of that city's landfills are in communities of color, suggesting that race is the primary causal variable.[62] Thus, at the micro- and the macrosociological scales, environmental racism is linked not only to biased environmental policymaking but, more broadly, to racially biased practices within and across a myriad of institutions.

Class and gender inequalities are also deeply pronounced within environmental injustices. Class inequality is actually quite overt because market economies publicly embrace the ideology of wealth accumulation and profit for those who are able to achieve these goals over those who cannot. Thus, according to this logic, those who remain at or near the bottom of the economic pecking order—and therefore are more likely to live and work in

environmentally hazardous conditions—are there because they simply have not availed themselves of what is available for the taking. Gender inequalities are integrally embedded in this system for four reasons. First, men tend to exercise the greatest control over states and corporations that produce environmental and economic inequalities, thus gaining the material and social benefits of both the economic and political power that results from and is reflected in environmental injustices. Second, men exercise the greatest control over national labor and mainstream environmental organizations combating economic and environmental inequalities and enjoy the status and credit for valiantly representing the interests of "the people" in national discourses and campaigns among such organizations seeking to combat the excesses of market economies.[63] Third, women tend to benefit the least from these struggles, as they are often physically and socially relegated to some of the most toxic residential and occupational spaces in communities and workplaces, and they are less politically visible because they tend to work for smaller, community-based, grassroots environmental justice and neighborhood organizations that rarely make headlines and survive on volunteer labor and small grants.[64] Finally, the very material landscapes being polluted and fought over in environmental justice struggles are deeply imbued with meanings that are raced, classed, and gendered and contained in local and global imaginaries, state policies, corporate practices, and activist resistance campaigns. The production of social inequalities by race, class, gender, and nation is not an aberration or the result of market failures. Rather, it is evidence of the normal, routine, functioning of capitalist economies. Modern market economies are *supposed* to produce social inequalities and environmental inequalities.[65]

The great majority of research in environmental justice studies is limited to the domestic sphere, particularly in the United States, so only recently have scholars begun to consider the fact that environmental inequality also occurs across nation-states or within other nations.[66] In this book, I explore how our understanding of environmental racism and inequality is transformed when we observe this phenomenon at work on a transnational scale in a global political economic system. What are the parallels and connections among corporate, nation-state, and social movement practices in the global North and those in the global South? Are the relationships between global North and global South environmental justice groups based

on power sharing, consensus, and mutual respect, or do they reflect the inequalities and tensions we have observed domestically within the United States? What does all of this tell us about the ways economic globalization, racism, class inequalities, and environmental protection are changing in the twenty-first century? On a broader plane, how do environmental justice struggles reflect more fundamental problematics such as the tensions among capitalism, the state, the environment, and society in the context of late modernity? In the remainder of this chapter, I explore these questions, followed by a discussion of the methodological approach and an overview of the book.

Modernity, Environments, and Inequalities

Within environmental sociology, there are two broad schools of thought I address. The first is exemplified by the growing group of scholars writing on and advocating the idea of ecological modernization: the view that states and industries are improving their environmental performance with remarkable results that benefit the social and natural worlds. This school of thought is in keeping with more mainstream views of modernity, for example, where society is seen as evolving toward a state where free rational individuals are in control of their own affairs and those of the world. Modernity is a positive thing for the world, and "to be modern is to believe that the masterful transformation of the world is possible, indeed that it is likely."[67] The second school of environmental sociology I consider is characterized by scholars who view late modernity as a process that has created grave environmental and social problems around the globe. Within this school, I group together and consider the work of scholars of environmental justice studies, scholars advancing the treadmill of production theory, and those subscribing to the risk society thesis.

Ecological Modernization The core hypothesis of ecological modernization theory is that the design, performance, and evaluation of production processes have been increasingly based on ecological criteria rather than simply being rooted in a narrow economic calculus.[68] In contrast to other streams of environmental social science, and using an institutional analysis, ecological modernization theorists examine the extent to which, in the late twentieth and early twenty-first centuries, the environment has be-

come an independent sphere in technology design, development, and decision making. These theorists argue that industrial society entered a new period in the 1980s, marked by new technologies, innovative entrepreneurs, and farsighted financiers who are bringing about a new generation of industrial innovation. This period, referred to as reconstruction, is marked by the emergence of an ecological sphere that exists independent of any other (economic, policy, or societal, for example).[69]

