Incarceration and the Depletion and Denial of Life/Health in California

by

Abigail Cunniff
Class of 2017

A thesis (or essay) submitted to the faculty of Wesleyan University in partial fulfillment of the requirements for the Degree of Bachelor of Arts with Departmental Honors in American Studies

Middletown, Connecticut
April, 2017
ACKNOWLEDGEMENTS

This project would not exist without the instruction and guidance that I received from Diana Zuñiga, Deb Reyes, and Christina Tsao during my summer with CURB. I am incredibly thankful for their kindness and expertise, as well as that of Shabina Toorawa, Matt, Theresa Martinez, Rafael Sperry, Craig Gilmore, and many others. I am also thankful to Rosa for rolling with the punches with me throughout the hectic summer.

I am thankful to all of the exceptional professors whom I have encountered in my time at Wesleyan, including Lois Brown, Mark Minch, Megan Glick, Tony Hatch, Laura Grappo, Demetrius Eudell, and Maria John. I am especially grateful to Kehaulani Kauanui for her mentorship in class, on this senior thesis project, and in my broader campus political life.

I would like to acknowledge the Davenport Committee for funding my summer research.

Demetrius Eudell’s remarkable intellectual insight informed much of my underlying analysis that guided this project, as did the questions that Craig Gilmore asked me in meetings for the CURB report.

I am deeply grateful to my peers in American Studies (Taina, Iryelis, and others) for building networks of support that were especially helpful this year. I am thankful for my housemates who have listened to me talk through various parts of my thesis and life. I am overwhelmingly thankful to Yael Horowitz and Serene Murad for showing me how to be stronger and more thoughtful than I thought possible at once. Thanks to Grace Handy and Kareem for bracing me during rocky times this past year.

I want to acknowledge that throughout the years leading up to this work that I have been residing on the ancestral homelands of the Ramaytush Ohlone people in the Bay Area, the Wangunk people in Connecticut, and the Gabrieleño people in Los Angeles.

I am still figuring out how to acknowledge the contributions of nonhumans but I know that my life and work are entangled with innumerable beings and things that together create possibilities for life and health on this planet.

Finally, thanks to my grandmothers and my parents for caring a lot about me and this project.
Introduction

“In looking at the environmental record of prisons and jails in California, and the final Environmental Impact Report for the proposed facility, it is clear the proposed jail will cause significant environmental harms, including impacts on water resources, air quality, and public health… For these reasons, we urge the Los Angeles Board of Supervisors to cancel the building of the proposed women’s jail in Mira Loma and reject the AB900 funding.”

- Californians United for a Responsible Budget, "We Are Not Disposable: The toxic impact of Prisons and Jails,” October 2016

The Mira Loma jail project, or the proposal to renovate an old facility in Lancaster to serve as an expanded women’s “mental health” jail, has been a part of the Angeles County jail plan since 2013. The project has been delayed for multiple year as a result of constant opposition and protest from the Los Angeles No More Jails coalition. At an anti-jail event in Lancaster in the summer of 2016, a woman in attendance testified about the time that she spent at the Mira Loma facility when it was called the “Sheriff’s Women’s Honor Ranch” in the early 1990’s. She explained the cyclical system of jailing and policing, which is especially violent for women marked as “having mental illness.” Most of the opposition voiced by Lancaster residents at the event hinged on the fact people in their town needed health care and social services from the state, not more jails.

For the two months during the summer of 2016 that I was working as an intern for Californians United for a Responsible Budget (CURB), I researched many environmental issues related to prisons and jails to be used for the Mira Loma CURB report. Through both the individual and group research processes with CURB, I developed many of the questions of this thesis. My analysis of the California prison system was bolstered immeasurably by the insight of knowledgeable antiprison
activists and our shared inquiries about the possibilities of life, health, and death as related to prisons and the environment. Working for CURB, a coalition organization made up of over 60 direct services and anti-prison groups throughout the state, put me in conversation with people organizing from the perspective of women prisoners, children, and immigrants affected by lock-up facilities, mental health services inside and outside, and the countless other ways that incarceration is built out of and intertwined with people’s everyday lives. CURB, as well as Youth Justice Coalition, Critical Resistance LA, and Free LA High School are all housed in Chuco’s Justice Center in Inglewood. The center one is a pillar of community organizing and takes its name from a beloved Youth Justice Coalition organizer, Jesse “Chuco” Berrera, who was killed in 2005.¹

While researching for the CURB report at Chuco’s, I knew that my work was entangled in the ongoing discussions of prisons and police going on around me, but I had trouble explaining how ecological systems could be on the same field of analysis as prisons. Partly to blame is the fact that incarceration systems and the environment have been dislocated from the histories of settler colonialism and empire that are central to the formation of California state institutions. As I worked and researched at Chuco’s, I was surrounded by people who were engaging with personal histories involving state violence in order to make visible types of control and destruction that prisons and police enact upon individuals, families, and communities. It was after participating in discussions and actions at Chuco’s that I finally arrived at the central questions of my study: how do ecologies and land factor into the web of carceral

institutions in California? How does an environmental analysis of prisons shed new light on the experiences of people and things trapped by incarceration facilities?

In this thesis, I argue that instances of environmental degradation as related to prisons can be traced back to the systems that have created conditions of ill-health for all types of living and nonliving bodies, including incarcerated people, plant systems, people living nearby prisons, owls, rivers, and all things caught in the state’s attempts to control and contain people who have been criminalized. While the things, people, and places harmed by incarceration might be explained as collateral damage, I insist that the organization of prisons and pollution serves as a type of intentional depletion of regions that are already marked as not being fully alive on top of particular invocations of death. Incarceration facilities and water distribution systems, amongst other types of state infrastructure projects, are historically imbued with economic, racial, and social power dynamics to create uneven geographies of prisons and toxicity. Similar to most iterations of state power and violence, these types of infrastructure systems attempt to constrain immensely complex forms of human and nonhuman systems, which often results in systemic disrepair and crisis.

The scope of empire that I examine in California begins with Anglo-American settler colonialism starting officially after the Mexican-American War and California statehood in 1848, the ensuing society that subordinated differently racialized groups, and its expansion in the twentieth century with the Second World War and globalization. In researching the history of water systems, it became clear that the origins of one of the most complicated water systems in the world are entangled with the project of settler colonialism and territory expansion in California. Early on in
California statehood, laws were enacted that legally tied irrigation and dam construction to settlement land grants, while explicit demands for frontier homicide were promoted by the governor as an important act for the induction of a new state. The racialization of Mexican, Chinese, and Japanese people and their respective labor histories merit a study of California not singularly as a state engaged in settler colonial (structural genocide) practices, but also as an imperial force connected to many pathways and negotiating borders based on its own political interests. Throughout the growth of California’s industries and economic power, the Anglo ruling political class established hierarchies based on labor and racialized social status. In order to study prisons in relation to California state history, it must be noted that groups of people have been racialized specifically in relation to their economic and social context. Ruth Wilson Gilmore names racism as the practices that force “premature death” upon certain populations, often occurring through prisons, pollution, exclusion, and uneven distribution of harm within California. California’s history of economic growth, racism, and labor distinctions, are all vitally connected to the forces of structural unemployment and criminalization that legitimize prisons.

The last historical trend of note is the formative role of big industries and the U.S. military in California economic structures. Agricultural and industrial production structures were afforded substantial decision making power within infrastructure and

---

5 Ibid.
alterations to nonhuman nature, and economic growth was supplemented substantially by military demands during the second world war. This study of prisons, ecology, land, and health is therefore always in relation to the structures and institutions established through settler colonial and imperial state formations. Starting in the mid-twentieth century, however, global capitalism forced a reorganization of surplus which, alongside uneven and racist geographic development, instigated California’s massive prison building project in the late twentieth century.

In addition to understanding the political and economic forces of prisons as related to human and ecological health, possibilities for life in incarceration systems are also limited and determined by social positions and structures, especially those that use race as an organizing factor. Prisons are inextricably embedded within determinations about which bodies need protection and are entitled to a substantial quality of life as opposed to the variety of bodies that are afforded significantly fewer possibilities of life within what Sylvia Wynter calls the Western “biocentric ethnoclass” conception of the human. Taking up Wynter’s analysis but looking to understand symbolic life beyond human bodies, I look to Mel Chen’s animacy hierarchies which interrogate the racialized and gendered implications that fall to nonhuman bodies to understand state determinations about what types of life and death are rationally explained and unremarkable. Within the new organization of global racial capitalism that expanded state policing and prisons, we can examine the ways that prisons have created a geography, or relationship between people and

---

7 Gilmore, Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California
9 Ibid.
spaces, that is shaped in large part by death. Using a necropolitical analytic to analyze the way that death is used to subjugate life in prison, it becomes difficult to miss the ways that social, emotional, physical, political, and mental death shape prison and the pathways that extend around prisons. This analysis shows that types of death in prison affect both incarcerated people as well as those who work in prisons, live near prisons, and have family members in prison. The way that death shapes the geography of the prison has far-reaching consequences for the possibilities of life and health for bodies that come into contact with prisons across many planes.

I examine systems of incarceration by starting with instances of ecological degradation and social fragmentation which I follow back their various structural determinations. This mode of research relied on the archives of a range of California and federal agencies’ records as well as the reporting done by local newspapers at city government meetings and in city archives. From the opposite direction, I also look at the broader patterns among zones in which prisons are built before zooming in to see prison and ecological systems as related in the health of different populations. Combining these methods was made possible only because of the rigorous historical and theoretical work that exists on California prisons and environmental histories, as well as the guidance of many individuals who were bringing analysis to the primary research that I was conducting for the CURB report.

The terms used throughout the course of this study vary depending on exactly what I am speaking about, but ecological health stands in for the general health of all parts of a particular ecological system, with attention to the way that species and broader ecological health are interdependent and often change in complementary
patterns. While the meanings that I attribute to human health vary throughout my study, most go beyond Western individualized notions of health that discount the ways that people’s understanding of themselves and their community affect their livelihoods. Although medical knowledge and care are not always critically examined as components of larger structures, I assess medical treatment as a component of Western knowledge and state systems. Additionally, I use the term incarceration most frequently to refer to state-run prisons but I extend the term to include other types of imprisonment facilities including jails, juvenile detention, immigration detention, federally-run prisons, fire camps, and “rehabilitative” facilities, among many others. I use Ruth Wilson Gilmore’s definition of the state as a set of general political priorities that oversee many institutions, each of which are made up of hierarchies and prevail over time.11 Most often I employ the term to refer to the California state government, which is made up of institutions like the California Department of Corrections and Rehabilitation (CDCR) and the California Environmental Protection Agency.

In chapter one, “Histories of California water, prisons, and jails,” I look to explain how water and incarceration systems in California have been built and how these systems have each reached points of crisis, as well as recent policies that signal a shift to increased county jail construction. The question of these systems and their related crises are what motivated the timing of this study, as the environmental degradation and prison overcrowding have been worsening with increased drought and climate variability. In chapter two, “Cases of soil, water, and air contamination

---

related to incarceration,” I examine instances of pollution and contamination related to imprisonment facilities, and how these cases have affected human and ecological health in their immediate localities. It is essential to assess each case and trend in terms of the background of more localized environmental and ecological issues in order to correctly assess the impact of each of the types of pollution as exacerbated by prisons. Finally, in chapter three, “Domination in prisons, territory, and the desakota,” I turn to the broader implications of toxicity and incarceration with attention to the institutional features of prisons and state environment creation. I take seriously the concern that environmental research has most often provoked liberal revisions to systems of state control, and seek to expose, through an investigation of health possibilities and denial, the types of domination present in state creation and prisons.

While I did not have much experience with prison abolition before embarking upon this project, both my internship with CURB and the Davenport grant awarded to me by the Public Affairs Center at Wesleyan University enabled me to spend multiple months in Los Angeles engaging seriously with intellectual work regarding prison reform and abolition frameworks. As an American Studies major with a concentration in indigenous studies, I was prepared to take on a study of land and the environment that dealt structurally with both environmental degradation as well as settler colonialism in California. Realizing that the city of Los Angeles has been constructed on the ancestral homelands of the Gabrieleño people pushed me to consider the current political formations of recognized and unrecognized indigenous peoples in California. Although I grew up in the Bay Area and have travelled to many national parks and tourist destinations in the state, I quickly realized that in order to critically
study California settler history and geography, I needed to first familiarize myself with rural and inland parts of California. In a similar manner, it was necessary to surrender some of my own conceptions about human and ecological health that I acquired earlier in my life as a white liberal environmentalist.

Analyzing the way that state organization is informed by the possibilities of life within the terms of U.S. society equips me to take these systems head-on and bring them into a shared frame. I strive to build a type of geography that is equipped to explain structural genocide, carceral systems, toxic waste, species extinction, racialized unemployment, and industrial pollution that in order to write against the grain of normalized acceptances of life and death.
Chapter I. Histories of California water, prisons, and jails

In September 2016, political activists from the Stop Urban Shield Coalition gathered about 500 people in Pleasanton, California to block all roads leading to the Urban Shield police training and equipment exhibition.\textsuperscript{12} Urban Shield is a police training and weapons expo that has occurred annually in Alameda County since 2007, with additional conferences happening in Boston and Dallas before being discontinued. The 4-day conference has both an intensive SWAT training program as well as a vendor display to model and sell new equipment in police departments. It hosts individuals from over 200 agencies throughout the U.S., in addition to people from the US Army, Mexican federal police, Israeli Defense Forces, and other international militaries. In response to activists shutting down the entrances and calling for an end to police militarization in 2016, a spokesman for the Alameda County Sheriff responded that the sheriff’s department hosts Urban Shield in order to prepare for emergency situations, specifically focusing on terrorist attacks, mass shootings, wildfires, and other types of natural disasters.\textsuperscript{13}

In bringing together an analysis of the carceral state that analyzes the role of policing and prisons in projects of empire, the Stop Urban Shield Coalition makes a critical intervention in the normalization of the brutality of police tactics and the political rhetoric of security. They point out in their 2016 report about Urban Shield that police raids have increased exponentially since the 1980’s, which is explained further by the fact that the Special Weapons and Tactics (SWAT) team was

\textsuperscript{12} The conference has recently been held on the weekend around September 11th.
developed by a Los Angeles Police Department officer in response to the urban uprising in Watts in 1965. The coalition argues that the expansion of brutal police tactics through the war games and militarization encouraged by the Urban Shield conference is actively endangering the health and wellness of people in California and has effects on people across the world. The main council of organizations that strategically coordinate the coalition is made up of the Arab Resource and Organizing Center, the Filipino anti-imperialist group BAYAN USA, the Black Alliance for Just Immigration, the prison abolitionist group Critical Resistance, and the Xicana Moratorium Coalition.

This type of coalition deals with the convergence of imperialist military intervention, evictions, racialized policing, and deportations, which requires an analysis of California state formation as related to the subjugation of differently racialized and classed groups. It is important to note, however, that in addition to Urban Shield’s reliance on the clearly racialized threat of terrorism and crime, the conference organizers have also shifted to include more wildfire and flood specific training because of the increase in dramatic environmental threats in recent years. Although the background of police departments and international military projects is distinct from the study of prisons and the environment, considerations of state emergency responses with attention to US empire and political repression are essential to both studies. To begin to unpack state apparatuses that have been developed in response to California “emergencies” and “crises” as related to prisons and ecology, I examine the histories of state systems of water, prisons, and the recent

---

shift to jails.

