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The Intersection of Race, Immigration Status, and Environmental Justice

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Abstract: Environmental injustice occurs when marginalized groups face disproportionate environmental impacts from a range of threats. Environmental racism is a particular form of environmental injustice and frequently includes the implementation of policies, regulations, or institutional practices that target communities of color for undesirable waste sites, zoning, and industry. One example of how the United States federal and state governments are currently practicing environmental racism is in the form of building and maintaining toxic prisons and immigrant detention prisons, where people of color and undocumented persons are the majority of inmates and detainees who suffer disproportionate health risk and harms. This article discusses the historical and contemporary conditions that have shaped the present political landscape of racial and immigration conflicts and considers those dynamics in the context of the literature on environmental justice. Case studies are then presented to highlight specific locations and instances that exemplify environmental injustice and racism in the carceral sector. The article concludes with an analysis of the current political drivers and motivations contributing to these risks and injustices, and ends with a discussion of the scale and depth of analysis required to alleviate these impacts in the future, which might contribute to greater sustainability among the communities affected.

Keywords: environmental justice; environmental racism; immigration; racism; prisons; detention centers

1. Introduction

The fact that populations that experience social, economic, political, and cultural marginalization also frequently experience disproportionate environmental risk from a range of government and industry-driven facilities, policies, and practices has led to the development of the field of environmental justice studies (Bullard 2000 [1]; Bullard and Wright 2012 [2]; Taylor 1997 [3]). Since the early 1970s, scholars, community activists, and policy researchers have documented that communities with large percentages of people of color, low-income persons, indigenous people, and immigrants are more likely to host hazardous waste sites; more likely to be hit the hardest by climate change, experience extreme heat and “natural” disasters; and more likely to be in spaces where air, water, and land are contaminated at levels that constitute significant threats to public health (Fothergill and Peek 2004 [4]; Harlan et al. 2006 [5]; Crowder and Downey 2010 [6]; Downey 2006 [7]; Mennis and Jordan 2005 [8]; Mohai and Saha 2007 [9]; Pauli 2019 [10]). The field of environmental justice studies has become a multidisciplinary area of inquiry that has also observed similar patterns on a transnational and global scale, whether it involves hazardous wastes (Pellow 2007 [11]), climate change (Ciplet, Roberts and Khan 2015 [12]), or resource extraction (Jorgenson and Clark 2009 [13]) in the global South and indigenous communities (Alvarez and Coolsaet 2018 [14]; Powell 2018 [15]). In particular, the way

that environmental justice struggles unfold in indigenous communities is often the result of histories of violent settler colonialism, which is frequently experienced through energy extraction regimes (e.g., coal, nuclear, and hydropower) that contribute to climate change as well (Hoover 2017 [16]; Malin 2015 [17]; Voyles 2015 [18]; Whyte 2017 [19]). Scholars have also demonstrated the clear linkages between environmental injustices and food injustices, in that the very same populations that experience disproportionate environmental and climate threats are also facing exclusions from equitable access to and participation in the consumption and production of healthy, nutritious, affordable, culturally appropriate, and ecologically sustainable foods (Morrell 2018 [20]; Norgaard, Reed, and Van Horn 2011 [21]).

There is a growing literature on the intersection between environmental justice concerns and immigrant communities. Drawing on a national data set, Hunter (2000 [22]) found that U.S. counties with higher proportions of immigrants and non-English speaking households are characterized by greater numbers of large quantity hazardous waste generators and proposed Superfund sites. This was perhaps the first national scale quantitative study linking foreign born persons with environmental risks. A number of studies in the Los Angeles metropolitan area have found that neighborhoods with majority Latinx/Chicanx populations (which, in Los Angeles, are generally significantly high in *immigrant* residents) face the highest levels of exposure to industrial pollution, compared with Anglos/whites, as a result of racially biased urban planning and zoning policies (Boone and Modarres 1999 [23]; Carter 2016 [24]; Pulido, Sidawi and Vos 1996 [25]). An example of racially biased policy and practice occurs when public hearings and public documents related to proposed hazardous facility siting are not translated into the languages that impacted populations speak, creating what some scholars have called “linguistic isolation” (Hunter 2000 [22]). In the case of *El Pueblo Para el Aire y Agua Limpio v. County of Kings* (1991), the largely Latinx and Spanish-speaking town of Kettleman City, California was the site of a proposed Waste Management Inc. incinerator and waste disposal facility, and the project was halted when the court ruled that, under the California Environmental Quality Act (CEQA), the defendants had not provided Spanish translations of public hearing documents, thus making it impossible for the local community to have adequate knowledge of and inclusion and participation in the proceedings (Cole and Foster 2000 [26]). Scholars have also found that such communities with high Latinx and immigrant populations are maturing and evolving to deploy sophisticated strategies and tactics to build power to promote environmental justice in urban centers (Carter 2016 [24]).