As a theory of industrial change, ecological modernization suggests that we have entered a new industrial revolution, one of restructuring production processes along ecological lines. But how does this approach locate and address the roots of the ecological crisis? Leading ecological modernization theorist Arthur Mol offers a perspective on this question: "Ecological modernization indicates the possibility of overcoming the environmental crisis while making use of the institutions of modernity and without leaving the path of modernization. The project aims at 'modernizing modernity' by repairing a structural design fault of modernity: the institutionalized destruction of nature."[70] In this way, Mol acknowledges that modernity appears to be predicated on environmental destruction, but only insofar as this is a design fault that needs repair. So in a problematic logical maneuver, ecological modernization maintains that both the cause of and solution to the environmental crisis lie within the structure of modernity itself.[71] While other scholars argue that capitalism and modernity are the roots of ecological harm and are therefore incompatible with sustainability, ecological modernization theorists[72] claim that economic development and rising environmental standards "go hand in hand."[73]

With regard to the question of transnational or global environmental trends, some ecological modernization scholars go so far as to argue that contrary to the "race to the bottom" or "pollution haven" thesis (wherein companies export environmental hazards to less economically powerful regions of the world), U.S. multinational chemical corporations are "exporting environmentalism" when they locate in global South nations like Brazil and Mexico and raise environmental standards in those nations.[74] Ecological modernization views economic growth as no longer necessarily linked to environmental harm.

Ecological modernization rests on at least two key problematic assumptions: that such technological improvements are economically feasible and

that they are politically attainable. The growth and popularity of the ecological modernization thesis suggest several critical questions for analysis with respect to the transnational trade and dumping of hazardous wastes. First, is there sufficient evidence that the environment has become a key, independent factor in the technological design, development, and implementation of core waste-producing industries? If there indeed is evidence of progressive environmental change in these industries, what is the nature of the improvements, and why did the industry make these changes? In what ways is the ecological modernization (that is, the greening) of these industries linked to social movement action around environmental justice?

The evidence suggests that while some firms and states are incorporating ecological principles into their policies and practices, this is not nearly as widespread as ecological modernization proponents contend. Corporate-led globalization has continued to ravage the planet's fragile ecosystems, with few signs of abatement. Moreover, the social harms associated with late modern capitalism are producing continuing and growing social inequalities and political unrest.

The Treadmill of Production This model is a widely referenced framework emphasizing the origins of environmental problems in the political economy of advanced capitalist societies.[75] In a dramatic departure from the ecological modernization thesis (and indeed predating that school of thought by several years), Schnaiberg and others argue that capitalist economies behave like a "treadmill of production" that continuously creates ecological and social harm through a self-reinforcing mechanism of (generally) increasing rates of production and consumption. The root of the problem is the inherent need in market economies for capital investment in order to generate goods for sale on the market, income for workers, and legitimacy for nation-states. In other words, capitalism is a system that is ideologically wedded to infinite economic growth. However, there are severe social and ecological consequences. With regard to the ecosystem, capitalist market economies require increasing extraction of materials and energy from natural systems. When resources are limited, the treadmill searches for alternative sources rather than conserving and restructuring production. The treadmill operates in this way to maintain a positive and ever increasing rate of return on investments (although with

routine fluctuations in economies, this is always variable). The state's role in this process is to facilitate capital growth and provide for social welfare and environmental protection, but these goals are dialectic: they exist in inherent tension.

The dialectic is reflective of two observations. First, most elements of ecological systems cannot fully meet both market value needs and social needs. And second, the treadmill of production prioritizes market value uses of ecosystems, despite the fact that other ecosystem uses are biological and social necessities for all classes of people. O'Connor reflects this point in his discussion of the "second contradiction" of capitalism, which involves capitalism's self-destructive tendency to appropriate a range of resources (labor power and natural resources, for instance) to the point at which the private costs of these activities spill over into the social arena.[76] The treadmill of production model reveals that, beginning in the post–World War II era—the era of late modern production—factories required greater material inputs than ever before as capitalism and consumer markets expanded nationally and internationally. Accordingly, this change necessitated the location, extraction, processing, and use of greater volumes of natural resources. Schnaiberg called these acts of natural resource depletion *withdrawals*. The other major change occurring in the late modern era was the exponential rise in the use of chemical inputs in production in the United States and other global North societies. Modernized factories were much more energy and chemical intensive in order to transform natural resources into market commodities more efficiently. This led to rising pollution levels, or what Schnaiberg called *additions*. As newer technologies were introduced over time, they were increasingly more chemical intensive or more reliant on automation and computerization, or both. So while creating more withdrawals and additions to and from the environment, these trends also led to the phaseout of many earlier forms of labor-intensive production, contributing to a massive disempowerment of labor. The environmental consequences of this arrangement include continued natural resource disruptions to feed the system, matched by increased pollution at the output end of the process. The social and economic impacts are also grave, because wealth is siphoned upward from the working classes to business and political elites, as wages at the bottom decrease, unemployment rises, and technology and automation displace even more workers to

ensure cost savings and higher profits for industry and shareholders. Since these changes affect the more vulnerable segments of the working population, low-income persons, women, and people of color experience the impacts disproportionately. Thus, ecological disorganization and class, race, and gender inequalities are inherent by-products of the system.