California state history is reliant upon settlement and its corresponding ideological underpinnings, especially as its state formation project has been related to water and incarceration systems. As Patrick Wolfe has theorized, settler colonialism – distinct from franchise colonialism – is premised on the “logic of the elimination of the native.” Settler colonialism is enacted through the establishment of a new settler colonial structure, and motivates the genocidal and eliminatory violence exercised against indigenous peoples in California and throughout the United States.\(^{15}\) In California, American settlers used white supremacy and racialization as organizing features of their settlement and displacement project in the late nineteenth century, and continued to rely on racialized violence while expanding settler society. Race as dictated by white supremacy has been used in economic and social formations to subjugate indigenous peoples, Mexicans, Chinese and Japanese immigrants, and Black people in complex patterns throughout California state history.\(^{16}\) So, in following this historical reading, my analysis of the state’s relationship to nonhuman nature and incarceration rests in large part with the settler colonial origins of present Californian society.

Keeping in mind the role of settler colonial and white supremacist origins in the foundation of both the U.S. and California state, I draw on historical explanations of today’s “crises” that bring prison and environmental issues into a comparable frames. The 2011-2016 drought has enlivened a new discussion of environmental issues, but critical examinations of Californian society and environment have been

\(^{15}\) Wolfe.

\(^{16}\) Almaguer.
continually undermined by policy recommendations that refuse historical explanation or structural interrogation. In these policy recommendations, environmental racism and justice is perpetually treated through a localized and special interest frame as opposed to intimately tied to the creation and perpetuation of environmental damage. High water usage and decades-long depletion of groundwater and ecosystems should be analyzed at the cumulative level, regardless of the year-to-year changes in rainfall. In a similar way, the conditions of California prisons cannot be substantively altered by amendments to decriminalize drug-related charges nor by analyses of prisons that do not question the interests of the state in the construction of these systems. Therefore, as I move to bring together issues that are routinely separated through institutional and political narratives, it is necessary to critically examine how these systems have arisen, according to what forces, and in what interest of the state.

In this chapter, I provide a background of both incarceration and environmental history in California in similar frames in order to explain the enormous changes that have taken place in the last few decades. The large and unyielding strain that Californian society has placed on nonhuman nature, and the state’s booming prison and jail populations are two undeniable issues that have motivated my archival study of prisons and health. In the first section of this chapter, I explain the history of California’s water infrastructure development, how water has been essential to supporting California’s human population and economy, and what the drought is and means today. The second section traces two explanations of the history of incarceration in California, both of which mark the start of the prison boom in the 1980’s through different motivating forces. Changes in the Californian political
economy in the mid-twentieth century and the expansion of counterinsurgency programs had direct results on incarceration and the current conditions of criminal justice in California. I transition in my last section to discuss the new “jail boom,” which is the move to increase funding for county-level incarceration and law enforcement as to reduce the overcrowding in state prison facilities. Although the shift to county-level corrections theoretically includes more funding for social services and health care, the implications of further expanding state lock-up facilities and local law enforcement must be considered. Exposing the political forces at work in the creation of water and incarceration systems will lay important groundwork for connecting incidents of pollution to the conditions of imprisonment, and will unveil a fuller picture of health in California.

Section I. Water and the drought in California

While the history of water in California is often employed to explain the development of the political economy, it can also reveal a pattern of water manipulation that has routinely deprioritized ecological life. Public and private decisions about water distribution and usage in California explicitly involved negotiating human and ecological health, and so analyzing this history can bring today’s questions about drought sharply into focus. Drought is defined in a variety of ways and does not have a simple causal history, largely because a complete explanation of the current drought requires untangling the history of farming, water policy, water infrastructure, and more recent changes that have affected water systems in California. To address all of these issues in succession, it is necessary to
understand water as it existed in the late nineteenth and early twentieth century in Californian American settler society, water infrastructure systems, and the context of the drought today.

To begin to unpack the California drought, we must examine the history of water in the settler colonial formation of the state government. One of the most explicit connections between settler society and water systems is the policies under which the newly formed state awarded Anglo settlers with land titles and water rights in early periods of settlement during the nineteenth century. Under various iterations of land allotment acts passed by Congress after the Homestead Act of 1862, settlers used water management as proof that they were putting the land to “beneficial use” and deserved title to it. The Desert Lands Act required that settlers have “proof of irrigation” before they were given a grant, while the Swamp and Overflow Act gave settlers title to land that they were able to drain and make productive.17 Agriculture, land ownership, and water usage were thoroughly intertwined, as moving and using water legally-endorsed Anglo settlers’ claims to stolen indigenous land. However, with the influx of settlers in the 1850’s and 60’s, water rights in the California semi-desert were increasingly disputed, so the federal government instituted a policy that ensured that the first-recognized Anglo settlers had primary access to water rights. This federal policy was adopted into the California state constitution in 1850, which meant that those who had a signed notice and had constructed a water diversion system before 1850 and up until 1914 were entitled by government regulation to the most water. The phrase describing this policy, “first in time, first in right,” remains as

one of the main guidelines for determining water rights.\textsuperscript{18} Water rights today are ordered based on the chronology of claims, and although these rights can be bought and transferred, white supremacy and settler colonialism still guide the distribution and prioritization of water access.

While the history of intertwined settler colonialism and water laws are often overlooked, the politics surrounding dams, canals and other large water projects across the state are notorious. In the process of constructing over 1,400 dams and some of the largest water projects in the world, many actors and forces were at work in determining California water infrastructure. Despite the multitude of factors, at the end of the day, wealthy and powerful individuals often decided how water was distributed. One of the most famous instances of economic combat and water politics is the story of the Los Angeles aqueduct. Because the desert terrain of Los Angeles and its limited freshwater aquifers, the growth of the city in the early twentieth century depended on securing transported water. A handful of politicians in Los Angeles collaborated with California state officials to create the Los Angeles aqueduct, which diverted huge amounts of water from the Owens Valley to southern California.\textsuperscript{19} At the same time when people in southern California were trying to make arid regions of the state habitable for more people, farmers and growers were pushing federal, state and local governments to bring more water into the Central Valley for agriculture. Growers in the Central Valley were quickly depleting their local underground aquifers to irrigate their crops, so they used their political weight as the biggest industry in California to push government officials to build water

\footnotesize{\textsuperscript{18} G Sawyers, "A Primer on California Water Rights" (paper presented at the University of California Agricultural Issues Centre 2005 Spring Outlook Forum, 2005).}

\footnotesize{\textsuperscript{19} Reisner.}
infrastructure that would support agricultural business. Their efforts were rewarded in 1935 when the Bureau of Reclamation completed the Central Valley Project, which is widely understood as one of the largest and most risky infrastructure projects of its time.\(^{20}\)

Capitalist agribusinesses, or the handful of farms that had a stronghold on the Californian political economy after the Great Depression, routinely used their political power to manipulate federal, state, and regional government functions to their benefit.\(^{21}\) In one instance in the early 1940’s, a few capitalist agribusinesses, most notably Boswell and Salyer, fabricated concerns about flood risk to convince the U.S. Army Corps of Engineers to build water diversion infrastructure.\(^{22}\) Large growers in the southern San Joaquin Valley benefitted enormously from the construction of diversion gates which eventually became the Pine Flat Dam. These agribusinesses continued to play a large role in shaping water systems in Central California through the end of the twentieth century.

The interests of agribusinesses definitively converged with those of southern California developers for the construction of the State Water Project in 1960 under Governor Gerald P. Brown. The project was initially designed to carry snowmelt from the Sierra Nevada Mountains to the growing regions of Los Angeles and San Diego. After the project was built, however, it became clear that not all the water would be used in the Los Angeles Metropolitan area, meaning that some of the water would flow back out to the sea. Agribusinesses convinced the Los Angeles

---

21 Gilmore.
22 Ibid., 135.
Metropolitan Water District to sell this “surplus” water to growers in the San Joaquin Valley at a subsidized rate. The businesses achieved a fixed rate, which was one seventh of the actual cost of water transportation, because the state imposed an increased water price for people in Los Angeles. It is noteworthy that throughout these decisions, “surplus” water, or water that runs to the sea, is continually referred to as wasted. All types of water in California are widely understood as resources that must be used at full capacity, which makes river ecosystems and all other things affected by the destruction of river flow considerations outside of state purview.

Turning now to today’s state water infrastructure, it is clear that wealthy elite and bureaucratic forces have been powerful in creating the incredibly complex and stratified system of water distribution. To begin unpacking water infrastructure in California today, it must be noted that more than three fourths of the state’s water is used for irrigation and agriculture. The water used by agribusinesses comes from all of California’s three main water sources, and is often sold at a significantly discounted rate because of the subsidies that were established early on. Agricultural demand and access to water is tied up in many types of federal and state policy, including the U.S. Farm Bill that was originally written in 1933. A prominent legacy of the Farm Bill is the highly-subsidized production of cotton, a water-intensive crop. Cotton farmers are compensated in a variety of ways, including through federal assistance with crop insurance and loans. Cotton growers in

23 Ibid.
24 While this percentage falls in a normal range as compared to other states in the US, California is exceptional in its population, agricultural production, and largely desert conditions. To understand the implications of the drought, then, we must critically examine the way that agricultural businesses have expanded to use the amount of water that they do.
California received over $3 billion in aid in the past 20 years, even though many of those years were characterized by extreme drought.\(^{26}\) This means that during periods when most of the state has been in extreme to exceptional drought, cotton has still been planted by many growers even though there is not necessarily a market for the crop nor enough water to meet residential needs.

To have a basic picture of how water is distributed, it is important to note the three main water sources in California: the Colorado River, the precipitation stored in reservoirs and snowmelt within California, and the groundwater extracted from underground aquifers. While the current systems of water distribution are clearly based around these three sources, the systems were equally determined by and organized according to political and economic forces in California. An example of the political forces present in water distribution is evident in the constant competition with other Western states over legal entitlement to water from the Colorado River. This has manifested as “use it or lose it” water rights laws for agribusinesses, which penalize growers who use less water than they are entitled to by the government. Growers often flood their crops and use unnecessary amounts of water to maintain their legal standing and access. This set of laws was enacted because of the competition between the seven states that share legal access to the Colorado River, thus each state is incentivized to keep demand and usage high as to not surrender part of their share of water rights to other states.\(^{27}\) The Colorado River has many other political facets and layers, such as the high salinity and contamination of the water as


it flows south into Mexico. This is all dwarfed by the unavoidable fact that one of the largest rivers in the Southwest is reduced to a trickle because of the Hoover Dam and similarly high stakes agendas that have been carried out in attempts to profit from the entirety of the river’s flow. All in all, the Colorado River has been disastrously altered by federal and state government projects and is a site of routine power contestations.

Turning now to the complex systems of canals, dams, and aqueducts that carry water collected from snowmelt and precipitation in Northern California, it is important to note that the two most ambitious projects in this system were the result of political plans to enliven and enhance different regions of California. Central Californian agribusinesses and southern metropolitan areas have benefitted in distinct ways from water transportation systems. Although this infrastructure system is often not apparent to those living on the receiving end of the transported water, many areas of rural California excluded from water delivery exist in dangerous conditions when their wells run dry. 28 Especially because the water system is legally self-justifying and largely impenetrable, residential areas that have been excluded from water delivery end up relying on bottled water and canisters from delivery trucks for their household water needs. 29 Geographic power dynamics cannot be overstated in the establishment of the stratified and unequal access to water that exists today.

The third main source of water in California is groundwater, which is water that has been extracted from underground deposits of water and is usually used in local contexts. Groundwater is most characterized by the uncertainty that most state

29 Ibid.
officials and researchers hold about the size of reserves and the consequences of overuse. The size of underground reserves and aquifers vary significantly, and because there is no legal regulation on groundwater extraction in California, it is very difficult to tell how much water has already been extracted, and how much remains. A U.S. Geological Survey report from 2015 indicated that many basins in Central California are in critical or extreme overdraft from high levels of extraction over the past century.\(^{30}\) The rapid rates of water withdrawal from underground reserves has put many regions of California at a high risk of subsidence, where the ground level can sink multiple feet, which endangers all types of infrastructure and housing.

To bring these histories into the contemporary moment, it must be recognized that the unprecedented droughts that California has faced in the past 10 years are inextricably linked to the aforementioned development of water systems and use. California settler history is often marked by stories of extreme drought, and through recounting historic droughts, it is clear that the frequency and intensity of droughts have been increasing in recent years.\(^{31}\) At a basic level, state officials quantify each drought based on low precipitation, and in California, a lack of rain becomes pronounced because of the immensely strained systems. What could be considered within the normal variation of low rainfall (i.e. the drought of the early 1930’s) now has life-altering consequences because of the levels of agricultural industry and the size of the California human population. In the string of recent record high temperatures, years with low rainfall have had increasingly severe consequences.

The high summer temperatures in times of low rainfall mean that evaporation


from reservoirs, forests, and all types of terrain occurs at an increasing rate, making the risk of dust storms and wildfires extremely high. During the summer of 2015, the height of the most recent drought, Governor Jerry Brown announced a state of extreme emergency concerning the uptick in wildfires resulting from the drought.\textsuperscript{32} Wildfires are the starting point in a series of linked factors such as heightened air pollution, extreme weather changes, and depleted water reserves. To continue business practices during years of low rainfall, growers and water districts have been tapping into underground water supplies that are largely nonrenewable. Mainstream news outlets and public officials continue to mistakenly interpret years of high rainfall as neutralization of the drought, but the extreme lack of water in all ecosystems and the steady depletion of groundwater is only temporarily diminished with precipitation, not undone completely.\textsuperscript{33} The agricultural industry in California has suffered extensively as well, with many hundreds of thousands of acres of cropland left unplowed and billions of dollars in lost revenue which affects people living in areas dominated by agricultural industries. Although there has been an understanding of the gravity of the situation and the level of impending suffering caused by water shortages, there have been few recommendations that questioned the system of water transportation and collection that is intimately tied to questions of historic water use.

In addition to the more localized issues of wildfires and dust storms resulting from high temperatures and evaporation, there are also concerns that the Sierra Nevada snowpack might melt over a shorter period of time with higher temperatures.

\textsuperscript{33} Judith Mernit, "The Drought: The Dry Years to Come," \textit{Los Angeles Magazine}October 20, 2015.
If the accumulated snowpack from winter were to melt too quickly, California could be left in the spring and summer months without one of its largest sources of water.\textsuperscript{34} This has the potential to create an even harsher gap between water supply and demand as it has been calculated for human and economic needs. This all being said, there is very little room in the parameters of water history as it exists to think about ecological health. Because of the way that the dam and canal systems in California treat unused water as “surplus” or wasted water, species that live in waterways are incredibly vulnerable in years of low rainfall. River ecosystems are already explicitly sacrificed for water transportation and water usage, and in periods of drought the few creatures that live in rivers are put under incredible stress. Many types of fish populations in particular have been significantly decreased in the unusually high temperatures of water and low levels of rivers that were commonplace in the 2011-2016 drought.\textsuperscript{35} In addition to nonhuman beings that live in rivers, most other types of ecosystems are also affected by drought as water is essential for almost all types of life. Plant ecosystems are hugely altered by drought not only because plant life is clearly affected by a lack of adequate water, but also because decreases in pollinator populations like bees inhibit plant reproduction. These changes also can result in other insect populations surges which can cause extreme system imbalance.\textsuperscript{36}

In sum, the history of water in California as it can be told through political economic terms is incredibly complex and accounts for the structures that now serve

\textsuperscript{34} Ibid.
\textsuperscript{36} Hong-Bo Shao et al., “Water-Deficit Stress-Induced Anatomical Changes in Higher Plants,” \textit{Comptes rendus biologies} 331, no. 3 (2008).
over 38 million people as well as the equivalent of the world’s 7th largest national economy. The history of water is tied to land grants and development in settlement, the way water infrastructure was developed and now operates today, and the way that the drought has arisen within these intricate systems of water. These political decisions and understated systemic factors illustrate the depth of water scarcity issues which is extremely important for a study of prisons and the environment in California.