Even so, the legal system and the courts have generally not been effective sites for the promotion of environmental justice movement goals, either for native born or immigrant communities (Cole and Foster 2000 [26]; Gross and Stretesky 2015 [27]). Therefore, a number of scholars have begun to question the wisdom of researchers and activists seeking redress for environmental injustices through state-based institutions (see, for example, Kurtz 2009 [28]; Pulido, Kohl and Cotton 2016 [29]).

These environmental inequities also result in differential public health risks, which is why this is particularly concerning for residents in affected areas. For example, communities of color in the San Francisco Bay Area—especially those with high concentrations of low-income persons and/or Latinx and Asian immigrant populations—face disproportionate exposure to industrial toxic releases and disproportionate cancer risks and respiratory hazards from air toxics concentrations (Pastor, Sadd and Morello-Frosch 2007 [30]). Additionally, another study found that Latinx and Asian immigrants in California’s Silicon Valley face disproportionately high levels of exposure to environmental toxins on the job in electronics firms *and* in their neighborhoods (Pellow and Park 2002 [31]).

In the scholarship on EJ (Environmental Justice) and immigration, the workplace as a site of environmental justice struggles has long been a focus (Gottlieb 2005 [32]; Pellow 1998 and 2002 [33,34]; Taylor 1997 [3]). For example, immigrants from Europe, Africa, Latin America, and Asia have, since the founding of the U.S. through the present day, faced harsh working conditions that scholars have re-framed as environmental justice concerns. Research on African immigrants and African American enslavement reveals these dynamics and concludes that slavery was a system of control over both

nature and humans that was particularly brutal and harsh, but that even under such difficult conditions, enslaved persons routinely resisted their oppression (Glave and Stoll 2006 [35]; Smith 2007 [36]; Taylor 1997 [3]). Gottlieb (2005 [32]) and Hurley (1995 [37]) found that immigrants from Europe endured and resisted environmentally hazardous and unhealthy conditions in the steel factories, textile sectors, and other industries in the U.S. throughout much of the 19th and 20th centuries. Important scholarship details how Mexican and other Latin American immigrants have faced low-wages and high environmental risks in agriculture, landscaping, food service, construction, tourism/recreation, and a number of other services sectors, including “green” industries (see Harrison 2011 [38]; Park and Pellow 2011 [39]; Pellow 1998 and 2002 [33,34]).

Finally, some scholars have argued that we should go deeper to consider the driving forces behind environmental injustice/racism, which must include an examination of racial capitalism, settler colonialism, and the ideologies that undergird those systems of control (Pulido 2016 [40]). Specifically, racial capitalism is the idea that racism is a structuring logic of capitalism. In other words, capitalism is inseparable from race and racism because it requires the production of such forms of social difference to facilitate and maintain hierarchies that are the bedrock of that system (Melamed 2015 [41]; Robinson 1983 [42]). Moreover, the history and ongoing legacies of European invasion of indigenous lands (i.e., settler colonialism) in what is now called the United States continue to shape the experiences that Native peoples and people of color have with environmental racism because widespread ecologically harmful practices and the legal system that enables them rest on a foundation of ideological and juridical structures that have been unfolding for centuries (Hoover 2017 [16]; Voyles 2015 [18]; Whyte 2017 [19]). For these reasons, EJ scholars urge us to integrate and center justice into our thinking and actions intended to theorize and support ecological sustainability (Agyeman and Evans 2004 [43]; Sze 2018 [44]).

1.1. Race, Prisons, and EJ

Despite the fact that the field of EJ studies has focused on the links between environmental threats and spatial isolation of marginalized communities, surprisingly few scholars have paid attention to the role of prisons and imprisonment with respect to environmental concerns. This is an area of inquiry that should be of great importance to environmental justice scholars because prisons are spaces of hyper segregation along racial and national status lines, and prisons are increasingly being documented as sites of considerable environmental and public health threats. For example, there are now confirmed reports that dozens of prisons, jails, juvenile detention prisons, and immigrant detention prisons across the nation are located on or in close proximity to toxic superfund sites and other hazardous land uses, are infested with mold and other air contaminants, have significant water contamination, are marked by food injustices, are institutions where inmates and detainees* are being forced to take harmful pharmaceuticals, and are spaces where toxic and dangerous work is routine (see Braz and Gilmore 2006 [45]; PEJP 2017 and 2018 [46,47]; Perdue 2018 [48]). This is a problem that environmental justice scholars should pay more attention to because of the following reasons: The U.S. imprisons more people than any other nation on earth, and the vast majority of inmates in the prison and jail system are people of color and low-income persons; the fastest growing group of prisoners is women (Alexander 2012 [49]; Cole 1999 [50]; Pellow 2017 [51]); and foreign nationals (immigrants) are being detained in prisons throughout the nation where environmental threats abound as well (Vazin 2018 and 2019 [52,53]).