Treadmill scholars view the relationships among the state, capital, residents, and workers over environmental protection as an "enduring conflict"[77] because the goals of profit, natural resource access, wage stability and job protection, public welfare, and environmental protection exist in tension. Thus, progressive environmental and social policies are likely to occur only as a result of massive disruptive action on the part of grassroots social movements. Moreover, the treadmill model implies that more democratic ownership and control over production and state functions could ameliorate social and ecological problems more than piecemeal policies aimed at reducing the use or volume of certain chemicals or efforts to control rates of consumption or consumer choice of certain products.

According to Schnaiberg et al., at the roots of these conflicts are power struggles over access to social, economic, and environmental resources, located primarily in class differences between the wealthy and the workers. As Schnaiberg and his collaborators demonstrate, the dynamics of the treadmill of production patterns hold true for environmental politics under globalization, as mainly northern elites and investors dominate the world economy and can shift much of the social and environmental costs of the treadmill to the South.[78]

The treadmill model presents a much more productive portrait of the relationship among capitalism, the state, the citizenry, and nature than does ecological modernization. Even so, it is fundamentally rooted in a Marxist orientation that pays less attention to the dynamics of racism and culture in the division of social and environmental benefits and costs. This study incorporates the treadmill model while avoiding what some critics might see as its heavy economic emphasis by paying closer attention to other social forces that drive and inform market economies.

The Risk Society A related theoretical framework is Ulrich Beck's "risk society" thesis.[79] As a number of scholars have noted, pollution, or industrial "smoke," was for much of the twentieth century viewed as "the smell of

progress"[80] and was a strong indicator of economic vibrancy. When industrialists were challenged by neighborhood health activists or environmentalists concerned about ecological integrity or by workers concerned about occupational safety and health, their response has often been, "No smoke, no jobs,"[81] linking late modernity and subsistence to health-impairing and ecologically harmful practices. To be modern is to live in a risk society.

Modernity has become inextricably linked to the theory of the risk society. The risk society is marked not only by modern nation-state governance and citizenship practices, but also by a fundamental transformation in the relationship among capital, the state, and the environment—an exponential increase in the production and use of hazardous chemical substances. These practices emanate from the state and industry to civil society through consumption and disposal regimes, elevating the level of social and physical risk to scales never before imagined.[82] What this means is that the project of nation building, the very idea of the modern nation-state, is made possible by the existence of toxins—chemical poisons—that permeate every social institution, human body, and the natural world itself. To be modern, in short, is equated with a degree of manipulation of the natural and social worlds that puts both at great risk. To be modern also requires the subjugation and control over certain populations designated as others, less than fully deserving of citizenship, as a way of ameliorating the worst impacts of such a system on the privileged. These two tendencies are linked through the benefits that toxic systems of production produce for the privileged, and the externalization of the costs of that process to those spaces occupied by devalued and marginal others: people of color, the poor, indigenous persons, and even entire nations and regions of the globe.

Benton summarizes seven main features of Beck's risk society thesis.[83] He argues that according to Beck, the "new hazards" associated with the risk society:

- Are "unlimited in time and space"
- Are "socially unlimited in scope; potentially everyone is at risk"
- May be minimized but not eliminated
- Are irreversible
- Have "diverse sources, so that traditional methods of assigning responsibility do not work (Beck calls this 'organized nonliability')"

- Are "on such a scale or may be literally incalculable in ways that exceed the capacities of state or private organizations to provide insurance against them or compensation"
- May be identified and measured only by scientific means

In contrast to the ecological modernization thesis, the risk society model moves in quite the opposite direction. Ecological risks are deeply embedded in society and are ubiquitous and extremely harmful, yet frequently difficult to measure. Their existence and effects require expert knowledge, and even then, it is difficult to assign blame or develop policies that would address the problem since the sources of these risks are so diffuse. This is a problem for social movements in particular and for democratic governance in general.[84] However, as ubiquitous and diffuse as these toxics may be, Beck's view that locating sources of the problem is quite difficult is not always the case. Power is exercised by institutions that produce these toxins before they become diffuse, so if we can locate those institutional actors, pollution prevention is possible. As folksinger and activist Utah Phillips once stated, "The Earth is not dying—it is being killed. And the people who are killing it have names and addresses."[85]

At the root of the problem for Beck is a culture that places uncritical faith and acceptance in scientific rationality as a path to human improvement—one of the central tenets of European modernity. Science is a tool applied to the management of nature and people and is perhaps most effectively applied in industry and through markets. Hence, Beck views the power of private corporations as problematic in this model, because in most industrialized countries, they hold the greatest influence over research and development practices and scientific institutions. This produces a shift in power from the nation-state to corporations that enjoy hegemony over national and international scientific and political agendas.[86] The larger problem here is that unlike nation-states, private corporations do not operate on behalf of the citizenry and are not democratically run institutions. Thus, social change requires a different set of tools and strategies. In this regard, the risk society thesis shares common ground with the treadmill of production model. These two theories also emphasize the role of social inequality in this age of late modernity.