Section II. The development of the California prison system and the neoliberal carceral state

Alongside the history of the complex water transportation systems that have been developed before and after California achieved statehood, we also must understand the forces at play in the development of the California prison system. One of these forces is the concept of crisis, which has been used in the popular imagination to mobilize and normalize many of the appendages of policing and prisons in the U.S. and California. The origin of the crisis depends on the history being told; with the most compelling explanations highlighting the crisis focused on global racial capitalism as well as forms of surplus that necessitated a reconfiguration of geography and punishment. The California state prison system is widely regarded as one of the largest and most formidable systems in place today, because of the breadth and intensity that the system has developed over the past few decades. One of the most indicative examples of this is the fact that the California Department of Corrections and Rehabilitation (CDCR) is the largest state agency in budget and
employment, as it currently employs more than 59,000 people. Two thirds of the prisons operating today were built during the enormous prison boom from 1984 to 2005, most of which were built in regions of the state that are severely affected by poverty and high unemployment. While there are an innumerable number of factors at play in the history of California prisons, the history of the neoliberal carceral state in California as well as a geographic examination of the political economy are two historical analyses that shed light on many aspects of state power and California prisons as they exist today.

In his impressive analysis of the rise of the neoliberal carceral state, Jordan T. Camp interrogates the relationship between racial regimes, capitalist restructuring, and mass antiracist/class struggle. He argues that the political function of prisons has been to consolidate state power in the face of organized anti-capitalist and Black freedom struggles in urban and prison contexts throughout the twentieth century. Although his analysis encompasses the federal government and prisons throughout the U.S., I consolidate his historical work that references California to provide the context of the radical organizing and counterinsurgency strategies employed in California.

Camp brings together many historical threads to explain the role of the 1965-Watts rebellion in the expansion of carceral policies and prison growth of the late twentieth century. In line with many other scholars, he explains that many of the problems that contributed to the social unrest of this period including the increasing unemployment rate, deindustrialization, dispossession, and urbanization, were largely

37 “Active State Employees by Department/Facility,” ed. California State Controller (March 2017).
38 Camp.
invisibilized in state and media portrayals. Even though the Watts rebellion was undoubtedly tied to anger about the police brutality and poverty affecting the Black working class in Watts, state officials utilized Cold War discourse of law and order to reframe this uprising as racialized and criminalized “urban unrest.” Following the Watts rebellion in 1965, Ronald Reagan’s California gubernatorial campaign in 1966 used anti-poor and anti-Black rhetoric to promise punitive policies that would “crack down on crime.” In the period after his election, members of the Black Panther Party for Self-Defense and political groups that could be connected to socialist or communist politics were targeted in the name of reducing criminal and insurgent activity. This meant that the convergence of law and order discourse, counterinsurgency tactics, and a move toward increasing incarceration were all closely linked in the 1960’s in California.

In addition to incarceration being linked to political repression starting in the 1960’s, Camp explains the centrality of neoliberalism in a way that goes beyond the traditional markers of deregulation, privatization, and cutbacks in social spending. He argues that the depoliticized neoliberal discourse of the mid-twentieth century replaced the social and economic explanations of political unrest to encourage moral panics about security, and then justify state repression. Of the many violent state responses happening throughout the country, the New York state’s response to the Attica prison uprising, which itself was spurred by the murder of California prisoner and political radical George L. Jackson, was hidden by neoliberal narratives about safety and security. In the period after the Attica uprising, the first super maximum-security prison was constructed in Marion, Illinois as a facility to house “unruly”
prisoners from across the country, with the goal of disrupting prisoner political organizing. After observing the repressive effects of solitary confinement and other practices of super-maximum security in the Illinois facility, the CDCR built the Pelican Bay super maximum security prison in Northern California in 1989 to be a model for incarceration of public safety. Camp argues that the supermax prison normalized the routine use of torture for the “worst of the worst,” especially with the use of solitary confinement for 23 hours a day. As many more prisons were built throughout California in the 1980’s, Camp explains that media and state officials’ language about incarceration focused on containing “riot-prone” populations, most notably after the 1992 rebellion in response to the Rodney King trial in Los Angeles. The media narrative that accompanied the 1992 uprising cemented the idea in the American imagination that armed law enforcement was necessary to combat the “horrors of lawlessness” which was represented as looters and mob rule, instead of the questions being raised about structural unemployment, deindustrialization in city centers, police violence, and unabated racism.

On the other hand, the rise of the prison system in terms of political economy and California geography is expertly explained and delivered by Ruth Wilson Gilmore in her book, *Golden Gulag*. She highlights trends in the urban and rural political economies of California to explain how the state restructured its institutions to deal with the crises of surplus generated by global capitalism. By making prisons and the CDCR the center of a geographic study of the racial capitalist state, Gilmore articulates the spatial unevenness as well as the classed and raced dimensions of geography in California that have enabled what many have referred to as “one of the

39 Gilmore.
biggest prison-building and -filling projects in the world.”

Gilmore’s analysis rests on the rise of global capitalism that exacerbated income inequality and uneven geographic development in the 1960’s. She argues that the end of the “golden age of American capitalism” with the decline of manufacturing industries and the neoliberal chronic unemployment forced the state to restructure relationships and institutions, concentrating surpluses in capital, land, labor, and state capacity into the project of prison construction and expansion. At the same time that prison building projects were sold to economically abandoned parts of California in the hopes of jobs and better economic situations, people affected by racialized economic inequality in urban areas were criminalized and incarcerated. In addition to analyzing the role of surpluses and economic factors leading to the push toward prisons, Gilmore also identifies the types of uneven development that created both the urban neighborhoods from which incarcerated people came, and the rural communities in which prisons were built. These two geographically and demographically distinct areas became connected by prison and state power through reorienting economic and political problems in California. Gilmore’s book illuminates the forces that contributed to prisons and shows the deeply rooted and complex interconnectivity that must be attended to in any study of California prisons.

These two complementary histories help to untangle the complex context in which prisons, the places they are located, and the people who are in them, exist. The fact that California prison expansion was facilitated both by political counterinsurgency strategies as well as economic changes in global capitalism and geographic power dynamics sheds light on some of the forces of domination and

---

40 Ibid., 5.
political gain that lie at the heart of the California prison system.

Section III. The Realignment Act (AB 109) and the new jail boom

“The mentally ill were largely and ironically left unmentioned in the Realignment discourse, though they were the impetus for the legislation. AB 109 does not address its effect on the mentally ill; it merely transfers the burden from the state to counties.”
- Anastasia Cooper, Hastings Women’s Law Journal

With the construction of over 20 new state prisons and increased legal sentencing in the past few decades, the population of incarcerated people in California state prisons has grown exponentially. Throughout the 90’s and early 2000’s, California state prisons were overcrowded at an alarming rate, at some points reaching over 200% of designed capacity. After examining the complicated systems of water and prisons in California, I turn to the most recent trend in incarceration expansion that is still in the process of unfolding. The legislation that was introduced to resolve prison overcrowding and health issues has actually resulted in a shift to jail construction, which anti-prison activists are calling the jail boom. The increasing state funding being used for jail construction in the present moment necessitates further study on the effects of incarceration on human and ecological health.

Starting in 1990 and continuing until 2011, a series of lawsuits charged the CDCR with unconstitutional prison conditions, premised mostly on the lack of mental and physical health care. A federal three-judge panel mandated in 2010 that prisons in California reduce their levels of overcrowding as to only hold 137.5% of designed capacity.

---

capacity. The legal process took many years and included appeals, extensions, renegotiations of the terms of the ruling by California state, but in 2011 the U.S. Supreme Court finally ruled that the CDCR had no choice but to comply with the previous order to reduce prison population numbers. The California Public Safety and Realignment Act, also known as Assembly Bill 109, was signed into law by Governor Jerry Brown in October 2011 to comply with the Supreme Court’s ruling. The stated intention of the new law was to create a “justice investment” to reduce overcrowding in prisons while also reducing California’s high recidivism rate and spending on mental health services.\(^{43}\) To decrease state prison admissions, the Realignment Act immediately mandated that low-level felony sentences (non-serious, non-violent, non-sexual) be served locally in jails or through other types of “alternative sanctions” that counties would have the power to decide. Additionally, responsibility for parole of people convicted of low-level felonies was transferred to a county level, and state prison time was no longer given for “technical” (often parole) violations, which made up a huge component of prison admissions previously.\(^{44}\) This legislation was sold on the idea that local officials would be more equipped to carry out sentencing and rehabilitation on a county level, which means that Realignment funding is allocated per county for the combined uses of incarceration, law enforcement, or social programs. Each county has the discretion to decide what percentage of their funding they want to devote to each of their own projects and programs.

One of the most notable changes brought about by the Realignment Act is the fact that out of 58 counties in California, at least 40 of them have proposed to


\(^{44}\) Ibid.
renovate or build county jails in recent years. In an analysis of all California county budgets, legal scholars Allan Hopper, James Austin, and Jolene Forman found that most counties have unsurprisingly decided to spend their allotted Realignment budgets on jails and law enforcement. They argue that Realignment protocol has failed to promote alternatives to incarceration and has simply shifted the overcrowding, abuse, and mismanagement of people to county-level structures. Even though the stated intention of Realignment was to create liberal policies to reduce incarceration and improve social services, it has not substantively changed the methods or modes of the criminal justice system.

To understand the implications of the wave of jail expansion, it must be noted that historically the jail has been a flexible institution designed for police control. While most prisons in California are run by the CDCR as a part of the state government and incarcerate people for long periods of time, jails are smaller county-run facilities that hold people awaiting trial, transfer, or release. Most jails in California cities and counties were constructed in the mid-twentieth century, with the Los Angeles County jail system growing to be one of the largest in the world today. John Irwin, a formerly incarcerated sociologist, characterized jails as institutionally distinct from prisons in three important ways. He argued that jails historically have been less visible than prisons, that jail officials working in unison with local police have exercised largely unchallenged discretionary power, and that the cruel conditions in jails go unaddressed because of a consistent gap in bureaucratic

---

accountability.\textsuperscript{46} In addition to Irwin’s explanation of jail as institutionally distinct from prison, jails also function as multipurpose institutions and can hold people for a wide range of reasons including holding people who cannot afford bail, are awaiting transfer or deportation, or who are serving a short sentence.\textsuperscript{47}

In an architectural sense, jails were not designed to hold people for long periods of time. In the quote at the start of this section about mental health and Realignment, Anastasia Cooper juxtaposes the fact that the Supreme Court case against prison overcrowding was brought forward because of the lack of “adequate” medical and mental health services in California state prisons, with the reality that the solutions proposed by the Realignment Act do little to ameliorate these conditions. Although overcrowding and medical services are supposed to improve in county jails, the lawmakers failed to account for the fact that jails were also overcrowded when AB 109 was passed, and that the structures of jails are less equipped to provide medical services to incarcerated people.\textsuperscript{48} Additionally, because most counties intend to use Realignment funding to build out their jail systems in the coming years, local law enforcement will not only continue the practice of mass incarceration but is also encouraged to implement and change policies in jails at will.

Beyond county jail supervision, the Realignment Act also allows county sheriffs to make decisions about “intermediate alternative sanctions,” which often take the form of intensified surveillance on a county level. The measures that can be used at will by the sheriff include reporting centers, drug courts, residential

\textsuperscript{46} John Irwin, \textit{The Jail: Managing the Underclass in American Society} (Berkeley: University of California Press, 2013).
\textsuperscript{47} Melanie Newport, "Jail America: The Reformist Origins of the Carceral State" (Temple University, 2016).
\textsuperscript{48} Hopper, Austin, and Forman.
multiservice centers, mental health “treatment” programs, electronic and GPS
monitoring programs, victim restitution programs, counseling, community service,
education, and work training. While some of these programs seem to fit into the
standard iterations of social services, the heightened leeway afforded to county sheriff
departments combined with the routine failures of counties to make meaningful shifts
away from relying on police and incarceration should give us serious pause. Opening
up almost unrestricted access for local law enforcement to use tracking services and
other types of surveillance builds out the power of police alongside increased
institutional funding and direct control over jails.

Finally, the rhetoric about meeting the needs of people “with mental health
issues” present in recent shifts in law enforcement and incarceration deserves our
scrutiny. Mental and physical disability informs many of the ways that the carceral
state operates within people’s everyday lives, compounding the effects for people
who are considered to have unacceptable or “unhealthy” behavior. Disability scholars
warn that shifts to “community based services” have historically relied on medical
model that institutions are rooted in, and have done little to invert or alter the extreme
power dynamics of provider over the individuals who are considered to “have mental
health issues.” People who are already quite vulnerable to carceral logic of
punishing deviant behavior have faced unmatched violence at the hands of state
policies focused on increased surveillance and incarceration.

From the way that state funding is being used to build and expand jails in
most California counties right now, it is clear that county governments are willing to

---

49 Ibid.
50 Liat Ben-Moshe and Allison C. Carey, Disability Incarcerated: Imprisonment and Disability in the
use jails as a substitute for state prison. There are an enormous number of mental and physical health problems for incarcerated people in California, and though the Supreme Court seemed to have ruled in their favor, the Realignment Act is facilitating expanded incarceration facilities and law enforcement.

**Conclusion**

The brief histories of water, prison, and jail systems in California presented in this chapter set the stage for the “crises” of criminality and the environment in California that exist today. It is crucial to understand the development of water systems in the California’s semi-desert climate, the rise of the California state prison system in the late twentieth century, and the more recent history of prison overcrowding and the legislative transition to jail expansion and construction.

While the depletion of water in California may have been switched to the back burner after escaping the nearly unbearable drought of 2015, water delivery systems in California are replete with problems. The ideological underpinnings of Anglo-American settlement in the nineteenth century informed the first water construction projects and broader decisions that have come to define regional development and economies. Dams, aqueducts, wells, and other water systems in California today have been informed by decisions made in early statehood by a select number of political elites about where water should be directed. Today, the three largest water sources are precipitation distributed within the state, underground water reserves, and the Colorado River, which all fluctuate annually. The noticeable decline in precipitation combined with record-breaking temperatures over the last few decades has meant that
the already strained systems of water transportation and extraction have become even more so. This situation requires not only an analysis stemming from political and economic questions about how water systems were constructed, but also serious inquiries about the value of water for human and nonhuman life existing in California. This is the first crisis that has motivated my study of incarceration alongside human and ecological health.

The second crisis is the enormous California prison system and its historical development. I refer to Camp’s explanation about the expansion of incarceration and policing in the mid to late twentieth century as it was used to broaden and normalize state repression against political and social struggles happening across the country, notably in Watts in 1965 and in Central Los Angeles in 1992. The insidious neoliberal security rhetoric then justified increased state repression and prisons to deal with “riot-prone populations.” Gilmore explains the expansion of California prisons through a different set of analytics, focusing more on the economic shifts that set the stage for widespread prison construction. These two explanations of the motivating forces behind the rapid and extreme expansion of the California prison system both shed light on how the incarceration system has expanded extremely quickly and been normalized in the process.