Prisons are also clearly relevant to EJ-related research for a host of other reasons. Perhaps one of the most enduring successes of the environmental justice movements and scholarship is the reframing and expansion of what the word “environment” means, pushing beyond the traditional conservationist and preservationist definitions of the nonhuman world to include those spaces where human beings also “live, work, play, learn, and pray.” In other words, unlike classic western environmentalist narratives, environmental justice politics and scholarship have long taken seriously the injunction against dualist thought—the separation of humans from the more-than-human world, arguably one of

the most important pillars of the science of ecology. In so doing, EJ scholars and activists have been able to effectively integrate what might have previously been defined as social (human) justice concerns into a broader “environmental” framework and to integrate concerns about nonhuman natures into what might traditionally be thought of as strictly matters of human health and social justice. Therefore, the study of prisons as a space of environmental justice struggles is important because carceral systems are sites where nonhuman natures are negatively impacted and where human beings are also exposed to risks 24 hours a day. Thus, prison EJ struggles offer the opportunity to expand the already ambitious EJ re-framing of “the environment” to include those spaces where people “live, work, play, learn, pray . . . and do time.” More specifically, there has long been a debate in EJ studies over whether environmental inequality and racism are the result of otherwise “neutral” market forces in which persons with less disposable income gravitate toward already polluted communities because the rents are cheaper and the cost of living is lower, as opposed to a more sinister scenario in which hazardous industrial and governmental facilities deliberately target low-income and people of color populations. Some scholars have embraced the former dynamic, known as the “minority move-in hypothesis”, and have essentially absolved the state and capital from responsibility for environmental injustice/racism (Been 1994 [54]), while more recent scholarship concludes that, more often than not, environmental injustices result from industrial and/or governmental facilities targeting of low-income and people of color communities *after* residents have moved into a neighborhood. If one applies the same question to the prison system, the results are even more profound and stark because the residents (inmates) of such facilities have virtually no say or agency in where they end up. While they may be able to exercise a range of forms of agency within a prison, inmates are effectively spatially immobilized with respect to the ability to move beyond the prison walls. Thus, the evidence suggests that, whether inside or outside of prison, the minority move-in hypothesis holds little explanatory power (Pastor, Sadd and Hipp 2001 [55]; Mohai and Saha 2015 [56]; Saha and Mohai 2005 [57]).

The research methods we employed included an extensive literature review of scholarly and scientific studies as well as media and government reports on incarceration, immigrant detention and environmental justice, and public health concerns in the U.S., with particular attention to the intersections of these phenomena. We drew from a wide spectrum of interdisciplinary sources, including law, medicine, public health, and the social sciences, as well as reports from government agencies and non-governmental organizations. We supplemented our literature review with the use of brief case studies that allow for an exploration of key issues across a range of environmental justice threats facing persons inside immigrant prisons.

We have included a consideration of the broader prison system in this paper to provide the larger institutional context necessary for understanding the particular challenges associated with immigrant prisons and environmental justice struggles. The primary difference between a traditional jail or prison and immigrant prisons is that the latter are specifically designed to hold persons who are not U.S. citizens and who are alleged to have violated immigration law (which is a civil, not criminal, offense). While inside these facilities, the detainees are generally awaiting trial and/or deportation.

** To clarify, the term “inmate” refers to persons who have been criminally charged or arrested in the domestic carceral system. The term “detainee” encompasses both civilly charged migrants who are found in the U.S. without a green card or visa and asylum seekers who apply for asylum at the border. Neither group is facing criminal charges but are being held in immigrant prisons at the time of this writing under the Trump administration’s zero tolerance policy, and both groups are referred to collectively as detainees throughout this article.*

1.2. Immigration Status, Incarceration, and Environmental Injustice

Citizenship status has long been the basis of legal discrimination and injustices in the United States (Brickner and Hanson 2004 [58]). Immigrant ghettos, internment/concentration camps, and horrendous abuses by the U.S. government played a major role in the American experience for many current fourth generation families (Cutler et al. 2008 [59], Nagata 1990 [60], Massey and Denton

1993 [61])—yet, as all of these disturbing trends have seen a resurgence in recent years, this history seems long forgotten. There are estimated to be over 45 thousand detainees currently being held by Immigration and Customs Enforcement (ICE), and the Trump administration wants to double that capacity (E.O. 13768 2017 [62]). Immigrants being detained without a charge on American soil are being subjected to environmental contamination or abusive conditions that are severely affecting their mental and physical health, and this mistreatment has resulted in death in multiple cases (HRW 2018 [63]). Privately owned corporations are profiting from the unethical detention of a largely Latinx population (Vazin 2018 [52]); they, along with ICE and the federal government, are the perpetrators of some of the most severe environmental and social injustices in contemporary American history.

1.2.1. Overview of EJ Issues in Immigrant Detention Prisons *

In this section, we present an overview of some of the major environmental justice concerns that we have documented in immigrant detention prisons in the U.S. These include the fact that many of these facilities are marked by contamination with emerging pollutants, harmful medical practices, unhealthy and abusive food services, and inhumane building conditions. Since the detainees of these facilities are vulnerable, marginalized populations (undocumented immigrants who are often women and children), we argue that these health threats constitute environmental injustices, and the cumulative and combinatorial effects of exposure to one or more of these risks is considerable. We also demonstrate that these practices are the direct result of government policies and are therefore examples of environmental injustice as state violence (Pulido 2016 [40]; Pulido et al. 2016 [29]).