Beck points out that the politics of the distribution of environmental degradation favor more powerful communities over others:

> The history of risk distribution shows that, like wealth, risks adhere to the class pattern, only inversely; wealth accumulates at the top, risks at the bottom. . . . It is especially the cheaper residential areas for low-income groups near centers of industrial production that are permanently exposed to various pollutants in the air, the water and the soil. . . . Here it is not just this social filtering or amplification effect which produces class specific afflictions. The possibilities and abilities to deal with risk, avoid them or compensate for them are probably unequally divided among the various occupational and educational strata.[87]

Thus, advanced capitalism creates wealth for some and imposes risks on others, at least in the short term. In the long run, the problem of widespread global ecological harm, however, ends up returning to harm its creators in a boomerang effect. That is, the risks of modernity eventually haunt those who originally produced them. This generalization of risks unlimited in time or space is experienced by all persons, all groups, across the divides of social class and ethnicity.[88] Examples include the skin cancers associated with ozone depletion and the health problems that result from exposure to pesticide residues. In that sense, Beck acknowledges environmental inequality in the short term, while also maintaining a global, long-range view of what becomes a democratization of risk—thus, departing from the treadmill thesis.[89]

The risk society thesis puts forward the position that modernity is a fundamentally antiecological endeavor doomed to failure. The "design fault" that Mol views as easily fixable is, for Beck, the core of the problem and the death knell of society. The risk society thesis therefore has the real potential to mobilize all segments of society in favor of policies that would lead to improved environmental protection, if not sustainability. The politics of a risk society challenges the fundamental premises on which industrial society is constructed because it views modernity itself, and our most valued notions of civilization, progress, and development, as the root of the problem.[90]

The risk society thesis has much more in common with the treadmill of production model. However, the treadmill is more focused on the intersection of politics and markets than the role of science in this process. Furthermore, while the risk society approach argues forcefully that risk is ultimately universal (through the boomerang effect), the treadmill school views the problem as fundamentally about persistent social inequalities; therefore, as much as wealthy and elite populations may also experience ecological harm, their exposure pales by comparison to that of the working

classes, and this is what keeps societies from coming together to address the problem. Both perspectives are useful for understanding the acute and widespread impacts of ecological harm. Ecological modernization is less useful precisely because it largely dismisses the intensity of social inequality and environmental degradation across societies.

In the remainder of the chapter, I consider trends and other evidence that speak to the direction in which states and market economies are moving global society with respect to environment and modernization.

Global Risk Society, Global Treadmills

Scholars from the risk society, treadmill of production, and environmental justice studies schools broadly agree that global volumes of pollution and toxics are not diminishing and that social inequality and industrial poisons have a curious habit of intermixing throughout the world. In this section, I examine some of the trends in global toxics production and environmental inequality.

Every living thing on the earth has been exposed to some level of human-made toxic substances. Lead, strontium-90, pesticides, and persistent organic pollutants (POPs) pervade our environment and reside in all of our bodies. This is a relatively new phenomenon, occurring mainly after World War II, as the production and use of hazardous substances increased exponentially in warfare, agriculture, electronics, and a range of industries, including transportation and housing. The considerable volume of hazardous wastes that were discovered in contaminated communities in the 1970s and 1980s in the United States were not anomalies; rather they were the by-product of a larger political economic reality that was ushered in during the post–World War II era. Since that time, the industrial and consumer economies have relied heavily on products made of chlorinated hydrocarbons. The size of these industries (plastics, oil, pharmaceuticals, and pesticides and chemicals) grew in response to increased demand from related industrial sectors and increased consumer demand for related products. The associated by-products were thus intensely toxic and increasingly ubiquitous (see figure 1.1). Historian Martin Melosi observes that the rise of urbanism and industrialization in the United States went hand in hand with pollution, in both practice and ideology.[91] So while the most egregious