Lastly, we must consider how prison overcrowding and the multiple lawsuits against the state of California have resulted in the impending jail boom. The Supreme Court ruling in 2011 that the CDCR reduce prison populations to 137.5% of designed capacity instigated the California Realignment and Public Safety Act, or Assembly Bill 109, which promised more medical and reentry services but has been used by
county level governments to build and expand jails and spend more for law enforcement. While the AB 109 includes some adjustments to sentencing and parole processes that might enmesh fewer people in the state-level criminal system, the oversight afforded to sheriff’s departments to implement a range of surveillance and county-level sentencing tactics demonstrates a shift in the type of policing and incarceration, not a substantive reduction of either. The jail boom forces us to take a closer look at the precise circumstances of California’s incarceration system today, and consider how the expansion of incarceration facilities will interact with human and ecological health. While it is impossible to predict all of the ways that jails will affect the health of humans and nonhumans, we can examine the effects of the California prison system over the past few decades to anticipate the looming problems.

These three histories begin to explain how today’s systems that are functioning along stratified lines today are the result of many different political, economic, and social forces. Just as the Department of Homeland Security funding used for the Urban Shield conference to fight terrorism is linked to a history of police expansion and militarization in California, the ideological underpinnings of water, prison, and jail systems inform state responses both to political unrest in criminalized populations as well as intensifying environmental emergencies.
Chapter II. Cases of soil, water, and air contamination related to incarceration

“When you talk about recording the environmental destruction of the CDCR, you’re talking about the life that I’ve been living since 1995.”
– Deb Reyes, California Prison Moratorium Project

Deb Reyes, a key member of the California Prison Moratorium Project, has been organizing and working in the Central Valley to oppose prison construction and expansion for over 20 years. She has seen how prisons have changed the California landscape, not only as a long-time resident of the Central Valley and as someone with loved ones locked up, but also through noticing the adverse effects of prisons on Central Valley ecosystems. Reyes has been closely tracking and monitoring the state carceral system since 1995 and, in her quick summary of general Central Valley prison history, I learned more about environmental and incarceration history than I had been able to find in any article, journal, or book that I had read in previous months.

As a long-time resident of the Central Valley, Reyes has witnessed the many stages and layers of the rampant incarceration system. She grew up in Fresno, where she and her siblings would often join their parents picking grapes for only a few cents per tray in their early years. As the prison construction boom began in the 1980’s, she moved away to Los Angeles before moving back in the early 90’s, when many new prisons had already been built. What she encountered when she returned, she says, was an entirely different landscape. In an interview she explained, “I used to pick grapes in these fields, and now there were suddenly 10 more prisons in the Central Valley. They turned Corcoran, Delano, all of these little towns that we used to know
like the back of our hands, into prison towns.”

Reyes often speaks of the obvious pollution that has been created by the prisons with visible sewage ditches and air pollution around prisons. More troubling, however, is when she speaks about the long-term changes to habitat areas that foreshadow huge ecological shifts that have followed significant alteration to traffic, sprawl, and other sorts of infrastructural modifications. She talks about the intense changes caused by light pollution, like the effects she has seen on nocturnal desert owls and other animals that depend on the night sky to hide or feed. It is difficult to live in the face of these changing habitats and populations, especially having grown up in such an area, she says, without noticing the effect that new facilities are having on the surrounding desert systems. In addition to the ways that Reyes has seen the land and animals affected by the new incarceration facilities, the California prison system has deeply affected her family, as her brothers have been subjected to the violence of incarceration. As she came to know more people behind bars and learned about what had happened to her family members when they had been incarcerated, it became impossible to see prisons as anything but destructive. She started to match up the stories that she heard about bad drinking water and cancer clusters to the obvious transformations of cities that now had thousands more people locked up in huge facilities.

In an organizing meeting about opposing jail construction across California, activists debated the possibility of creating a report about the environmental impact of prisons and the environmental hazards associated with building new jails. Reyes interrupted the debate about the strategic relevance of environmentalism in anti-

---

51 Interview with Deb Reyes, August 2016
prison organizing to point out that environmental degradation is not a discrete category of destruction. There was a noticeable pause in the meeting, wherein I was forced to consider the question: how is ecological violence tied up with other forms of subjugation that have been entangling people for decades, if not centuries? Although there are not many specific instances that encapsulate and expose all of the layers of negative human health effects and environmental degradation caused by incarceration, the people who have seen their loved ones imprisoned, lived nearby prisons, and seen the worsening environmental conditions can point to sometimes imperceptible trends and correlations in human and ecological health as related to incarceration.

Tracking the environmental impact of incarceration in California is almost impossible within the narrow parameters of environmental and ecological health in the lexicon of social sciences, which often traps environmental justice case studies in the specificity of a type of pollution or ecosystem. In addition, experiences of environmental destruction and incarceration rarely line up seamlessly, leaving many gaps between individual recollection, archived information, and conceptual frameworks of environmental issues. Despite the preexisting obstacles, the full extent of the effects of incarceration must be understood with attention paid to the conditions of those who are incarcerated, those who live nearby sites of incarceration, and broader ecological systems downwind of state facilities. Ecological and human systems are affected in both the short-term and long-term by incarceration facilities, which makes it difficult to generalize about statewide issues. Because serious ecological changes are gradual and measurement has to be confirmed over time, it is
most likely that we have not fully seen all the effects of the wave of increased incarceration that started only 30 years ago.

Although the scholarly field of environmental incarceration history is still relatively limited and the CDCR does not publish data about system-wide environmental issues, I have found trends of key environmental issues caused and exacerbated by incarceration facilities through testimonial reference and archival research. The instances that I was able to track deal with the water, air, and soil quality, and how environmental degradation in each of these areas endangers incarcerated populations, communities surrounding incarceration facilities, and ecological systems within California. Section one focuses on issues relating to water consumption and pollution. The limited supply of water in California has created conditions under which incarcerated people’s personal water use is often restricted, while prisons have high institutional water use compared to people living nearby. Also related to water are the instances of incarcerated people being forced to drink contaminated water and prisons leaking raw sewage into waterways. Section two examines the air quality of the San Joaquin Valley and the way that ground-level ozone, particulate matter, and valley fever have affected people who live in the Central Valley, as well as those who are locked inside Central Valley prisons by the state. Then in section three, I turn to the issue of soil quality in order to consider trends in incarcerated people’s health in relation to prison land use. The land sited for prison construction is rarely land that can be used for other purposes, and because there is high pesticide use in the Central Valley, overlap between prisons and pesticides is likely affecting incarcerated people.
Most of the data used for this project comes from compiling various reports in which other state agencies (e.g. the CA Department of Health, CA Water Board, etc.) have documented situations that are especially egregious. The state and federal agencies produced various forms of documentation in the relatively few situations in which they intervened in the neglect of either incarcerated populations, the communities surrounding incarceration sites, and California ecological systems. The patchwork effort of matching up news stories and documents from different agencies across time and geographic locations would not be possible without community organizers’ knowledge of the stories of incarcerated people and analyses of largely unaddressed environmental issues relating to prisons. The cases collected in this chapter only begin to unmask the far-reaching effects that prisons have on all types of human and nonhuman bodies. Reyes and other antiprison activists point to instances of cancer clusters, algae blooms, sewage spills, not to quantify or moralize ecological health, but to expose trends of destruction that have been left in the wake of mass incarceration in California to disrupt state narratives that normalize prisons and environmental destruction.

Section I. Water contamination and scarcity in prison

In the early 1990’s, scientists explained that the remarkably low precipitation levels combined with record-breaking summer temperatures caused water reserves to evaporate at an unparalleled rate. The dry seasons of 2011-2016 were a repeat of the same type of assessment of abnormally low levels of water, and because the science on climate variation is much clearer than it was in the 90’s, there is little doubt that
this issue will continue to worsen in coming years. Yet, how the drought translates specifically to human and ecological health is a much more complicated issue than the fact that water reserves are shrinking every year. Because of complex water laws and the uneven development of water infrastructure, the drought has and will continue to hit some areas much harder than others, which I explain in chapter one.\textsuperscript{52} David Carle succinctly explains the effects of drought on ecological systems when he says, “plants and animals that are just as dependent [as humans] on water must settle for whatever people are willing to share with them.”\textsuperscript{53}

In addressing cases dealing with manifestations of water contamination of scarcity in prisons, it must be acknowledged that all but three of the thirty-three state-run prisons are in areas that have recently been suffered from severe to exceptional drought. I begin my examination of case studies dealing with water by looking at how high institutional water use of prisons often exacerbates the burden on areas with already strained water resources. In times of drought, the water needs of the institution often override incarcerated people’s access to water for personal use. Additionally, because prison populations are easily rendered invisible, issues with water poisoning are often ignored by prison officials, leaving incarcerated people with no choice but to drink water with dangerous levels of arsenic and other chemicals. Finally, the last pattern in incarceration and water entails a discussion of the ways that California state prisons have caused an egregious amount of sewage pollution.

The first problem related to water scarcity and incarceration is the fact that

\textsuperscript{52} Swain.
prison and jails use high volumes of water, largely because of the high density of people held in tight spaces. It is important to note from the outset that high water usage is an unavoidable aspect of imprisonment and does not correlate with incarcerated individuals’ use of water. Within a statewide context of general water usage, the CDCR uses 73% of all the water consumed by state facilities. The department does not release a breakdown of water usage within each of their facilities, but in comparison with residential breakdowns, most water usage seems to come from needing to frequently clean facilities and wash incarcerated people’s clothes to prevent the spread of disease. These measures that necessitate high water usage are consequences of forcing thousands of people to live inordinately close to one another while simultaneously refusing to provide adequate medical care. Although the number of gallons being used per capita for the incarceration facilities is not substantially different than the number of gallons used for people who are not incarcerated, the water in these facilities is being used to clean and maintain, not for the health or leisure of the incarcerated population.

During periods of extraordinary drought, prisons are understood to use unnecessarily large amounts of water and are targeted to reduce water usage, which has harsh effects on incarcerated people. The CDCR has been cited for high water usage, and because of this, the department has undergone a number of water-saving initiatives, which have further exacerbated brutal conditions inside of prisons and

jails.\textsuperscript{57} During the summer 2015 in the height of the recent drought, officials at many prisons shut off the outdoor showers that incarcerated people normally used after midday exercising. This reduction in water access came when there was already a limit of only three showers lasting 5 minutes per week.\textsuperscript{58} Listed among a host of degrading conditions that people held at San Quentin State Prison faced, plaintiffs in \textit{Lopez v. Brown} stated, “For [one plaintiff], showering every day is one of the few humanizing things over which he has control. The recent denial of shower on the yard means that he and the other plaintiffs in the class action lawsuit are relegated to three showers a week and are denied the hygienic practice of washing off sweat after a work-out.”\textsuperscript{59} On top of the fact that prisons are often poorly ventilated and lack air-conditioning, it is clear in this case of denying prisoners the ability to taking showers that the degrading conditions of prisons can be exacerbated by environmental duress. Also during the drought in the summer of 2015, the CDCR placed restrictions on the number of times that incarcerated people could flush their toilets. As incarcerated people have very few options for bodily routines and live in close quarters with toilets and many other people, limitations on showering and flushing toilets come at a high cost in quality of life.

Another set of problems related to water in prisons concerns contamination and the health effects of contaminated water. Because the pollutants causing water contamination can vary tremendously, the effect of toxins in water are usually not detected until significantly after people are exposed. On top of the fact that poisoned

\textsuperscript{57} Jessica Pishko, "In the Face of Drought, California Prisons Are Restricting Inmates' Shower and Toilet Use," \textit{Vice} 2015.
\textsuperscript{59} \textit{Lopez V. Brown}, 14.
water difficult to detect and prove, poisoned water in prisons is rarely understood as a situation that must be quickly addressed. However, in a select number of cases, water poisoning has been extraordinarily flagrant forcing state and federal agencies to closely monitor and regulate the water being provided for incarcerated people in California. At Kern Valley State Prison for example, the CDCR forced thousands of unknowing prisoners to drink water that had unsafe levels of arsenic over the course of many years.\textsuperscript{60} The state granted prison administrators funding to build a filtration system after it was discovered that the water was contaminated, which was a few years after the prison was built in 2005. But instead of correcting the issue of contaminated water, the prison underwent a building expansion and renovation project, and the dangerous levels of arsenic were not addressed. In July 2013, Kern Valley State Prison was issued a citation of noncompliance by the California Health Department for the levels of arsenic in the drinking water, as well as for not having a contract with a laboratory that was supposed to be testing the water samples that they were taking weekly.\textsuperscript{61} This means that prison officials at Kern Valley not only falsely used state funds under the pretense of building a water filtration system, they had also been keeping up the routine of taking weekly water samples without sending them in for testing.

At the same time, water that was provided for a district of people living outside the prison in Delano was also contaminated with arsenic. In 2008, the U.S. Environmental Protection Agency (EPA) ordered the Arvin Community Services

\textsuperscript{60} Michael Rothfeld, "Drink up -- Assuming You Like Arsenic, That Is," \textit{Los Angeles Times} December 29, 2008.

\textsuperscript{61} "Kern Valley State Prison Water System No.1510802: Citation for Noncompliance with the Permit Provision," ed. Department of Public Health (State of California, July 22, 2013).
District (ACSD), which serves Kern Valley State Prison and a residential district of about 20,000 people, to reduce the level of arsenic in its water.\textsuperscript{62} The EPA stated that exposure to arsenic-poisoned water is known to cause lung, bladder, and skin cancer as well as several other adverse physiological effects, so in order to provide a state service to the people of Kern County, the ACSD needed to install a filtration system for all the water in the district. When the county water district failed to do so by the deadline in 2010, the EPA fined them $15,000 and set a new deadline in 2014. The water district failed to reduce arsenic levels yet again in 2014, as the levels were still three times higher than the legal limit.\textsuperscript{63}

Since being found in violation of the EPA’s orders in 2014, the ACSD has installed several water tanks of clean water at its district office for city residents to use, but this not only fails to adequately address the problem for people who want clean water running in their homes, this solution nothing for the people locked inside Kern Valley State Prison.\textsuperscript{64} While arsenic levels can be naturally occurring from the long-term release of different chemicals, the U.S. Geological Survey found that arsenic levels in groundwater in the southern San Joaquin Valley, which includes Kern County, are likely caused by evaporation which increases chemical concentrations in shallow groundwater.\textsuperscript{65} Namely, the drought and high temperatures are likely correlated and contributive factors in creating the unsafe levels of arsenic in water that incarcerated people have little ability to avoid.