** These facilities are called “detention centers” by ICE and the U.S. government, but in this paper, we will refer to them as they actually function—as immigrant prisons.*

Contaminated Spaces

A concerning trend that is seen in both domestic prisons and immigrant detention prisons is the high incidence of these facilities being built on contaminated land. From being located on or adjacent to federally designated toxic superfund sites, exposed to contaminated water and air, or being built in natural disaster hazard zones, America’s prisons are inflicting inhumane methods of punishment on inmates and detainees (PEJP 2018 [47]). The types of contaminants in these spaces vary, including chemicals associated with military testing, water treatment byproducts, and fracking pollutants; all of the toxins at these sites pose serious risks to human health (ATSDR 1999, 2005, 2007, 2014, 2018 [64–68]). There are multiple detention prisons known to be contaminated with a range of chemical toxins, as shown by public reporting results, USEPA (United States Environmental Protection Agency) listings, and internal military documents—yet, they were still chosen to house thousands of immigrants awaiting trial (Vazin 2019 [53]).

We will offer more details on a particular class of contaminants found in these locations: Perfluoroalkyl acids (PFOA/PFOS). These compounds have been found at multiple locations currently housing migrants, at previous detention facilities, and spaces listed as potential new locations in government documents, including Fort Bliss AFB, Lackland AFB, Federal Correctional Complex Victorville, Goodfellow AFB, Karnes County Residential Center, and Port Hueneme Naval Base. PFOAs have been detected in the water supplies at each of these locations. Humans can be exposed to these compounds by breathing contaminated air, using or ingesting contaminated water, and eating contaminated foods (Post 2012 [69]; Steenland 2010 [70]). The USEPA safety threshold for these chemicals is 70 parts per trillion (ppt), which some studies deem is well beyond the health risk limit, but many of these locations have tested above this concentration. For example, some taps at the Federal Correctional Complex in Victorville, California tested for over 5000 ppt (DOD 2018 [71]). These chemicals are fully fluorinated hydrocarbons that are stable even at high temperatures, nonflammable, not readily degraded by strong acids, alkalis, or oxidizing agents, and are not subject to photolysis (Steenland 2010 [70]). What this means is that these chemicals have a unique stability that renders them practically non-biodegradable and thus, very persistent in the environment. They are emerging

pollutants that have not been largely studied for human health effects despite detectable traces (at the ppb level) in humans, fish, and mammals worldwide (Lau 2004 [72]).

Toxicity research that has been conducted—mostly in mice, rats, and nonhuman primates—has found that high levels of PFOA/PFOS exposure resulted in liver and thyroid disorders, cancer, a multitude of developmental effects, and even death (Lau 2004 [72]). Bioaccumulation rates across species were variable and the Minnesota Department of Health has found that, when compared to nonhuman primate trials, humans exhibit accumulation of these compounds by an order of magnitude above nonhuman primates, with an extremely long half-life elimination. Specifically: *“The results of these studies suggest that it may take more than five years for even one-half of a single exposure to leave the human body”* (MDH 2008 [73]). The long half-life elimination cycle in the body suggests that any exposure or ingestion of these molecules can incur health effects lasting years, with high levels of exposure lasting decades. This means that any babies born at a facility where these compounds are present are at great risk for negative developmental and generational health effects. A study in the *Journal of Reproductive Toxicology* found that prenatal exposure to environmental pollutants mutates the fetal epigenome, with potential effects ranging from developmental disorders, childhood disease, and transgenerational impacts (Perera and Herbstman 2010 [74]). This means that not only are babies harmed by being on these sites, but also any children that immigrant detainees carry could also suffer health effects from their exposure in the womb. Given the increased incidence of health effects from exposure to pollutants on vulnerable populations, one can infer that any pregnant women, children, or babies held at these locations are at high risk for long-term chronic health impairment. This exposure could cause harm to generations of families in the future, the magnitude of which will be a direct result of contemporary U.S. immigration policy. Detainees at these facilities are not provided free alternatives to tap water.

Harmful Medical Care

Not only are immigrant detainees being exposed to pollutants, stress, and abuses that directly harm their health, but they are blatantly being refused medical care to mitigate the effects of these injustices while being detained. This constitutes maltreatment in the current immigration system and inherently magnifies any health effects that detainees may suffer from that are associated with exposure to environmental hazards in these facilities. Moreover, environmental impacts do not stop at the moment of exposure; rather, they evolve into short or long-term health challenges that must be handled with care by medical practitioners, and the absence of such care for certain groups or those being held against their will is an environmental injustice in and of itself. The deliberate denial of medical care to immigrant detainees in these prisons is pervasive—almost every lawsuit, news report, inspection result, and testimony has cited little or no access to medical care for those detained by ICE across the nation (HRF 2018 [75]; HRW 2018 [63]; OIG 2018 [76]). This practice has led to multiple documented avoidable deaths; for example, between 2015–2017, half of the 16 deaths reported in these facilities were cited as a direct result of medical care having been denied or withheld (HRW 2018 [63], DHS 2016 [77]). One reason for this is that medical understaffing is rampant in detention facilities due to budget cutting measures. For example, one detention prison was found to have only one physician responsible for over two thousand detainees, which is a ratio under which it would be impossible to even attempt to provide adequate care (ACLU 2014 [78]). A Human Rights Watch collaborative report found that deaths linked to inadequate medical care were resultant from unreasonable delays, poor practitioner and nursing care, botched emergency responses, and mismanaged care of the mentally ill (DHS 2016 [77]). This disregard for the well-being of detainees is not just evidenced by the withholding of care, but also by the practice of malicious and abusive “health care” delivery as well.