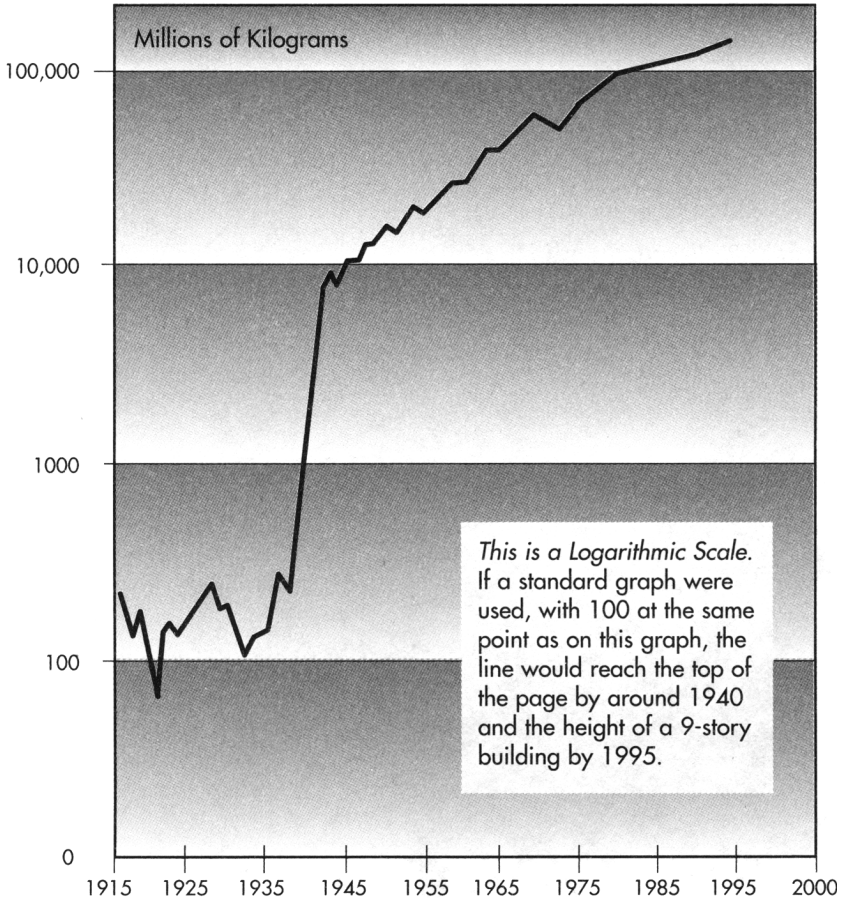

Figure 1.1
World production of synthetic organic chemicals. *Source: World Watch*, March/April 1997, p. 28.

manifestations of the risk society have emerged over the past half-century or so—the period often referred to as late modernity—this is an outcome with deep historical roots stemming from urbanism and industrialization that is centuries old. Today's hazardous wastes are the perilous physical and cultural residues of industrial production over the ages.

The Resource Conservation and Recovery Act (RCRA), a federal U.S. law, defines as "hazardous" those materials that may "pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed."[92] Although this definition is technically correct, the emphasis on the notion that such wastes present a danger only when improperly handled is severely misleading, since the very existence of these materials is hazardous. Moreover, the designation of materials as hazardous suggests that they lie at the extreme end of the production spectrum, when in fact they are at the core. The numerous industries that generate hazardous wastes are "the backbone of any industrial country, providing not only employment, but substantially contributing to the general welfare."[93] And as other nations move into the category of industrialized states, "hazardous waste has been an expected by-product of economic activity."[94] Hazardous wastes are generated by nearly every industry, and those industries that themselves generate few hazardous wastes nonetheless use products from hazardous waste–generating industries.[95] Societies in the global North are particularly ensconced in this process because they tend to be the largest producers of such toxics.

The role of science and technical knowledge of environmental risk is a curious one. On the one hand, with all the scientific evidence of the nature of risks to which we are exposed, one might think that any rational society would cease and desist in these activities so as to reduce the danger immediately. Yet we do not, precisely because we believe we can manage these risks ourselves and still have all of the conveniences associated with late modern capitalism. Given this orientation, it is quite surprising to consider the absence of rigorous, longitudinal, and definitive data on the health and environmental risks of our chemical-intensive lifestyle. Despite Rachel Carson's own research and dire warnings in her classic book *Silent Spring,* we continue to produce and use even more chemicals and have taken few steps to understand their potential impacts before doing so. This is why

many scientists, policymakers, and environmental activists are calling for the adoption of the precautionary principle.[96]