\textsuperscript{63} The EPA found that arsenic levels were at 31 parts per billion, and the Safe Water Drinking Act has 10 ppb as its absolute maximum. Ibid.
\textsuperscript{64} Ibid.
Another form of water contamination occurs when fertilizer from nearby agricultural and livestock industries pollutes groundwater and wells used by incarceration facilities. For example, the Deuel Vocational Institute in Tracy is located near several dairy and cattle farms, many of which are located above the water table that is extracted for drinking and showering water in the prison. In 2006, 379 incarcerated people and 8 staff members were treated for a water-related sickness after the water started running “black and thick as paint.”66 Also in 2006, 520 prisoners at Pleasant Valley State Prison in Coalinga were treated for similar water-related sicknesses,67 and there were multiple outbreaks reported at Mule Creek State Prison and Valley State Prison for Women.68 Two prisons in Chino, the California Institutions for Women and Men both provided bottled water for incarcerated people because of nitrate poisoning in the groundwater.69 The Chino Basin Watermaster, a group created by the San Bernardino County Superior Court to research and deliberate water issues, released a report assessing groundwater quality in 2003 which indicated that nitrate contamination has been caused in large part by the conversion of previously agricultural land to industrial dairy farming in Chino.70

The last aspect of environmental harm with respect to water is the sewage pollution that has had a severe impact beyond incarceration facilities. The effects of sewage spills on water ecosystems are increasingly negative when dumping occurs in large quantities, as prison sewage spills often are. Sewage material creates conditions

67 Rothfeld.
69 Rothfeld.
that allow for prolific growth of many types of plankton and algae, which limits the growth and lifespan of many fish and plant populations. When mixed with forms of chlorine or other cleaning agents, as wastewater often is, sewage pollution can be deeply harmful to the chemical balance of river ecosystems.\textsuperscript{71} Although there is not any available data about the frequency of pollution caused by incarceration facilities in California, prisons have been cited and fined for sewage pollution on numerous occasions. Folsom State Prison is an example of problems related to sewage pollution, not only because the prison leaked over 700,000 gallons of raw sewage into the American River in 2000, but also because to correct this engineering flaw, the whole city’s wastewater system had to be redesigned.\textsuperscript{72} The prison was fined $700,000 but as of 2013, many Folsom residents felt that there were still serious problems with the city’s sewage system as there was a large amount of sewage pollution flowing constantly into 3 major points of the river.\textsuperscript{73} Despite being reassured by county officials that the problem had been addressed, many concerned individuals repeatedly gave testimony at city council hearings in 2013 to report continued sewage pollution into the river near their homes.\textsuperscript{74}

The Folsom sewage leak is only one of California prisons’ many sewage-related problems. When Governor Arnold Schwarzenegger declared a state of emergency about prison overcrowding in October of 2006, he cited wastewater pollution as one of the worst effects of prison overcrowding on the public.\textsuperscript{75}

\textsuperscript{71} “Wastewater Pollution,” ed. Environment and Climate Change Canada (Government of Canada, 2014).
\textsuperscript{72} “31 January - 1 February 2013 Board Meeting Staff Report: Sanitary Sewer Collection System,” ed. Central Valley Regional Water Quality Control Board (City of Folsom: Sacramento County).
\textsuperscript{73} Ibid., Appendix A.
\textsuperscript{74} Ibid., Appendix A.
\textsuperscript{75} Arnold Schwarzenegger, "Prison Overcrowding State of Emergency Proclamation," ed. Governor’s
explained that overcrowding had caused huge spills because of the high volume of sewage created by the people locked in these facilities, and that local water treatment plants were not equipped to serve the number of people held in many incarceration facilities. He added that the CDCR had been fined by many different state agencies but had failed to appropriately address the pollution that its facilities were creating across the state. While Schwarzenegger was correct in pointing out the enormous health risks that existed with raw sewage spills and contamination of public water supplies, he misattributed the problems with pollution and environmental damage to the fact that the prisons were overcrowded.

The California Men’s Colony, a state prison in San Luis Obispo, proved that even when incarceration facilities hold the number of people that they are designed to, leaks and pollution still occur. Starting in the early 2000’s, the prison had a number of continuous sewage leaks and spills that were not seriously addressed until 2008, when California state water officials fined the prison $40,000.76 To prevent future leaks from occurring, the county underwent a $30 million sewage treatment plant project in 2012. In accordance with the prison overcrowding state of emergency, the prison followed the guidelines set out by the governor reduced its incarcerated population from over 6,500 people to 4,000, with its designed capacity around 3,800 people. But even with these adjustments, in December of 2015, the prison’s sewage system leaked 72,000 gallons of sewage wastewater, 10,000 of which ended up in the ecologically sensitive Chorro Creek.77

In sum, California state prisons exacerbate issues related to water scarcity and contamination, creating detrimental conditions for human and ecological health, both of which rely on water. While many of the documented issues are the result of prison administrators’ general neglect, deeper tensions provoked by these issues point to water transportation infrastructure and pervasive environmental problems.

Section II. Air quality and incarceration in the Central Valley

Almost every year, the American Lung Association releases a report that grades U.S. cities and counties on air quality. In these reports, every county in the San Joaquin Valley usually receives a failing grade and in 2016, 4 of the 5 most polluted cities in the United States were in the Central Valley. There is a strong consensus within the field of medical research that the level of air pollution in the San Joaquin Valley is a causal factor in the unmatched rate of childhood asthma, as well as in the various pulmonary, cardiac, vascular, and neurological medical issues that are documented at higher rates in the San Joaquin Valley than in almost any other area of the country. The Central Valley, made up of the San Joaquin Valley and Sacramento Valley, is not only exposed to a number of environmental factors that cause ill-health, but is also home to California’s “prison alley,” with 13 new prisons having been built in this region in the past three decades. This means that, while only being home to 16% of California’s human population, the Central Valley has

79 Ying-Ying Meng et al., "Outdoor Air Pollution and Uncontrolled Asthma in the San Joaquin Valley, California," Journal of epidemiology and community health 64, no. 2 (2010).
80 There are also three federally-run prisons in the San Joaquin Valley, which are not included in this count. The prison alley is slightly wider than the official county lines that usually define the Central Valley, but in this section I will be referring to the Central Valley and prison alley as the same geographic region. Gilmore, 129.
about half of the prisons in the state.\textsuperscript{81}

For similar reasons that make tracking water contamination difficult, the complexity surrounding various types of air pollution and air quality health issues inhibit definitive claims about the precise nature of air pollution. However, examining prison construction and administration decisions in the context of existing and worsening air quality issues clarifies the way that state prisons are connected to health problems concerning air pollution and quality. Before examining air pollution as associated with prisons or health, it is necessary to understand the basic conditions of air quality in the Central Valley including the causes of the two main types of air pollution and the re-emergence of an airborne fungal disease in North America called valley fever. Following this, it is possible to consider the effect of prison construction in light of the current conditions of air quality in the Central Valley.

The multifaceted air pollution issues in the Central Valley requires a study of the two main types of air pollution, ozone and particulate matter, focusing on how they have come to be such problems and how they affect human and ecological health. The Central Valley has been routinely cited for unsafe amounts of ground-level ozone since the 1960’s, and with increasing development in the 1980’s, the issue of ground-level ozone has come to the attention of many more state agencies.\textsuperscript{82} Ground-level ozone, or \( O_3 \), is a secondary air pollutant created when two types of emissions are present in a stagnant environment that has temperatures above 90 degrees Fahrenheit. Unlike other metropolitan areas that have problems with ground-level ozone,

\textsuperscript{82} Bay Area Air Quality Management District, "Ozone Modeling and Data Analysis During Ccos," (San FranciscoSeptember 2009).
however, the high levels of ozone in the San Joaquin Valley and Central Valley are largely not caused by emissions that originate in the Central Valley itself. Instead, the emissions that eventually combine to create ground-level ozone in the valley are brought downwind from both the San Francisco Bay Area wind corridor and the Bakersfield/Fresno urban areas, which both emit high levels of vehicle pollution.83

Ground-level ozone has been linked to many respiratory and cardiac health problems in humans, which, in a comprehensive study published by the UK Royal Society, are categorized as short-term and chronic health issues. Short-term, or acute, issues resulting from exposure to ground-level ozone have presented as reduced lung functions and airway inflammation, which can lead in some cases to acute breathing problems resulting in hospitalization or mortality. These types of issues resulting from increased vulnerability to allergens and infection are easily identifiable as the direct result of ozone exposure. On the other hand, ozone exposure over long periods of time can have chronic health consequences such as aggravating asthma conditions and diminished lung capacity for both animal and human populations.84 Ground-level ozone pollution damages ecosystems in a number of different ways. In terrestrial ecosystems in California, high levels of O₃ affect plant physiology to disrupt microbial and plant community processes that require certain levels of oxygen and carbon dioxide and are inhibited by the presence of ozone.85 The interruption of plant life cycles has a wide range of effects on various species and populations within a

larger functioning ecosystem. Additionally, the acidification of ozone can cause chemical imbalances that can significantly reduce biodiversity in marine ecosystems.\textsuperscript{86} Although there is not as much scholarly work that combines and clarifies the way that all these individual changes converge at a system level, it’s safe to say that the high ozone levels in the Central Valley have effects on many forms of human, animal, and plant life.

The other main air pollutant that has been identified in many health problems in the Central Valley is particulate matter. It can vary substantially in size, but the categorizations present in medical research refer to small particulate matter less than 2.5 micrometers and dust that is about 10 micrometers. Airborne particulate matter can come from a wide range of sources including forest fires, wood burning, increased pollen, vehicle traffic, as well as agricultural and industrial sources. These types of particulate matter are amplified by dust storms that occur semi-regularly in desert regions of the southwestern US, especially in recent droughts.\textsuperscript{87} Dust storms more common during droughts because of reduced moisture in topsoil, and because there is also less water in agricultural areas to keep dust down after soil has been disturbed by farming practices.\textsuperscript{88} Overall, the levels of asthma, respiratory, cardiac problems in human populations are quite high in the Central Valley, and particulate matter plays a significant role in these problems. Similar to the effects of ground-level ozone on ecosystems, the clearest effect of particulate matter is the interruption of

\textsuperscript{86} Ibid., 29.
\textsuperscript{87} M Ngo et al., “Airborne Particles in the San Joaquin Valley May Affect Human Health,” \textit{California Agriculture} 64, no. 1 (2010).
photosynthetic processes and the chemical balance of plant functions. Particulate matter can affect plants chemically by causing abrasion and radiative heating which can have different results based on the size of the particulate matter, but if there is an increase in particulate matter across the board, most plants will be affected in one way or another.

One type of particulate matter that has specific health effects is an infectious fungal disease in North America called valley fever, which arose in the San Joaquin Valley in the late nineteenth century. Although valley fever has been medically diagnosed and studied since the early twentieth century, it was only in the 1990’s that the incidence of the disease increased dramatically. There are now 150,000 new cases reported annually in the US. Although it is known that the disease is contracted from the inhalation of a fungal spore called coccidioides immitis, researchers have not been able to definitively conclude how the fungus and spread of disease changes in increased climate variability. That being said, there is strong evidence that points to higher rates of valley fever in times of drought and dust storms. Infectious disease researchers have found that the fungus can withstand high temperature unlike other types of bacteria that cannot live in the heat, and so the fungus has less competition after rainfall and is able to grow rapidly. However, the

90 Ernest C Dickson, “Valley Fever” of the San Joaquin Valley and Fungus Coccidioides," California and Western Medicine 47, no. 3 (1937).
factor that correlates most strongly with high rates of valley fever is disturbance of ground, usually when related to construction or vegetation removal. Development activities including construction and vegetation removal have been on the rise with the increasing population and infrastructure in the Central Valley since the 1980’s, coinciding with the increase of reported cases of valley fever.

Although valley fever most often presents as symptoms similar to a prolonged common cold and can be treated with antibiotics, in a small percentage of cases, the disease takes a turn for the worse. In these situations, the fungal infection spreads to other parts of the body and affects bone density, cardiovascular, and neurological health, and can damage major organs. The development of the disease is not entirely understood at this point, but state health agencies have increasingly been funding research about valley fever and how to mitigate its impact on human populations.

The disease affects a number of species, although not many researchers have investigated the mortality rates of rodents, horses, cattle, apes, and other mammals that are known to contract valley fever. Despite the fact that valley fever research is mostly limited to human health, it is likely that many mammal populations exposed to the spore are also vulnerable to the disease.

After unpacking some of the air quality issues that have intensified in the Central Valley in the past few decades, we return to the fact that about half of California’s prisons are in the Central Valley, while only 16% of people live there. 13 of the 16 state-run prisons in prison alley were built between 1984 and 2005, which is the time period tagged for increasing air quality health issues. The CDCR has built and

---

95 Galgiani et al.
maintained many facilities in the regions of California that are endemic to asthma, valley fever and other types of air pollution, which are types of health issues that incarcerated populations can be particularly vulnerable to. While it may not be possible to understand exactly how California prisons have factored into the increase in dust storms and air quality issues, it can be confirmed that prison administrators and the CDCR have made numerous infrastructure decisions that have jeopardized human and ecological health.

One of the most reported health issues inside of California prisons in recent years has been the prevalence of valley fever. We know that while only about one percent of the general population in California contracts valley fever, eight percent of the incarcerated population is affected by the illness.97 This sizeable discrepancy in valley fever contraction rates can be linked to many aspects of incarceration, especially the fact that incarcerated populations often have many more risk factors for the disease than do other populations. Lack of previous exposure to the spore is a large risk factor for contracting the disease, and people who are sent to prison in the Central Valley often did not grow up in the region where most prisons are located. Therefore, because the California state forcibly moves large numbers of people who are often from coastal regions into prisons in areas that are endemic and hyperendemic for valley fever, they create disease vulnerability with this forced demographic change. Another important risk factor for contracting the disease is immunodeficiency, which the CDCR consistently neglected to factor into individuals’ placements until they were forced to account for the valley fever deaths in state prisons. A federal court

---

mandate was issued in 2013 after it was revealed that thousands of people with weak immune systems, one of the conditions that makes people most susceptible to valley fever, were still being held at Avenal and Pleasant Valley State Prisons. These two facilities have had a consistently high valley fever contraction rate, with at least 36 incarcerated people dying at these two facilities from valley fever between 2006 and 2014.98

Besides failing to prioritize the health of incarcerated populations, the CDCR built 13 new prisons in the Central Valley during a period when the negative health effects of air pollution in the Central Valley were becoming clearer. The expanded incarceration of 40,000 more people in the 13 institutions built after 1984 has had serious ramifications in terms of air quality from increased construction (disrupting soil), traffic (contributing to ozone), and other industry growth that accompanied the prison boom. Although little research has been published about the cumulative effect of industries related to incarceration, each prison requires certain amounts of laundry services, food importation, guards, and energy that has had a significant impact on industrial and vehicular emissions in the Central Valley.

Ultimately, the convergence of air pollution, valley fever, and prison construction has played a definitive role in exposing vulnerable incarcerated populations to valley fever, and has likely contributed to broader air pollution issues in the Central Valley.

Section III. Toxic land

“All of the woman I knew when I was in solitary in California’s Institution for Women in the early 80’s, about 10 or 12 total, have died from cancer.”

It is not particularly groundbreaking to make the claim that the land used for prison construction is not in high demand for other uses, nor is exceedingly insightful to list the health problems of people incarcerated in California institutions. Although it is difficult to understand how factors of land contamination and incarceration are affecting incarcerated individuals, examining trends in land use and prison siting in California can create points of comparison with health issues of incarcerated populations. In identifying land sited for prison and jail construction, I follow two types of land that is often repurposed for incarceration: devalued agricultural land and retired military airfields.

In a national context, as well as on a state-level, discussions about the health of incarcerated populations has recently focused on upward trends of cancer and serious diseases in prisons. These trends have warranted many national studies, few of which have been able to present summaries of the medical issues facing incarcerated populations. In a report by the National Institute of Health about cancer rates of incarcerated people, the author noted “there is no national registry for tracking disease prevalence and risk factors among incarcerated persons, and [prisoners] are excluded from national health surveys such as the National Health Interview Survey and the Behavioral Risk Factor Surveillance System (BRFSS).”