In July 2018, a class-action lawsuit was filed against U.S. Attorney General Jeff Sessions and the Office of Refugee Resettlement’s juvenile detention facilities, citing gross over-prescription of psychotropic medication disguised as vitamins for the purpose of sedating minors held by the agency (*Flores v. Sessions* 2018 [79]). This case details how minors were forced to take up to ten pills in

the morning and nine in the evening, resulting in weight gains by as much as 100 pounds in a few weeks (*Flores v. Sessions 2018* [79]). Minors in two facilities testified that refusal to take the medication resulted in being forcibly injected with a sedative that immediately put them to sleep (*Flores v. Sessions 2018* [79]). These children reported feeling depressed, constantly tired and sluggish, suffering rapid weight gain, and feelings of emptiness as a result of these medications (*Flores v. Sessions 2018* [79]). Teachers at the Shiloh Detention Center in Manvel, Texas stated that the children there were so heavily sedated they could not stay awake for their classes, sleeping for hours in class during instruction. These lawsuits delineate seven of the specific psychotropic drugs administered to these minors (Clonazepam, Duloxetine, Guanfacine, Geodon, Olanzapine, Latuda and Divalproex), but others—as well as substances delivered by injections—used in the facilities are currently unknown (*Flores v. Sessions 2018* [79]).

These drugs can produce serious side effects with normal dosing, but the mixing and overuse of these substances seen at these locations could cause irreversible effects on these children's still developing minds and bodies. The rapid weight gain induced by these drugs puts these minors at risk for heart disease, high blood pressure, diabetes, gallbladder disease, cancer, respiratory ailments, and stroke (Mayo Clinic 2015 [80]). Constant chemical overloading of these minors is directly causing a plethora of immediate health effects, but the long-term mental and physical impacts of long-term use and multi-drug interactions are not known; thus, the health of these young people could be forever damaged by practices sanctioned under United States immigration policy. As of November 2018, the U.S. Office of Refugee Resettlement was still found to be in violation of the July 2018 cease and desist order against prescribing psychotropic medications without parental consent, and the court assigned former U.S. Attorney General Andrea Sheridan Ordin as the Special Master/Independent Monitor to ensure compliance. The practice of overdosing minors and the withholding of medical care are stark examples of dehumanizing treatment of these detainees, whom we note have not been charged and have not committed any criminal acts. Rather, their mistreatment is resultant purely based on their categorization as "other" or "alien." The flagrant abuse of asylum seekers and immigrants is morally abhorrent and is a direct result of the resurgence of racially motivated animosity toward nonwhite persons in America (Alexander 2012 [49]; Escobar 2016 [81]).

Unhealthy and Abusive Food Services

In December 2017, the Department of the Inspector General released a report on inspections at five separate immigrant detention prisons contracted to for-profit private companies by ICE and found "potentially unsafe and unhealthy detention conditions," specifically citing unsanitary food handling practices at these locations (OIG 2017 [82]). This governmental document uses reserved rhetoric, but the admission of inadequate food conditions is clear, and it corroborates other reports and detainee testimonies from these prisons. Detainees have reported being served maggot-infested food, raw meat, moldy and expired foods, as well as limited food rations in multiple facilities across the country (HRF 2018 [75]). Detainees have widely reported physical symptoms commonly associated with this kind of diet, such as hunger, weight loss, and sickness as a direct result of poor food quality (HRW 2018 [63]). These prison environments mimic the "food deserts" seen in immigrant and low-income communities outside the prison walls. Lack of access to healthy, ecologically sustainable foods is a major problem in low-income neighborhoods and communities of color and creates lifelong negative health consequences from exposure to pesticides, herbicides, and dangerous food additives (Walker et al. 2010 [83]). Highly processed foods such as hydrogenated oils, meat products, and sugars not only impact the body, but have significant impacts on the sustainability of our environment (Clark and Tillman 2017 [84]). The issue of forced consumption of unhealthy food is not disconnected from the environmental impacts that those specific food products may have on the planet. Prisons that choose primarily unhealthy and unsustainable food options are reinforcing the demand for the types of food products that are harming the environment well outside their walls. Food justice and environmental justice are intrinsically

linked when one examines these dynamics at the macro-scale and should be considered in tandem when analyzing EJ issues.