The precautionary principle takes the position that if there is reasonable indication that a chemical may be unsafe, we should refrain from using it, even if there is not yet conclusive scientific evidence to that effect. This is a regulatory approach that shifts the burden of proof that chemicals are safe onto the producers rather than allowing them to essentially test these materials on an unwitting public. The current regulatory framework in the United States presumes chemicals are "innocent" until proven "guilty" and simply releases them into widespread use until there is reason to believe they are unsafe. The consequences have been disastrous. We have scarcely any toxicological data on the more than 80,000 chemicals in use today. The extent of the production of toxins and their associated risk in the United States is staggering. The United States produces nearly 6 trillion pounds of chemicals annually.[97] Toxic materials exposure can cause genetic defects, reproductive disorders, cancers, neurological damage, and the destruction of immune systems. "Wherever there is industry, there are hazardous wastes."[98]

The evidence of risk and disease associated with industrialization is mounting. In February 2004, scientists with the USEPA estimated that one in six pregnant women in the United States has enough mercury in her blood to pose a risk of brain damage to her developing child. This new estimate is double that of a previous calculation.[99] Mercury is a heavy metal, and when it is ingested or spilled in the environment in tiny amounts, it can wreak havoc on the nervous system of humans and other living beings. Effects include damage to the brain, lung, and kidneys, and death. Mercury is released into the environment primarily by power plants and waste incinerators polluting the air and is then deposited into oceans and other waterways, where humans and other animals ingest it and it bioaccumulates throughout the food chain.

The U.S. Centers for Disease Control and Prevention (CDC) released a study in January 2003 in which researchers tested a sample of more than 9000 individuals across the United States. They found pesticides in 100 percent of their bodies.[100]

Polybrominated diphenyl ethers (PBDEs) are a little-known class of neurotoxic chemicals found in computers, televisions, cars, furniture, and

other common products that global North consumers use every day. They are ubiquitous not only because they are contained in so many consumer products but because they also leak into the environment during production, use, and disposal. As a result, they are found in household dust, indoor and outdoor air, watersheds, and the body tissues of dozens of animal species around the world, including humans. Women's breast milk in the United States, Europe, and Canada contains high levels of PBDE, and most residents in the United States are believed to carry this chemical in their bodies at unsafe levels.[101]

Despite the more influential environmental and labor movement community in Europe, European Union (EU) nations continue to pollute at an alarming pace as well. One in five persons employed in EU nations is exposed to carcinogenic agents on the job. Cancer, asthma, and neuropsychiatric disorders are some of the illnesses associated with the 100,000 chemicals and biological agents marketed in the EU, according to the European Agency for Safety and Health at Work. Approximately two-thirds of the 30,000 most commonly used chemicals in the EU have not been fully tested for their potential health impacts on humans or the environment. Chemicals introduced since 1981 undergo such tests, but the older ones remain untested.[102] These facts speak to Beck's contention that many of these risks haunt us, yet they are mysterious and largely unknown. The question of intergenerational impacts emerges here as well, because we have a greater potential to harm future generations (irreparably) than any other previous one.

Exported waste may eventually come back to haunt us in the United States and other global North nations that export it so freely. "It's possible that we could send sludge to the Caribbean and they might use it on spinach or other vegetables [that we may later import]," noted Wendy Greider, an official at the USEPA's Office of International Activities.[103] And since the Food and Drug Administration checks only a small portion of food entering the United States, hazardous wastes that were exported abroad could easily end up on the dinner table. In addition to agricultural pesticide life cycles, air and water pollution in the South knows no boundaries and easily loops back to harm residents and consumers in northern nations. This is what some scholars have called a "boomerang effect" or the "circle of poison."[104] In later chapters, we consider the practice whereby activists in

global South nations send toxic waste back to the original exporting nation (in the North), a more direct version of the boomerang effect and perhaps one of the more poetic and symbolic forms of environmental justice NGOs have devised in recent years, called "Return to Sender."

From a sociological perspective we can conclude that there are social or cultural reasons driving behaviors and trends of a risk society. These practices are facilitated and reinforced by powerful institutions and by consumers and workers who have grown dependent on toxic systems of production. In the global North, we recognize that chemicals are indeed hazardous to life itself, yet we adopt the belief that if we use them responsibly, they can produce collective benefits. Consider this news headline: "Federal Judge Rules Chemicals Used in Executions Are Humane."[105] In this sense, chemical and biological hazards are viewed not only as the hallmark of a nation's embrace of modernity, but also as a marker of humanity. After all, we have standards of ethical behavior and codes of conduct. Consider another headline: "Study Clears Pesticide Tests with Humans."[106] Lest we worry that this revelation is indicative of irresponsible use of otherwise hazardous substances, the article notes that the USEPA will be "allowed to use data from studies in which humans are intentionally doused with pesticides and other toxic substances, as long as strict scientific and ethical standards are met, a National Academy of Sciences report has concluded."[107]