Both California state specific documents, as well as the CDC’s first ever

---

99 Interview with Theresa Martinez, July 2016
National Health Statistics Report about incarcerated populations, acknowledge that chronic illnesses are a significant cause of alarm in prisons. In particular, the rates of cervical and breast cancer in certain women’s prisons, like the Central California Women’s Facility in Chowchilla and the California Institute for Women in Chino, are exceptionally high. While no formal investigation has examined any of the numerous industrial waste sites in Chowchilla as related to the health of incarcerated people, many areas within the city are referred to as Superfund, Brownfield, hazardous waste generators, and dumping sites in different Environmental Impact Statements about new projects. The City of Chowchilla Community Development Department released an industrial risk report in 2011 which indicated that “as of November 2009, there were 36 leaking underground fuel tanks (7 of which are still open) and 7 other cleanup sites (4 of which are still open) within the Chowchilla 2040 Planning Area.” In an Environmental Impact Report prepared by the state for a proposed high speed rail, the consultants specify that a potential problem for the railway construction is a contaminated site on the lot beside the Chowchilla women’s prison. The report includes a short description about the contamination citing “petroleum fuel, and pesticide/herbicide release, case closed in 1965.” While there

---

are not any publicly accessible documents that link any of these instances of hazardous waste to cancer and other chronic illnesses at CCWF, it is likely that unchecked hazardous waste dumping is among the factors contributing to high cancer rates.

The land used for prisons, juvenile detention centers, and work camps in California is land that is easily accessible for state use. In her analysis of California’s prison system, Ruth Gilmore explains that prisons came to harness the surplus resources after the industrial expansion of the mid twentieth century. The state government convinced Central Valley communities to house new prisons with the promise of economic stimulation, specifically employment opportunities. Pertinent to the question of land contamination and prison siting, Gilmore explains that much of the land on which prisons were built in the Central Valley was selected and sold to state agencies by large agricultural landowners. These companies normally chose to sell off the least productive and least valuable land to the California Prison Siting Office.\textsuperscript{106} California’s Central Valley produces a large percentage of the country’s produce and has historically used more than 120 million pounds of pesticides, or about 25\% of the United States’ total pesticide use.\textsuperscript{107} Combining the evidence of high pesticide use in California agriculture with the fact that land used for prison construction was sold at the discretion of large agricultural landowners, it is likely that the land used for prison construction was no longer productive for agricultural use because of prolonged pesticide use. Add that to the fact that most of state’s feedlots, manure lagoons, and hazardous waste dumps are located in the Central Valley.

\textsuperscript{106} Gilmore, 106.
Valley, we can infer that these forms of waste are likely playing a role in the poor health of incarcerated populations.  

The role of pesticide use in land contamination is a serious consideration for many of the 16 prisons in “prison alley” in the Central Valley, the majority of which have been built on agricultural land. Although there is general concern throughout the U.S. about the effects of pesticides in the short-term and long-term on human health, researchers have not been able to make definitive claims about the health effects of prolonged exposure to a number of different chemicals and pesticides at low levels. In their book about the social effect of toxins and pesticides, Patrick Sullivan, et al describe how difficult it is to generalize about the toxicity of many of the pesticides used in the United States, and how they affect human health when they are combined with other types of pesticides. Many environmentally caused health conditions are not from single pesticide exposure at high levels, but instead from a combination of many different types of chemicals that together create health problems. This research about low levels of pesticides over long periods of time indicates that high rate of chronic illness in prisons in Central California may be correlated with agribusiness pesticide use.

The other trend in land use and incarceration siting is the use of airfields, particularly those built for and then retired after World War two. In their comment to the Environmental Protection Agency advising for the Environmental Justice Action

Plan 2020, the Human Rights Defense Council expanded on the theme of environmental vulnerability of incarcerated populations in terms of soil contamination. With the section of the comment that focused on California, they wrote specifically about federal prisons that have been built on retired military airfields. The Victorville Federal Correctional Complex in southern California is located on a superfund site, and because regulation of the environmental damage is conducted at the state level while prison administration occurs at the federal level, the prison has not been subject to much inspection although it is built on extremely contaminated land. The Human Rights Defense Council urged the EPA to take up a formal study of the relationship between incarceration facilities and toxic military sites.111

Upon further inspection of the toxic waste generated by the military, it is apparent that the U.S. military is by far the largest producer of chemical waste in the United States.112 Within California, there were a large number of airfields and navy docks built in the 1940’s that fit into Gilmore’s discussion of expanded infrastructure that quickly became obsolete. However, in assessing land use for prisons it becomes clear that for prisons to be sited and have a definitive construction plan, there must be between 640 and 1,920 acres available. This size requirement explains why the state chose to purchase surplus land from agricultural businesses. But in looking at smaller incarceration facilities that don’t have the same legal standards for construction, airfields and other retired military facilities are buildings available for state purposes.

While a huge number of these sites were deemed irrevocably contaminated by state environmental and health agencies, at least five have been converted into incarceration facilities. \[113\] This includes the Santa Rita jail that was previously the Parks Reserve Forces Training Area, the juvenile detention center at Hammond Army Hospital, and the Nike missile launch site that was converted to an LA County prison camp.

One particularly relevant example is the proposed “women’s mental health jail” in Los Angeles County that is being built on the War Eagle Airfield site. Because there has been large-scale resistance to the jail, the county has been compelled to produce significantly more documentation about the risk and mitigation processes that they have undergone. In the Environmental Impact Report of the proposed construction project, the consulting firm concluded that soil contamination would not be an issue for the facility expansion. \[114\] The report did not dispute the fact that there is significant soil contamination, as the levels of diesel found in the soil were above the level permitted for residential use, but instead concluded that the jail site would not be a problem because the levels of diesel in the soil were below the limit for industrial use of the land. The report made no real inquiry about the fact that they were slating more than 1,600 people to live, residually, on land that had been contaminated to unsafe levels. This disregard for the forced and constrained residential aspect of incarceration disqualifies the health of incarcerated people who will be forced to live on toxic land. If the same type of reasoning has been used in

\[113\] Mira Loma Jail on War Eagle Field in Lancaster, Santa Rita Jail on Parks Reserve Forces Training Area, Victorville State Penitentiary, LA County prison camp at Nike missile launch, and United States Penitentiary at Castle Air Force Base

other instances of land repurposing for incarceration, it is likely that the discounting of incarcerated populations’ health is resulting in the health problems that are evident today.

Although fewer definitive claims can be made about the relationship between land contamination and the health of incarcerated populations, it is important to consider the standards of pesticide and toxic waste clean-up that might be ignored for incarceration facilities, and how the lack of clean-up is impacting human health, and will have further ramifications for ecological health.

**Conclusion**

After identifying trends in prison infrastructure that relate air, soil, and water contamination to human and ecological health inside and around sites of incarceration in California, I return to Deb Reyes’ story about the long-term effects that the prison system has had on her life in the past 20 years. Living through the prison boom and its ramifications has connected these instances of health issues in a way that makes environmental damage inseparable from human health problems. With the background of each particular form of contamination in mind, I show that there are many points of comparison between incarceration infrastructure development and human and ecological health.

In terms of water problems related to incarceration, the relatively high per capita water usage in incarceration facilities often burdens areas that already have limited access to water. On top of preexisting water scarcity, in times of drought, prison administrators have created high restrictions on the hygienic routines of
incarcerated people to cut down facility water usage, limiting their ability to bathe and flush toilets. Second, prisoners have extremely restricted options if the water in a given facility is contaminated, which has been true in the many instances of arsenic and fertilizer contamination compounded by the slow or negligible response of prison administrators to correct the poisoning issues. The last trend of water and health is the frequency of sewage pollution and the ensuing environmental damage.

Particulate matter contamination and ground-level ozone pollution are the main causes of air pollution in the Central Valley and create a number of health issues for people and animals living in the region. In addition to the widespread air quality issues in the Central Valley, valley fever is a notable source of airborne sickness, especially because incarcerated populations are some of the most vulnerable to this fungal infection. Connecting the Central Valley’s particulate matter levels to the California drought, especially in terms of wind patterns and agricultural land use, we see that ground-level ozone and particulate matter are worsened in periods of drought and contribute to a host of respiratory and cardiac issues in the Central Valley. One of the most important links between rampant air pollution human health and incarceration is the fact that in the past few decades when air pollution in the Central Valley has been increasing, the state decided to build 13 of 16 state-run prisons in this region and which have been followed by traffic and soil disruption. Not only has the CDCR neglected to deal with valley fever in incarcerated populations adequately, but it has also failed to create safeguards for people who are most often being brought from other regions of California into this area with air quality health issues.

Finally, I examined soil contamination issues as linked to chronic illness in
incarcerated populations in California. The CDCR and the National Institute of Health fail to adequately report on the types of chronic illness present in prisons, but other researchers have found abnormally high rates of cancer and terminal illness within prisoner populations. Although these trends are likely correlated with poverty and environmental racism affecting people before they end up in prison, two trends are evident in land contamination and incarceration. The first, and most documented development in incarceration siting in California, is that of agricultural land used in the Central Valley for new prison construction. As Gilmore explains, most of the new prisons built in the Central Valley since 1984 were built on large plots of land purchased from agricultural land owners. These land owners sold land to the state that was less profitable and usable for farming practices, which I connected to the high quantity and number of pesticides used in California agricultural economy, and the likely contamination of these plots of land. The second trend is that of repurposing military airfields built during the Second World War to be used as jails and smaller incarceration facilities.

The decisions made by the state about incarceration and its infrastructure during the past 35 years especially have had a tremendous impact on the lives of people living in and around incarceration facilities. Because there has not been much research conducted on the environmental and widespread health effects of jail and prisons systems in California, there are still huge gaps about the full effects of the trends that I have identified. The ecological impacts of incarceration surely have not fully materialized and will become only clearer in the future. It is important, then, for those studying ecological systems in California to relate their specific research to
state infrastructure and to human health issues that are occurring alongside environmental destruction. Although they occupy incredibly different positions within the Californian political landscape, both incarcerated populations and ecological systems are often considered only as an afterthought to policy decisions made on a state level. Therefore, in attempting to reduce harm to vulnerable human and ecological populations, it is necessary to strategically link specific instances to broader systemic issues.
Chapter III. Domination in prisons, territory and the desakota

“I understand your attempt to isolate the set of localized circumstances that give to this particular prison’s problems… is based on a desire to aid us right now, in the present crisis… But to get at the causes, you know, one would be forced to deal with questions at the very center of Amerikan political and economic life, at the core of the Amerikan historical experience.”


Over a decade before the California prison boom began, many political organizers were paying close attention to the function of prisons, particularly to the denial of political and emotional self-determination. One of these people was George L. Jackson, who, while imprisoned in Soledad’s California Training Facility, wrote extensively about the violence of state punishment, identifying white supremacy and capitalism as the driving factors of violence in the U.S. Jackson spent time in and out of the juvenile system in California until he was arrested in 1961 and sentenced to one year to life for stealing $70. He educated himself during his time in solitary confinement in the Central Valley, focusing on the historical formation of capitalism and racism in the United States. As his sentence was perpetually extended and he came to understand that the state may never allow him to leave on legal terms, his analysis of the prison system sharpened harshly. In the quote above, an excerpt of a letter to his attorney in 1970, he explained that the problems in prisons that can be analyzed through normative frameworks are not the problems that hold up and maintain the conditions of American prisons.\(^{115}\) He explained the necessity of not only bringing to light an aspect of the incarceration system, but also the history and context in which prisons were created and connect to much larger structures in the

---

U.S. He found that through his analysis of economic and government structures as related to racial slavery and capitalism he was able to locate the prison as a form of state control.

The history of water and incarceration systems, as well as the particular soil, water, and air contamination problems that I have laid out in previous chapters all deserve careful study, but should match up to an analysis that explains how broader systems function. While the archival research that I have conducted enables me to shed light on individual cases, I want to contextualize my research within an analysis of incarceration systems and their imbued violence, specifically in terms of human and ecological health. In order to understand the health problems that prisons pose in California, we must take seriously Jackson’s assertion that the visible problems occurring in prison systems will not explain how the entire system is functioning, or the extent of health issues that occur throughout the unexamined aspects of incarceration.

In this chapter I expand on the implications of the environmental degradation of incarceration infrastructure, within the context of health throughout the California incarceration systems. This entails examining not only how ecological health is generally regarded and disregarded in relation to infrastructure projects, but also the way that human health is undermined through imprisonment and incarceration. Section one, then, examines how symbolic representations of the human and the living organize state relationships to nonhuman nature and prisons in the state’s exertion of power. Prisons and nonhuman nature are tied up in the state’s legal systems and infrastructure, so I begin with Indigenous critical theorists’ analyses of
territory as a component of the settler state and then unravel these concepts as related to environment construction and animacy. I move to think about the health of incarcerated people and use biopolitical and necropolitical analyses to understand the use of symbolic life and death within the prison as related to colonial and racialized geographies.

Following this, the next section examines the role that prisons play in denying health to incarcerated bodies. The history of deprivation as a central logic in imprisonment, medicine in domination based relationships, bodily discipline in the name of health, and prison health research all shed light on important facets of health and prison. Finally, I turn to the convergence of factors that have caused water, air, and soil issues for people and ecological systems in California in a socio-political perspective. The desakota as a geographic and political model accounts for the external state and economic factors of control that pass over, or abandon, the inhabitants of many parts of California. Because it is clear that California’s incarceration system deprives hundreds of thousands of people of healthful living, it should also be recognized that this system has destructive effects on the health of other human and nonhuman systems.

Section I. Man, nature, prisons, and the state

From the testimonies of scientists and politicians over the past 40 years, it has been explained and reiterated that global ecosystems on this planet are being shifted at unprecedented rates and are likely crossing many of the life-altering thresholds of
planetary life.\textsuperscript{116} Although the realization of extreme climate and ecological changes has spurred many discussions ranging from the call to recognize the impact of humans on the environment to the more extreme warnings of apocalypse, many theorists have pointed out that we have to start with terms in which we understand ourselves, in order to understand how we create environments out of nonhuman (or extra-human) nature.\textsuperscript{117} Following Jackson’s recommendation that any analysis of prisons be critical of both visible and foundational aspects of the system, it is essential to begin with the historical construction of hierarchies of different bodies which informs almost all Western understandings of life and death. To think through the prison within the terms of U.S. social order and in relation to nonhuman nature, I look Vine Deloria Jr. and Sylvia Wynter’s analyses of the historical development of Man alongside Mel Chen’s animacy hierarchies as a mode of considering the racialized and gendered givens of life and death. The role that prisons play in social and ecological systems is importantly mediated by the state and the legal system in place in a given territory, so I turn to the territoriality as related to the state and prisons. I draw on critical indigenous theory for my foundational assessment of the California state, as dispossession and structural genocide are inextricably linked to the territorial jurisdiction of the California state government. Finally, an analysis of prisons as a type of state infrastructure project sheds light on the process of environment construction that the state undergoes with all types of infrastructure, as well as the implications of prisons as physically altering nonhuman nature in attempts

to confine groups of people.

In explaining how Indian and Western knowledge structures have come to be and remain largely irreconcilable, especially as related to planetary realities, Lakota scholar Vine Deloria Jr. argues that the Western mode of being relies on the notion that the rest of the world, including all of nonhuman and human nature, is available for European exploration and domination.\(^{118}\) This is an important starting point for thinking through the theoretical implications of state infrastructure, because the idea that all things on this planet can be used for the short and long-term benefit of Western society is not universally accepted by any means.

Turning to examine the role that prisons and prisoners play in the U.S. social order and narrative, Wynter begins her analysis with constructions of Self and Other in Medieval Europe as defined by Latin-Christian traditions.\(^{119}\) She explains that the Western “truth-for,” or the code of symbolic life and death, shifts substantially starting with the Greek and Roman epistemological and cosmological narratives of being, to the Renaissance humanist conception of Self, to the biocentric genre of human of the contemporary period. Within each complicated historical development that builds upon previous relations of power and knowledge, the construction of the Western European Self always exists in binary opposition to another construction of being that is starkly and violently negated. During a moment of paradigm shift, Westerners selected the Black inhabitants of sub-Saharan Africa as having the type of body that would symbolize cultural and biological inferiority as well as material


deprivation (caused by Westerners) in contrast to white normal humanness. Blackness as the “racial inferior” category is accompanied by new types of biology and natural history that endorse the ordering of life forms according to rationality. Wynter brings us through centuries of developments in Western conceptions of Man, up to the contemporary period where Human Otherness is now the state of being jobless, homeless, or criminalized, which confounds with Black and Latinx as ethnic identities. Prisons are occupied by those marked to be Human Others, as opposed to the Investor bourgeois class. This means that complicated processes of racialization and criminalization are interwoven with structures of modernity and must be carefully analyzed in any attempt to change the conditions of widespread violence.