The effects of an unhealthy diet are numerous and take a severe toll on the body, and they can lead to foodborne illnesses that can cause lifelong ailments (Golan et al. 2010 [85]). For example, infections from Salmonella (*Campylobacter jejuni*) from undercooked poultry products, milk, and contaminated water can cause chronic arthritis, heart infections, blood infections, and chronic irritable bowel syndrome (IBS) (Golan et al. 2010 [85]). Infections from *E. coli* bacterium resulting from the consumption of undercooked beef, spoiled milk and juice, and contaminated produce in immunocompromised patients can lead to hemolytic uremic syndrome—the long-term effects of which can be permanent, causing end-stage kidney disease, neurological complications, and diabetes (Golan et al. 2010 [85]). *Listeria monocytogenes* infections from improperly stored deli meats, dairy products, and seafood can cause infections of the brain and spinal cord, leading to severe neurological dysfunctions such as seizures and paralysis or death (Golan et al. 2010 [85]). Many reports from these facilities also document enforced hunger through the provision of minimal food rations to detainees, which poses a host of other health risks for this population. Long-term meal deficits can lead to glucose intolerance and insulin resistance, resulting in type II diabetes, mental changes, immune system dysfunction, ketosis, organ failure, and death (Carlson 2007 [86]). The knowing provision of spoiled, contaminated food, and the withholding of food to immigrant detainees by private prison corporations is a well-documented human rights abuse that can irreversibly harm detainees' bodily function well beyond the duration of their confinement in these spaces.

Inhumane Building Conditions

Reports from the Department of Inspector General, the ACLU, Human Rights Watch, Human Rights First, and testimonies from filed lawsuits all report on the unsanitary and extreme conditions to which detainees are subjected while being held in ICE custody. Rat infestation, sewage spills, maggots in showers, bug infestations, and contaminated water have all been reported (ACLU 2014 [78]; HRW 2018 [63]; HRF 2018 [75]; OIG 2017 [82]). Freezing cold holding cells with no provided blankets is a routine practice at processing centers at the border, and officers and detainees alike refer to these cells as “hieleras,” or freezers (HRW 2018 [63]). Minors at juvenile detention prisons in Texas and Arizona have reported being held without air conditioning in the blistering summer heat (Anapol 2018 [87]; Ellis 2018 [88]).

The World Health Organization states that unsanitary and extreme living conditions have been linked to respiratory and cardiovascular diseases from indoor air pollution, illness and deaths from temperature extremes, and the spread of communicable diseases (WHO 2010 [89]). Unsanitary and dangerous conditions within privately owned ICE contracted detention prisons are a violation of the Eighth Amendment rights against cruel and unusual punishment that applies to all persons in the U.S. regardless of citizenship (Human Rights Clinic 2014 [90]; *Ball v. LeBlanc* 2015 [91]). To an even further degree, the fact that these detainees are not being held for any crime, but rather just waiting for a civil court hearing, is a clear mistreatment of human beings on the sole basis of their country of origin.

In sum, undocumented persons from various nations who are seeking to live in the U.S. have been subjected to harsh conditions in immigrant detention prisons, which includes exposure to a range of chemical pollutants, harmful medical practices, unhealthy and abusive food services, and injurious building conditions. We argue that these phenomena are well within the ambit of environmental justice studies because they reflect the intersection of social inequality and environmental/public health threats, particularly as they concern vulnerable populations. Our argument that these practices also constitute environmental racism stems from the observation that the overwhelming majority of immigrant detainees are people of color. In a recent study of the 630 ICE facilities in operation in the U.S., researchers found that Mexican nationals make up 43 percent of the population, and individuals from El Salvador, Guatemala, and Honduras made up an additional 46 percent (Ryo and Peacock 2018 [92]).

In the next sections, we consider specific carceral sites where environmental injustices are impacting immigrant populations.

2. Brief Case Studies

2.1. Texas Immigrant Detention Prisons, Fracking, and Climate Change

Many immigrant prisons are located on or near current and former waste dumps and toxic waste sites. For example, the largest immigrant prison in the U.S.—the “South Texas Family Residential Center”—is built to hold up to 2400 children and female detainees and is located just outside of Dilley, Texas, on a former “man camp” for oil and gas workers known as Sendero Ranch (Wilder 2014 [93]). The facility is owned and operated by CoreCivic, the second largest for-profit prison company in the U.S., and was built during the Obama administration in order to handle the rising number of immigrant children and families from Central America crossing the Mexico–Texas border without authorization. The prison was built in a region often called “the waste epicenter” (Bernd 2017 [94]) of the Eagle Ford Shale, a 30-county region where 20 saltwater disposal wells pump fracked wastewater back into the ground.

The Karnes County Civil Detention Center is another immigrant prison in the region and has been described as the “drilling epicenter” of the Eagle Ford Shale, a region that has experienced several well blowouts, local evacuations, and the majority of its residents reporting major environmental health problems (Song 2015 [95]). This region has thousands of oil and gas wells, many of which the Texas Commission on Environmental Quality does not even know exist, producing a massive and violent transformation across the landscape, threatening water tables, air quality, and human health. A Center for Public Integrity investigation concluded that a contributing force behind these increasing threats to human and environmental health is the fact that Texas regulatory agencies do far more to protect the oil and gas industries than the public (Song, Morris, and Hasemyer 2014 [96]). While the free residents of the region face considerable risks, the detainees at the Karnes facility are at an even greater disadvantage, given their legal status and immobility. The water at the prison is heavily chlorinated, and immigrant prisoners report that it smells and tastes foul (Bernd 2017 [94]).