All of this behavior has real consequences. The United Nations' Millennium Environmental Assessment reported in no uncertain terms that the global environmental crisis is dire and worsening by the year.[108] The news is not all bad, however, particularly in the EU, where environmental organizations have successfully pressured states and industries to pass progressive legislation that would mandate the risk evaluation of chemical substances (such as the REACH policy, that is, the Registration Evaluation Authorization of Chemicals) and the requirement that electronics manufacturers produce their goods with fewer toxic substances and take back those products for recycling at the end of their consumer life.[109] These laws and policies may lead to environmental improvements in Europe. The real question is whether they will do so by encouraging a shift of toxics southward. As internationally acclaimed Filipino environmental justice activist Von Hernandez put it, "In Europe right now there is the REACH directive,

an EU-wide policy on regulating chemicals. So the debate in Europe as far as chemicals are concerned is right now more advanced than the rest of the world. The rest of the world has to catch up . . . because developments in Europe will impact chemical production in the US, in Japan, in Asia. Because otherwise you would see a situation where discredited chemical manufacturing or chemicals being produced in Europe would be moving South again, similar to the developments we've seen with the adoption of the Basel Convention."[110]

Global Inequality Trends: A Treadmill of Environmental Injustice

The roots of global environmental injustice lie mainly in the production and consumption patterns of northern societies, which have unequal impacts on the poor and people of color worldwide.

The *State of the World 2004* report concluded that North America and Western Europe, representing just 12 percent of the world's population, account for fully 60 percent of the consumption of the world's natural resources. By contrast, the one-third of the world's population living in South Asia and sub-Saharan Africa accounts for only 3.2 percent of this consumption.[111]

The world's richest nations are depleting natural resources at an unprecedented rate. The concept of an ecological footprint is intended to capture the extent to which a nation can support its resource consumption with its own available ecological capacity. In 2000, the United States was the nation with the largest per capita ecological footprint on the globe, with a footprint of 23.7 acres per capita. A sustainable footprint for the United States would be 4.6 acres.[112] According to a United Nations–sponsored study released in 2002, citizens in the United States and Canada may enjoy a cleaner environment "at the expense of global natural resources and climate."[113] The report states, "Each Canadian and American consumes nine times more gasoline than any other person in the world. With only about 5 percent of the world's population, both countries accounted for 25.8 percent of global emissions of the major greenhouse gas carbon dioxide, created by the combustion of coal, oil, and gas."[114]

Affluence among nations is highly correlated with environmental harm. In the early 1990s, the twenty-four richest and most heavily industrialized

nations collectively produced 98 percent of all hazardous wastes.[115] Rich nations in general are not reducing the level of hazardous wastes produced today: "OECD countries presently create 220 pounds of legally-hazardous waste per person per year. By 2020, per-capita production will rise 47% to 320 pounds per person per year and, because of growing population, total OECD hazardous waste will increase 60% to 194 million tons each year. All of this will eventually enter the general environment and significant portions of it will enter food chains."[116]

Given the high level of toxicity of everyday life in the global North, if states and corporations are not planning to reduce toxic inputs into production, then it makes sense to seek outlets for dumping some of the most hazardous substances elsewhere, to reduce exposure to these dangers. A logical approach would be to export these wastes to global South communities, which may allow us to embrace the idea of ecological modernization because the more visible dimensions of pollution are now "out of sight, out of mind" (which also occurs as a result of domestic environmental inequality and racism).[117]

The classic report of the World Commission on Environment and Development, *Our Common Future,* stated clearly: "Most hazardous waste is generated in industrial countries. However, exporting waste results in potential risks primarily to people in importing countries, who do not share in the benefits of the waste generating production processes. The people who share the potential risks have little, if any, practical influence on the decision to import these wastes."[118] The export of hazardous waste and materials to nations with less stringent environmental standards is not only an example of environmental inequality and racism. It is also a clear violation of the United Nations' Stockholm Declaration, which states in Principle 21, "States have, in accordance with the Charter of the United Nations and the principles of international law . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[119]

The evidence from scientific, social scientific, and governmental studies indicates quite strongly that social and environmental inequalities persist within and between nations, lending support to the treadmill of production, risk society, and environmental inequality and racism theses. Toxics abound globally and are present in all nations and all living beings. The

contention by ecological modernization theorists that environmental conditions in the world are improving is both supported and contradicted by the evidence. The model is supported when we observe environmental improvements taking hold in global North nations (such as EU-wide legislation forcing industry to design electronics components for end-of-life recycling). However, ecological modernization is contradicted because such improvements in the North may largely be due to the actions of corporations that shift many of the most toxic industrial hazards southward, producing environmental inequalities. One's view of ecological modernization therefore depends on what spatial scale one considers and how far along the commodity chain one follows a product. Integrating an environmental justice analysis into the ecological modernization framework is useful because there may indeed be environmental pollution improvements in the North, but they are often only in certain privileged communities (wealthy and white), while others (people of color and poor populations) see an intensification of environmental hazards. Globally, the same observations hold true: when the United States, Canada, or the United Kingdom has a national improvement in environmental indicators, it may often be because these hazards have simply been shifted geographically southward.[120] Thus, ecological modernization is possible precisely as a result of global environmental inequality and racism.