Next, we must interrogate the question of the category of “living” to approach the political consequences of drawing lines that distinguish between bodies. Chen studies language of animacy describing animal, human, disabled, plant, and nonliving categories of being and describes the power dynamics that shape language to enforce an animacy hierarchy. This hierarchy is ordered by racialized, gendered, and sexed symbolic representations of life and death, which translates to the types of care that different bodies of matter are entitled to and the acceptable treatment of beings and things. Simply put, animacy hierarchies define life and health expectations according to notions of how alive different types of people, objects, animals, and organisms are. From this, we can think about the value not afforded to different bodies based on their state of animacy, and the common-sense notion of nonhuman nature as cheap, always renewable, and available for human uses. Because there are relatively few discussions of ecological health that are not related to or immediately motivated by

120 Moore.
human health concerns, it can be difficult to imagine ecological health as an end in itself with bodies normally considered to be inanimate (rocks, lakes, soil) as not outside the realm of animacy or vitality.

In thinking about ways that nonhuman nature is denigrated and understood as outside the realm of consideration of “living,” it is also useful to think about the relationship of the state to territory where state logics determine the use of land and all things within a given territory. It is important here to acknowledge that both the U.S. and California are settler colonial state formations that are motivated by the attempt to create a settler society premised on the elimination of the native. The settler state’s control of territory is founded in its relationship to land, where the settler state’s imaginary of space and geography is based in domination and dispossession of indigenous peoples. Chickasaw scholar Jodi Byrd brings together incisive commentary in her book *Transit of Empire*, wherein she asserts that “[indigenous critical theory] means imagining an entirely different map and understanding of territory and space: a map constituted by over 565 sovereign indigenous nations, with their own borders and boundaries.” She argues more generally that while indigenous people in the U.S. are forced into margins and unrecognized as victims of genocide and dispossession, Indianness is a category that is mapped onto many people, places, and things, through which the U.S. settler state consistently reaffirms and imagines itself. Meaning that, the relationship between the state and territory is imbued with settler violence and the elimination of indigenous people, which is not always taken up seriously in environmental nor prison studies.

---

121 Wolfe.
During the widespread practices of frontier homicide during territorial expansion, the U.S. government established its claim to legal jurisdiction through the recognition of other Western states. State theorists have taken up many studies of sovereignty and jurisdiction to investigate the legitimacy of different forms of state power, many of which discuss territoriality. Jurisdiction, sovereignty, and legitimacy of state are decisively linked to state territory, as it is difficult to imagine separation between society and territory. The most salient aspect of state territoriality theory for this study, however, concerns the environmental implications of Weber’s theory of monopoly of violence within a given territory. Legal scholar A. John Simmons takes up this question and explains that state power is bound up in territory insofar as its main functions to tax its population, control the flow of goods and people, and enforce the rule of law are all predicated on the territory and borders within which the state can coerce obedience. The right to enforce laws in the state’s given territory brings us directly to the convergence of prisons and the state’s relationship to nonhuman nature. Prisons as the manifestation of the state’s authority over activity within its territory invites us to think about how the state’s legal system enforces appropriate behaviors between bodies and decides sanctions for infractions, which are based on acceptable treatment of bodies according to human and animacy hierarchies. Through laws and legal institutions, prisons are linked closely to state’s control over territory, and thus its control over land and nonhuman nature.

Finally, the settler state also serves as a relationship to nature as the force that

125 Ibid.
builds infrastructure and determines the limits of physical alteration of environments for human consumption. Infrastructure projects represent a different version of the state’s relationship with nonhuman nature, which Christian Parenti argues is shaped by the goal of capitalist accumulation on the part of the state.\(^{126}\) He employs the example of the construction of the Eerie Canal to explain how water systems are integral to interstate trade and resource management, which is an essential feature of state authority. As discussed in chapter one, water systems are an enormous part of Californian state authority because the state makes decisions about the distribution of an essential need of all human and nonhuman populations.

As an exceptionally close linkage between state power and infrastructure, prisons are an example of state produced geographic organization and the creation of environmental relationships. Parenti argues that in the original and ongoing decisions about how to transform the environment for roads, canals, and buildings, the state and its apparatuses create environmental relationships with nonhuman nature. Prisons are an enormous undertaking as an environmental transformation project, because they require considerable energy and technology to contain prison populations. Unlike other forms of infrastructure that require a few main types of environment alteration, prisons have the innumerable effects that “warehouses full of people”\(^{127}\) inevitably create. Because the unidirectional and simplistic notion of “humans destroying the environment” is clearly fraught with faulty assumptions, my findings about water, air, and soil contamination fit less easily in this field of complex thinking about human

---


effects within planetary systems. The state’s largely unquestioned authority in determining appropriate laws and infrastructure projects determines the amount of legalized domination, which the state has significantly more authority to wield than do individuals. Prisons as an infrastructure project are explicitly linked to the state’s calculation to coerce obedience of people and dominate nonhuman nature. Prisons are a particularly notable study of domination over both humans and nonhuman nature because they play an integral role in enforcing the state’s legal determinations, are an example of state infrastructure that transforms nonhuman nature, and have within them power structures predicated on domination of prisoners’ bodies as well.

In sum, the ideologies of domination at play in how we afford possibilities of life and death to differently-marked bodies is key to evaluating ecological health and the role that prisons play in state exertions of power.

Section II. The necropolitical in prison

Many studies of the prison as an institution begin with Michel Foucault and his ideological structure of biopower, wherein he analyzed the relationship between sovereignty and notions of life and health. In his theory, he argues that the power of life that the state wields through biopower takes on two main forms: discipline of the individual and regulation of the population. He posits that biopower is the most recent development of sovereign power, in that we can understand the success of the state in contemporary times to be tied to its ability to “foster life or disallow it to the point of death.”

Although he mostly focuses on these two forms of biopolitical exertion

---

where life is used to discipline and regulate people, Foucault also acknowledges that not all people are included in what the state understands as its population. Foucault’s biopower explains the phenomenon of “make live” and “let die” in the context of European prisons and modern states, but only mentions racism as the factor deciding the state’s interest in health of different populations. He broadly defined racism as an ideological tool to create a break in biological homogeny and subdivide different populations within broader human categories. He goes on to say that racism is based on creating subdivisions between species to deem some types of life and bodies inferior, so that the health of the population is improved when they are allowed to die. In this understanding of racism as deployed by the state in its biopolitical project, the line drawn between those who the state should make live seems not to be an important thing to understand in itself.

Scholars who have more recently taken up the work of examining racial slavery and racialization as constitutive of modernity, like Alexander Weheliye, argue that Foucault’s generalization based on close study of only modern European states universalizes in a way that makes Nazi death camps seem to be an aberration instead of as historically and ideologically linked to earlier forms of genocide and colonial terror. But beyond Foucault’s Eurocentrism, Weheliye focuses on Foucault’s implicit claim that race/racism is a localized “real object” as opposed to being an “object of knowledge” like biopower. Because biopower as imagined by Foucault do not center a study of racial slavery as constitutive of Western modernity, his

explanation of differentiated expectations of life and death fall short of fully explaining how racializing assemblages symbolically order life and death. From Wynter’s work about conceptions of the human, we know that prisons in a U.S. context function as the site of the racialized and criminalized Other within a complex system of meaning, and cannot be explained entirely by a racist state policy of “let die.”

While Foucault deals precisely with the ways that the modern European state makes desirable populations live through different mechanisms of discipline and regulation, Achille Mbembe interrogates the principles and apparatuses of state power that regulate types of death amongst the population that is racialized and whose lives are disavowed in Foucault’s view. Mbembe’s study of necropolitics takes up the study of how death, life, and health are inscribed into modalities of power. He focuses on colonial terror and racialization, and is concerned with ways that sovereignty is enacted through the “generalized instrumentalization of human existence and the material destruction of human bodies and populations.”

This includes the ubiquitous forms of killing, maiming, and terrorizing present at the historic sites of the plantation and the colony. He argues that the use of necropower is the use of death to subjugate life, and explains the symbolic and literal invocations of death in Palestine to illustrate his point. Overall, necropolitics uses terror as its defining feature, in that the “power to kill” rests on the state creating the types of racism, enmity, and exception that justify and demand state violence.

On Foucault’s biopolitical line of thinking, the concept of “let die” leads us to believe that prisons are most essentially the populations that have been cordoned off

---

to die. While surely segregation is an important factor of imprisonment, failing to interrogate the use of death in the prison to further expand upon a “let die” analysis can leave out many of the psychological factors of death that are at play within a prison system. Applying a necropolitical analytic sheds light on how the state dominates and subjugates the population that it does not allow to live, as opposed to those it forces to live. In attempting to match Mbembe’s analysis of death and life in state power to the prison system, we can start with the idea that the prison is the forced geographic site of those who are not calculated by the state to be important to population health. While the contemporary prison system is usually not invoking death as explicitly as did the plantation or colony, racialization and death still undergird control over the lives of incarcerated bodies.

Katherine McKittrick builds on Mbembe and Foucault’s concepts of necropolitical and biopolitical to make sense of carceral geographies and death.\textsuperscript{132} She explains necropolitics as the way that the slain and wounded body, which includes graves, displaced people, and sites of terror (i.e. the whipping post), shape colonial geographies. The wounded and slain body is made up of those who are marked to be “perpetually lifeless and disposable,” which is informed by conceptions of the human as articulated by Wynter.\textsuperscript{133} McKittrick’s profound analysis of psychic and epistemic violence as determining colonial geographies relates directly to how we can understand death as an organizing principle of carceral geographies.

Within U.S. social formations, the prison is a site of many calculated forms of death, wherein the disavowal of prisoners’ lives means that they are subjected to

\textsuperscript{133} Ibid., 952.
certain types of death. One of these types is social death, which is enacted by dislocating prisoners from their kinship networks, isolating them, and only allowing interactions with others through strained and difficult pathways. The state and institutional domination over the permissible types of social interactions and possibilities for prisoners enforces social death. What Lisa Marie Cacho and other scholars call “social death” has to do with the way that state violence devalues and destroys parts of people’s lives, which I match up to Mbembe’s broader definition of “the use of death to subjugate life.” In addition to the psychological component of social death, the legal aspect of revoking prisoners’ rights to vote and participate in the political processes guaranteed to the citizen is another way that prisons subjugate life with segmented and slow killing. Mbembe addresses this type of political death when he explains the project of sovereignty relying on the manner in which “calculus of life passes through the death of the Other.” In other words, political participation becomes the mark of a citizen as distinct from the criminalized and racialized subject who is denied the ability to participate in recognized forms of politics. This denial of voting rights is symbolic of death as it simultaneously enlivens the voting rights of the citizen. The work of these scholars combined can begin to account for the types of denial and killing that happen through and in prison as they contribute to the organization of the populations made to live.

Section III. Prison medicine and health care

After examining how logics of domination over human and nonhuman nature

---

134 Mbembe and Meintjes, 16.
135 Ibid., 18.
have developed historically, as well as the functions of symbolic life and death in the site of the prison, a critical assessment must be made in relation to the concept of “human health” within a prison. Because “health” can be used to mean a plethora of things about wellbeing in different contexts, the health implications of pollution need to be situated in the ways that wellbeing is denied and enforced in highly regulated prison settings. The foundational but ever-changing relationship between health and prison is understood most clearly through forms of deprivation, power imbalances between doctors and patients, rehabilitative/preventative health monitoring, and prison health research.

Deprivation is at the heart of institutional logic, and is an important analytic for understanding health in prison. Most of the types of deprivation that occur in prison follow the commonplace rationalizations of incarceration in the U.S. today, which are justified by the idea that there are only a small number of people who commit “violent and serious crimes.” Deprivation is the starting point of imprisonment as punishment within U.S. legal frameworks, as the act of imprisoning a person deprive them of their bodily autonomy and does not allow for free movement. Although deprivation of bodily autonomy is the starting point of deprivation in imprisonment, there are many types of material, social, emotional, and physical deprivation that all contribute to how imprisonment functions today.136 Over fifty years ago, Gresham Sykes conducted a sociological study of a New Jersey State Prison wherein he connected his observations of prison life with deeper theory about psychological health. He argued that the deprivation of autonomy and security, among other material and emotional deprivations of incarcerated people, led to a type of intense

---

pain that affected the “very foundations of the prisoner’s being.”\textsuperscript{137} Although many aspects of the neoliberal carceral state have developed away from the specific context that Sykes studied, his observation about the psychological ramifications directly resulting from deprivation remains apt in almost any study of imprisonment. Understanding deprivation as a serious threat to incarcerated people’s ability to self-determine and live healthy lives is essential to unearth the realities of health in prison.

Secondly, the power dynamics operating around health through medicine and medical realities in a prison context are also essential for assessing health in prison. Frantz Fanon’s explanation of his experience as a doctor in a colonial context in Algeria brings light to power dynamics and violence within medical relationships.\textsuperscript{138} He highlights the heightened power dynamic as it existed between Western doctors and Algerian patients, particularly because of the legacy of doctors conducting torture and other types of medical procedures in collusion with the French military. Not only does Fanon speak about a lack of trust on behalf of the patients about the motivations of the doctors, but there was also a routine practice of doctors refusing to listen to the testimonies of their patients. Instead colonial doctors trusted only the body and often refused to acknowledge their patients’ pain if they could not find a visible explanation on the body. Without going too much into detail about the differences between colonial contexts, it is clear that the distrust and unkind paternal treatment toward Algerian patients is undoubtedly relevant within medical care in prisons.\textsuperscript{139} On top of the fact that the incarcerated people are already in a position to have lower expected

\textsuperscript{138} Frantz Fanon, \textit{A Dying Colonialism} (Grove/Atlantic, Inc., 1994).
health outcomes, if doctors won’t take their experiences of illness or pain as a serious need for treatment, then it is difficult to imagine that healthful living in prison is ever fully possible.

Following Fanon’s articulation of the role of colonial doctors participating easily in colonial domination and silencing their patients, medicine as used in prison often follows the priorities of the prison administration. One of the only studies of this sort is Anthony Hatch and Kym Bradley’s work about the use of psychotropics for incarcerated people who “have serious mental health problems.” In their study of medical treatment being administered in prison, Hatch and Bradley argue that the use of these mentality-altering drugs creates new material realities for prisoners, characterized by silence.\textsuperscript{140} Hatch and Bradley indicate that the intense numbing effect of psychotropic medication, while genuinely desired by some individuals, might also be used to unwillingly alter the consciousness of some incarcerated people, which aligns with the interests of the prison administration to make prisoners more manageable. More attention should be paid to the way that technoscience and the power differentials in biomedicine are carrying over to prison medicine distribution.\textsuperscript{141}

Other types of health programs, including rehabilitative and preventative health monitoring are underwritten by certain behavior requirements that mark gendered, racialized, sexed, disabled, “ill mental health” ways of being in the world as unhealthy. An unusually clear example of both gender and racialized policing in the


name of mental and physical health is exposed in Jill McCorkel’s ethnography *Breaking Women: Gender, Race, and the New Politics of Imprisonment.*\(^{142}\) The ethnography traces the history and implementation of a “habilitative” program in a high security women’s prison, which forced prisoners to undergo aggressive and exploitative counseling. Many of the explicitly abusive dynamics in the program were the result of the racialization and forced gender performance being carried out in the name of the mental health and a “return to normal life” for the prisoners involved.