Oil and gas extraction releases a range of health threatening chemicals, including hydrogen sulfide (a deadly gas found in great volumes in the Eagle Ford shale and Karnes County in particular), volatile organic compounds like benzene (a known carcinogen and contributor to leukemia), particulate matter and sulfur dioxide (which contribute to lung irritation and respiratory ailments), as well as carbon monoxide and carbon disulfide. Health studies demonstrate that, depending on the dosage and duration of exposure, these substances can cause a range of problems, including headaches, nausea, asthma, eye irritation, neurological harm, and cancer.

At both the South Texas Family Residential Center and the Karnes County Civil Detention Center, there have been allegations of forced family separation, sexual assault, inadequate medical care, malnourishment and depression among children, and many other objections. As is the case at many detention prisons around the nation, detainees routinely resist these harsh conditions through hunger strikes, sit-ins, and other means of protest and defiance against this brutal system. In 2015, mothers imprisoned at the Karnes County facility went on a hunger strike and one of their complaints was that the tap water was foul tasting because it had been heavily chlorinated, most likely in an effort to disinfect any pathogens related to the nearby heavy industrial fracking operations. The mothers had been purchasing clean water at the prison commissary to maintain their health, but the authorities shut the store down, thus forcing inmates to drink the water they suspected was contaminated. This action was one of many institutional decisions the detainees were resisting in order to achieve some semblance of health and justice.

More broadly, the spatial co-location of these detention prisons in fossil fuel extraction zones is worrisome on a number of levels. The International Energy Agency (IEA) forecasts that growth in U.S. oil production will meet 80% of new global demand for oil in the coming years (until at least 2024),

with much of that growth coming directly from oil produced by fracking in South Texas (Associated Press 2018 [97]). Thus, international migrants, refugees, and asylum seekers are caged, with children often separated from their families, and placed at great risk of exposure to contaminated water and air as an indirect result of repressive, militaristic U.S. foreign policies in Latin America as well as climate change-induced drought and human migration (Blitzer 2019 [98]; World Food Programme 2015 [99]) and as a direct result of the U.S.'s oppressive anti-immigrant policies and an intensified commitment to global fossil fuel production, all of which serve to amplify nativism and global climate change (Worland 2018 [100]).

2.2. Northwest Detention Center

The Northwest Detention Center in Tacoma, Washington is an immigrant prison marked by a multitude of environmental justice threats. This area is known to have contaminated air, water, and soil and is known to be in a high-risk zone in the event of natural disasters. The company that runs this facility (The GEO Group) has also been charged with forcing immigrant detainees to work against their will, serving inedible food, and not providing adequate medical care. This is one of the largest detention prisons currently operating in the United States and exemplifies the severity of injustices to which immigrants are subjected (ICE 2017 [101], PEJP 2018 [47]).

The Northwest Detention Center is directly adjacent to a Superfund site (ID: WAD980726368) in the Tacoma Tidelands area of Washington State—where a coal gasification plant leached toxic sludge into the soil for more than thirty years. The facility opened in 2004 and currently holds over 1400 immigrant detainees (ICE 2017 [101]). The USEPA superfund contaminant list shows this area to be polluted with 27 different compounds, including antimony, arsenic, benzene, beryllium, cadmium, chromium VI, copper, lead, manganese, mercury, nickel, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, selenium, silver, tetrachloroethylene, thallium, and zinc. These toxicants are found in soil, sediment, surface water, groundwater, and air supplies on site (USEPA 2018 [102]). These chemicals and compounds can be ingested through water supplies, breathing contaminated air, and skin exposure. Health impacts can range from skin irritation, respiratory infections, developmental difficulties, cancers, organ failure, and death (ATSDR 2018 [68]).

During a public comment period in 2017 for a proposed pause on further industrial projects at the site, citizens living around the Tidelands reported headaches, sore throats, and the inability to breathe the outdoor air without respiratory distress because of living close to the area (City of Tacoma 2017 [103]). Citizens are not living on the premises like immigrant detainees are forced to, so it is highly likely that detainees are suffering from health effects associated with these pollutants to a higher degree. Yet, health effects are just one of the environmental dangers facing detainees held at this facility. The very building is constructed upon a low-lying floodplain on top of loose soils that are prone to liquefying during earthquakes (Johnson et al. 2004 [104]). Scientists also estimate that the Tidelands is the exact location that volcanic mudslides will flow into if nearby Mt. Rainier combusts, and this area would be completely wiped out by seawater if a tsunami ever hits the Puget Sound (USGS 2016 [105]). For these very reasons, the Tidelands is only zoned for industrial projects. Nonetheless, as a result of political lobbying, government officials approved an immigrant detention prison in this hazard zone in 2004. If any of these disasters were to hit Tacoma, the GEO group would have less than eight minutes to evacuate almost 1500 detainees, and their safety plans and protocols have never been released to the public. The area the Northwest Detention Center is built on should never be used to imprison human beings, as it is at extreme risk in the face of any disasters and is a highly polluted site.