Methodological Approach

I gathered data for this study between 1998 and 2006 using four principal research methods. First, I conducted a review of the literature on the transnational waste trade, environmental justice studies, environmental sociology, social movements, and race theory. Based on this review, it was clear that the four interventions identified in this chapter have not been sufficiently addressed by scholars. Second, from several libraries and archives, I conducted content analyses of newspaper articles, government documents, NGO reports, and books on global environmental policy conflicts and transnational movement networks in the United States, the Caribbean, Asia, Africa, and Europe between 1987 and 2006, a period that marks the beginning of the era of transnational waste trade. Sources for these data include hundreds of memos, reports, internal documents, and studies from various grassroots and advocacy organizations.[121] Third, I conducted semi-

structured interviews with three dozen leading international environmental justice activists from around the world where they and their networks have been caught up in key struggles that have defined the politics of the global waste trade and the global environmental justice movement. Fourth, I attended, organized, or participated in a number of national and international conferences focusing on global environmental justice and human rights, which allowed me to gain access to additional documents, reports, and studies on this topic.[122]

This book is part of a broader program of advocacy research: the effort by scholars to produce research that is accessible to and in the service of the people we write about, as well as the general public. Although it is enjoying a revival,[123] there is a long tradition of this kind of research in the social sciences. For example, in their book *Liberation Sociology,* Feagin and Vera examine the largely unacknowledged history of scholars working on advocacy research efforts in vulnerable communities in the United States and around the world.[124] More than 150 years ago, sociologist Karl Marx wrote, "Philosophers have only interpreted the world, in various ways; the point, however, is to change it."[125] Activist-scholars like W. E. B. DuBois continued this project by authoring outstanding works of critical scholarship on racial inequality in the United States and around the globe while advocating and making social change.[126] Building on this history of liberation sociology, Feagin and Vera contend that the "ultimate test of social science is not some type of propositional theory building but whether it sharpens our understanding and helps to build more just and democratic societies."[127] I concur. Some scholars argue that social scientists in particular have an obligation to engage the world and offer our analytical skills with the aim of improving society. As Philo and Miller write, "A large part of humanity is being obliterated by the social, material and cultural relationships which form our world. It can be painful and perhaps professionally damaging to look at such issues and to ask critical questions about social outcomes and power. . . . But for academics to look away from the forces which limit and damage the lives of so many, gives at best an inadequate social science and at worst is an intellectual treason—just fiddling while the world burns."[128]

I call what I do *critical advocacy research:* I participate in social change efforts while also stepping back and employing a reflexive analysis of that work. It is my conviction that social scientists can be part of a major

movement that can achieve social change. Through my work with several NGOs and foundations,[129] my research and ideas on global environmental justice struggles developed a great deal, and I hope this book illuminates more productive ways to think about and orient action against the problem of global toxics and environmental inequality.

Overview of the Book

Chapter 2 examines the emergence of political, economic, and ideological forces in world history that produced controlling discourses and practices concerning racial difference and the natural environment. I consider the ways in which resistance to this system of domination of people and ecosystems can be integrated with—and used to extend—social movement theory. Chapter 3 charts out a portrait of some of the major transnational environmental justice movement networks operating around the world today. I present some of the core concerns, controversies, and strategies these activists, organizations, and networks address in this era of globalization. I begin chapter 4 by examining the seminal waste issue in domestic and transnational environmental conflicts: garbage. I then move, in chapter 5, to consider the legacy of the Green Revolution and international efforts to bring agricultural "development" to the global South through the transfer of countless tons of toxic pesticides from the North. Chapter 6 examines the latest scourge of transnational environmental inequality: the dumping and remanufacturing of high-tech and electronics products (e-waste) in the South. The journey mapped here moves from the crudest and age-old dumping practices—garbage—to what, for some, exemplifies the postmodern condition: high-technology products that allow for the compression of space and time, and the sharing and reproduction of cultures across national borders in ways that our ancestors could only have dreamed of. Unfortunately, postmodernity and global cultures imprison us more than they liberate us from either our earthly origins and limitations or our tendencies to create and struggle with hierarchies and inequalities. My goal in chapter 7—and throughout the rest of the book—is to contribute to debates and actions that will move us more productively along paths toward environmental justice, human rights, and sustainability.