Gender norms are often employed in prison as a means of improving the health of incarcerated bodies, where prisoners’ gender presentation and sexuality is under intense surveillance in gender-segregated facilities.\(^{143}\) Individuals are gendered and subjected to varying types of surveillance and antagonism to discourage variant gendered behavior, which is seen as deviant and not preparing individuals to be healthy on their reentry. Additionally, prison administrators and guards often do not tolerate the broad range of ways of being in the world, including ways of thinking, acting, communicating, and living, that are marked as mental illness and disability. While disability isn’t often measured in prison (though it is constantly disciplined), the Department of Justice estimates that at least half of all people incarcerated in the United States “have mental illness.”\(^{144}\) In the overwhelming majority of cases, disabled incarcerated people’s self-preservation is directly at odds with the way that their bodies are individualized, surveilled, punished, and corrected.\(^{145}\)

\(^{144}\) Lauren E. Glaze Doris J. James, "Mental Health Problems of Prison and Jail Inmates," (Bureau of Justice Statistics, September 2006).
\(^{145}\) Ben-Moshe and Carey.
Because prisons as institutions regularly invoke the “health of the population” as justification for enforcing order in the prison, a critical lens must be applied to the types of health statistics that are released by prisons and state researchers. Public health research about prisoners largely focuses on the rates of disease and death within prisons. British sociologist Nick de Viggiani warns about trends in prison medical research and says, “the heavy emphasis on physiological and psychiatric morbidity and mortality reinforces and legitimises a reductionist, pathological approach to prison health research and practice, while the broader health and social needs of prisoners remain obscured.” There is an abundance of research on the rate of HIV/AIDS and other sexually transmitted diseases in prison, as well as a large focus on drug use and preventative measures to deal with drugs in prison, but this leaves out the high rates of asthma, diabetes, and other types of long-term medical conditions that are ubiquitous in prison. Prison health researcher Catrin Smith explains that the choice of what constitutes a “health issue” in prison often lines up with state and prison officials’ interests to crack down on illicit behavior in the name of prison security and order.

Many scholars, especially in the field of critical public health studies, have written about the deep and troubling contradiction of attempting to improve health and healthcare in prisons, as prisons themselves depend on containing and removing a group of people from broader human systems. They point to the numerous areas in which prisoners face threats to their wellbeing, and how attempting to pinpoint just

---

one type of issue (especially if that only includes drug use or sexually transmitted diseases) leaves out all other measures of illness, which are often creating more problems for the prisoners’ health in the long run.149 This type of thinking is aided by new biomedicalized views of health, especially the idea that medical care should be focused on biologically-proven, short-term illnesses.150 Structural deprivation to adequate amounts of bodily movement, showers, food, human contact, and other necessities for wellbeing are nearly impossible to indict as causes of the ill health of incarcerated populations through a biomedicalized view of health.

In short, incarcerated people’s wellbeing is routinely denied through the structural confinements of prisons, and can be understood through the deprivation of imprisonment, medical power dynamics, behavior policing, and prison health research.

Section IV. Health in the desakota of California

In almost all of the cases I presented in chapter two, the archival data I found about ecological health and prisons necessitated an explanation of health problems before the prisons arrived in the towns, because the root causes were structurally determined beyond the incarceration facilities. The problems I outlined in the earlier sections of this chapter show the logics underpinning domination in the creation and enforcement of prisons, the use of death to subjugate the living in prison, and ways that control and medicine in prison preclude many possibilities of health. These

analyses must be brought together in the context of California geography to understand the cases of contamination as related to the symbolic and literal instances of life and death.

In her work on the political and geographic history of California prisons, Ruth Wilson Gilmore theorizes that the places that prisoners come from and the places where prisons are built can be thought of as an unified abandoned place. She argues that this space is best described by the term *desakota*, which originated in South Asia as a way to describe varied environmental stress brought about by technology-led economic globalization. Terry McGee was the first to publish using the term in 1991, and its usage has developed significantly since. Gilmore explains that the term has helped scholars from various geographic regions “compare political, economic, territorial, and ideological valences that distinguish and might unite disparate places shaped by external control or located outside particular developmental pathways.” The desakota in California are regions in which prisons can be built, as well as the layered spaces that workers, prisoners, families inhabit in relation to prisons. That being said, the desakota is not defined because of the construction of prisons necessarily; it is the desakota because it is vulnerable environmental degradation that accompanies state and corporate projects.

Understanding these areas as the desakota gestures to the political and economic

---

histories of regions of California that make them particularly vulnerable for the confluence of megaprisons and environmental degradation. This is also true because of the racialized disregard and depletion of these regions in which prisons can be built.

In revisiting assessments made earlier in this chapter in the context of the desakota, we can follow McKittrick’s assertion that prisons are sites within colonial geographies marked by slain and wounded bodies. If carceral geographies include the complex and layered places that people who visit and work in prisons inhabit, the symbol of wounded bodies in prisons affects not only incarcerated people but also travels across time and space with other people who spend time in prisons and affects their lives as well. In terms of statecraft and territoriality, prisons assert the state’s domination and jurisdiction, as well as physically alter nonhuman nature and mediate the relationship of people in the desakota to ecological systems. Within the prison, substantial amounts of energy are exerted to deprive incarcerated people of different types of life and health, the force of this domination and violence reverberates in the lives of other bodies nearby.

Over the past 20 years and among increasing calls for environmental sustainability in California, the California Department of Corrections and Rehabilitation has created many of its own “responsible steward” narratives about water and energy efficiency in prisons and lock-ups throughout the state. After undergoing the comprehensive background of ecological and human health as related to prison systems, however, the idea that the CDCR could create any institution not predicated on the domination of the individuals imprisoned or nonhuman nature is
unfathomable. The implications of the terms ecological and human health must be adequately contextualized to show the incompatibility of incarceration and ecological health.

As we meld and rework frameworks to encompass more of the locations and persons/organisms affected by incarceration, it is extremely important not to obscure the way that scientific research has facilitated the development of violent ideologies perpetuating both prison systems and environmental destruction. Michelle Brown analyzes the cultural production that mediates cultural understandings of prison and incarceration in her book, *The Culture of Punishment: Prison, Society, and Spectacle*. She explains that the role of expert scientists in deciding the appropriate role of punishment and incarceration has determined the state narrative of “what works” for locking people up and reducing crime.155 This means that many types of scientific research can be adjusted based political motivations and relationship to the state, and that many researchers have had little trouble justifying state violence within their own understandings of system change. Similarly, most social scientists have also shirked the responsibility of explaining the full causes and repercussions of ecological shift as a result of capitalist accumulation and histories of normalized domination.156 In the context of prisons and ecology, most forms of accepted knowledge production can be used to justify state domination, so the position of a new analytic relating human and ecological health to incarceration must be firmly opposed to all forms of domination and subjugation.

---

Although academic disciplines can be elusive and deceptive in their structural analyses, the fact that prisons and health are incompatible is not a lofty or excessively complex statement. When people encounter the material and emotional realities of prisons and pollution, it is likely that most of my preceding study can be boiled down to extended explanations of what is basically common sense. In their article “Joining Forces: Prisons and Environmental Justice in Recent California Organizing,” Rose Braz and Craig Gilmore explain the way that San Joaquin Valley youth organizers structurally analyze the conditions of environmental and criminal problems. When asked about environmental justice in their towns and the biggest threats that they faced, they answered that the biggest problems for health in the valley were police, pollution, and prisons. Environmental justice advocates in California’s Central Valley have been fighting pesticides, waste incinerators, and toxic dumping sites for a long time. Instances of Valley Fever, cancer clusters, water poisoning are important to highlight but do not come close to explaining the abusive conditions that routinely and systematically deprive people inside prisons of their self-preservation and health.

**Conclusion**

Most aspects of the ecological and social health of California are connected to a deep history of development and infrastructure decisions. In the preceding sections of this chapter, I looked at the ways that delineations of space and health can clarify the implications of California incarceration infrastructure on ecological and human health. To unveil the full range of structural degradation and violence, we must interrogate the ideological constructions contributing to rational incarceration growth.

---

157 Braz and Gilmore.
and allowing for ecological problems to continue to go unaddressed. The conception of Self/Other in normative understandings of human and nonhuman nature is fundamental to how we tell history and narratives of ourselves. Legal systems and infrastructure as projects of the territorially-based settler state manifest in prisons as sites of state power tied to territorial domination.

Understanding the implications of necropolitical theory within the prison as more complex than “let die” opens up the ways that death shape geography and recognizes the affective consequences of interacting with state violence. Although there are many state programs, policies, and considerations that claim to provide health care to incarcerated people, the centrality of deprivation to incarceration, the extreme power dynamics in medical practices, bodily discipline in the name of health, and prison medical research all indicate that domination and control in prison actively prevent incarcerated people from protecting their health.

Finally, I used these theoretical linkages contextualize the instances of water, soil, and air pollution and incarceration infrastructure that I presented in my previous chapters. The disregard for and the depletion of human and ecological systems is prevalent in these areas before the prison boom started in the 1980’s, with the trend of environmental destruction linked to economic abandonment. The state’s calculated organization of incarceration systems that deny self-determination to those incarcerated is the driving force of prison construction and maintenance, so while the effects of high resource use and prison siting may be unforeseen, they are not entirely unintended. With the expansion of prison infrastructure into these areas as a source of “new economic stimulus,” the existing systems that placed little value on human and
ecological health were reconfigured to incorporate a new population of incarcerated people, who were explicitly denied bodily autonomy and health.

In unpacking the historic and complex pretext of the California incarceration system’s effects on ecological health, I have come to a conclusion that confirms Jackson’s sentiment expressed in the quote at the beginning of this chapter. As he says that no simple reform can be used to undo the racism faced by most people incarcerated in California or the U.S., it is equally true that no set of reforms can substantially modify incarceration systems to align them with broad notions of human and ecological health. By examining the perspectives from which we can justify incarceration and environmental destruction, the dimensions of health tied to political self-determination, emotional wellness, social connection, and material autonomy are undeniable.
Conclusion

The material and immaterial consequences of violence resulting from state-sanctioned environmental domination and incarceration should not come as a surprise after examining the history of environment construction, infrastructure decisions, and incarceration growth in the past two centuries. Water transportation and distribution systems have been heavily informed by white supremacy and capitalist interests in California as a U.S. settler colonial society in the late nineteenth century. The worsening periods of drought are inseparable from state’s prioritization of geographic regions, industry, and bodies marked with different entitlements to life.

The massive expansion in incarceration systems is a response to surplus in California as well as a neoliberal political response to the anti-colonial and class struggles occurring in the 1960’s. The prison boom and increased criminalization in the 1980’s normalized widespread imprisonment and the geographies accompanying the expanded prison system. These prisons became immensely overcrowded in the late 1990’s which the Supreme Court responded to by mandating a reduction in prison populations, which instigated AB 109 as a way to shift incarcerated people to other types of lock-up, primarily county-level jails. I argue that this shift maintains the logic of criminalization and incarceration facilities, as well as the priorities of populations subjected to types of death.

The original contributions of this study appear in chapter two, in which I draw out the background of different soil, water, and air contamination issues as related to and exacerbated by incarceration in California. Most of this research deals with the
relatively new state-run prisons in the Central Valley of California, but extends to
trends as related to federally-run prisons and county jails. Water scarcity and
contamination are problems both in and around prisons, as there have been
documented incidents of prisoners being forced to drink poisoned water and sewage
spills into nearby waterways, as well as the general themes of drought compounding
water scarcity in and around prisons. Problems concerning water access most literally
endanger the health of all affected populations because of the indisputable necessity
of water for most forms of organic life. There are also a multiplicity of health
problems including asthma, cardiovascular issues, and valley fever all resulting from
air quality issues in the Central Valley. The increase in construction projects in the
Central Valley has contributed to the air problems generally, with the construction of
incarceration facilities ushering in a host of new and intensified issues as related to
traffic and soil disruption. The affective side of dealing with water and air pollution
on a daily basis is another marker of death, in that being around people who are
constantly ill and coughing has implications for people understanding their own
possibilities of life and health.

In the last set of cases, I highlight select themes of soil contamination issues
that are characterized by two main patterns: pesticide contamination and old military
sites. State decisions about land for incarceration facilities are affected by the state’s
economic and military relationships. I bring together trends of increasing cancer and
chronic illness rates in prisons with trends of contaminated prison land to shed light
on ways that liberal California’s tendency to combine two types of “unsightly”
situations distributes harm and health according to racialized, criminalized, and
gendered notions of being alive.

Sylvia Wynter’s historical analysis of modernity and humanity draw out the underlying symbolic life and health in Western discussions of human bodies. Incarceration infrastructure is a linking point between state power over a territory as dealing with nonhuman nature, and the criminalization and containment of bodies to follow the priorities of the state. The necropolitical component of prison infrastructure creates types of mental, physical, emotional, among other types of death that are used to subjugate death and create carceral geographies. This type of necropolitical analysis of prisons is complemented by a study of medicine and medical research as administered in prison, focusing on the fact that most health needs cannot be met by the terms of imprisonment. Finally, in examining prisons in the desakota, or an area that is largely treated as collateral damage in globalization and economic practices, it becomes clear that prisons are one of the types of uneven placement of risk and death in the desakota that actively contributes to the depletion of health for both human and nonhuman populations that are enmeshed in incarceration systems.

In this thesis, I have pulled together the works of many scholars to create a framework that contains points of comparison between state domination that is enacted in prisons and altering nonhuman nature, and results in large scale depletion of health and life in the desakota in California. While I acknowledge that there are many difficulties in bringing ecological domination onto the same level of discussion as the types of incredibly painful experiences of people who have been incarcerated and suffered at the hands of the police, I put forth this study as an attempt to create a
thoughtful overlay of the human and ecological health problems. This must also include attention to the affective aspects of health and invocations of death as promoted by state domination and brutality.

Although many environmentally-focused organizations working on California issues will likely never understand their work as connected to prisons and incarceration, I hope that this study creates another reference point for people who have been trying to articulate how land and ecology are enmeshed in the carceral state.
Works Cited


"California Prison Fined $40,000 for (Another) Raw Sewage Spill." Prison Legal


Court Medical Experts (Joe Goldenson MD, Madie LaMarre MN, FNP-BC, Mike Puisis DO). "Central California Women’s Facility (Ccwf) Health Care Evaluation." California Corrections Health Care Services, December 11, 2013.


Dickson, Ernest C. "‘Valley Fever’ of the San Joaquin Valley and Fungus Coccidioides." *California and Western Medicine* 47, no. 3 (1937): 151.


Inc., Valley Planning Consultants. "Jaxon Enterprises Asphalt Oil Facility Initial Study/Mitigated Negative Declaration ", edited by City of Chowchilla
Community Development Department. Chowchilla, CA, July 2011.
"Kern Valley State Prison Water System No.1510802: Citation for Noncompliance with the Permit Provision." edited by Department of Public Health: State of California, July 22, 2013.
Lopez V. Brown.
Moore, Joe. "Salas Calls for Valley Fever Funding in State Budget." Valley Public
Shao, Hong-Bo, Li-Ye Chu, Cheruth Abdul Jaleel, and Chang-Xing Zhao. "Water-