In April of 2017, 100 immigrant prisoners at the Northwest Detention Center launched a hunger strike to protest the conditions of their confinement. The complaints that motivated this strike echoed many of the prisoners' concerns during a similar strike in 2014 at the same facility (which lasted 56 days): abuse by prison guards, maggot-infested food, and inadequate medical care, among other issues. While both of these protests on the *inside* of the facility were remarkable (considering how legally disempowered undocumented prisoners are), there have also been resistance actions taking place

outside the prison. In April of 2015, the Northwest Detention Center Resistance Coalition (NDCRC), a Seattle-based activist group, set up a human blockade outside the facility to prevent buses and vans from transporting detainees to Sea-Tac airport for deportation. The NDCRC activists explicitly stated that they were acting in solidarity to support the immigrant prisoners *and* to make a public statement that linked the oppressive conditions at the facility to the problem of climate change-driven migration. As one participating activist, Ahmed Gaya, declared, “On a broader scale, we think the struggles of migrant and climate justice are one and the same. Many people are migrating and are forced to leave their homes because of climate change” (Bogado 2015 [106]). Like many scholars and advocates concerned with the intersections of immigrant rights and environmental and climate injustice, NDCRC activists believe that continued climate change will lead to more forced migration, and nations like the U.S.—which have contributed disproportionately to global greenhouse gas emissions—have an ethical responsibility to address the consequences for people fleeing their home countries in search of refuge. This NDCRC action was also intended to highlight what activists believe are oppressive conditions inside the facility. While the Northwest Detention Center is still operating, the protests within and outside of the facility have led to much greater media attention on the conditions facing those inside; several lawsuits have been filed by detainees and government officials against the GEO group, commissary prices have declined so that some basic necessities are more affordable for detainees, and new legislation has been proposed (although not yet passed) to strengthen protections for detainees at the site.

3. Discussion

This paper considers the U.S. prison system as a site of environmental justice struggles, with a specific emphasis on the troubling conditions confronting thousands of immigrants imprisoned and awaiting trial and possible deportation. There are several reasons for extending the reach of EJ studies to the prisons system. The vast majority of inmates and detainees in the U.S. carceral and immigration systems come from vulnerable and marginalized groups (e.g., low-income persons, people of color, women, and immigrants). There is a myriad of public and environmental health hazards associated with the U.S. prison system, including air, water, and land pollution that place inmates and detainees in harm’s way. If the environmental justice literature has successfully and effectively reframed and redefined “the environment” to include those spaces occupied not just by nonhumans, but also by people (such as the home, workplace, recreational sites, schools, and houses of worship, for example), then prisons meet that expansive standard as well as any place. As noted earlier, the prison is also a space of institutionally enforced immobility, thus rendering the debate over the so-called “minority move-in” hypothesis moot and suggesting generative new directions for research on mobility justice (Sheller 2018 [107]), which emphasizes the role of power and inequality in shaping social systems that govern our mobility and immobility. Studying environmental injustices in prisons also affords scholars the opportunity to push our analyses and proposals for solutions far beyond the typically reformist orientation of the literature. That is, much of the EJ literature tends to imagine justice being successfully exacted from existing structural and political arrangements (for a critique, see Benford 2005 [108]), while a growing number of scholars contend that justice is likely only possible after the abolition of capitalism, the nation state, or both (Pulido, Kohl, and Cotton 2016 [29]). While such a transformation may be unlikely in the near future, the prison is a space where one can appreciate the logic of scholars and activists who embrace such visions of change because it is an inherently brutal form of state-sanctioned violence, supported by unforgiving market economy institutions. That is, states and markets thrive on the production and maintenance of social and environmental inequalities, so radical solutions are needed to address those entrenched structures.

The question of immigration also suggests that transformative—rather than reformist—thinking and action are in order. Undocumented immigrants are often vilified as enemies of the nation, while those who are also imprisoned are literally caged and subjected to human rights abuses and cruel and unusual punishment, such as environmental and health assaults. Considering that prisons are

sites of legally-sanctioned enslavement (see James 2005 [109]), defined here as either penal captivity or forced labor (or both), imprisoned undocumented immigrants are doubly marginalized because they were never seen as having any meaningful rights in the first place, even outside of the context of the carceral system (De Genova and Peutz 2010 [110]). If that is an accurate assessment (and we believe it is), then demanding reforms of the political class in charge of this system will likely yield limited results. Therefore, if we locate the roots of environmental injustice in general and environmental racism directed at immigrants in prison in particular in centuries of U.S. settler colonialism and racial capitalism, then we feel compelled to conclude that bolder, more disruptive scholarship and politics are required to address such longstanding and violent configurations of power.

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