Bridging Intersectional Ecofeminism and Environmental Justice Frameworks to Examine the Impacts of the Meat Industry

by

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Global production of meat has greatly increased over the last fifty years in comparison to rising population numbers, much of it driven by mass-scale industrial meat operations. The effects of the mass-scale meat industry are local, global, and wide-ranging, with social, environmental, and political-economic dimensions. The industry's expansion of inexpensive meat options is driven by a goal to build consumption, not necessarily quality or ethical meat production, while finding ways to minimize operational costs. In this thesis, I bring together ecofeminist, environmental justice, and intersectional lenses to consider how they each, and collectively, aid in the examination of the meat industry, particularly the production of pork and pork products in the United States and to understand the multidimensional impacts endured by local communities who are often marginalized and disadvantaged. This study is a literature review, followed by a preliminary analysis of the meat industry using these frameworks whereby I examine the history of the meat industry in the U.S. and the contemporary production of hog meat in Duplin County, North Carolina. Through my guiding frameworks I discuss the violence caused by animal operations, such

as pollution, toxic waste dumping, environmental degradation, and disease while highlighting how BIPOC and low-income communities tend to disproportionately be burdened with these harms. I argue that by bridging ecofeminist and political-economic frameworks it is possible to investigate the intersectional dynamics of power, privilege, environmental justice, and racism more holistically, as these lenses allow for a deeper understanding of the meat industry's supply and production chain as well as the experiences of those directly and indirectly affected. I conclude with recommendations for future research and social and political change, including increased regulations on the meat industry, closing the divide between ourselves and where our food comes from, and addressing systemic racism and inequalities that undergird environmental racism and injustices.

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Chapter 1: Introduction

Over the last century meat, particularly pork, beef, and chicken, has become a large and influential industry in the United States of America (U.S., hereafter) and globally. The meat industry consists of a food supply chain that includes raising and transporting livestock and their feed, as well as slaughtering, processing, packaging, and distributing for sale the meat and meat by-products (Pizzuti et al.). These stages of production occur within different locations such as agricultural fields, confined animal feeding operations (CAFOs), slaughterhouses, factories, and retailers (Pizzuti et al.).

The meat system and supply chain begin with intensive crop production, or industrial agriculture, where grain and soybean monocropping abound and natural growing seasons are not adhered to ("Raising Animals"). Animal waste is spread in toxic amounts on the fields to replenish the depleted soil, but this ends up further brining nature out of its equilibrium ("Raising Animals"). When the crops are ready for harvest, they are turned into feed and given to livestock in CAFOs, rather than allowing the animals to graze naturally in the fields. Livestock are kept in confined houses, living in their own waste and constantly breathing in toxic fumes ("Raising Animals"). Once ready for preslaughter, they are starved for 12-24 hours to make the slaughtering process easier (Sing and Cross). Focusing on hogs, they are then stunned by electrical shock or with CO2 gas, suspended on a conveyer line to be bled out, scalded in water tanks to be cleaned, dehaired, and then resuspended for the butchery process. (Sing and Cross). Finally, the meat is inspected, graded, cut, packaged, and sold to retailers who may further turn the products into what we see in the grocery store (Sing and Cross).

CAFOs oftentimes use vertical integration, meaning that feed mills, production operations, and slaughter facilities are all within one organization, although in different buildings (*CAFO*). Within these operations, low wage hazardous work is the norm, with harmful exposure at every level of production, from pesticides in agricultural fields, to waste toxins in the rearing of livestock, to the dangerous and fast-paced conditions in slaughterhouses (*CAFO*). The animals are also exposed to hazards. Their living situations are cramped and unsanitary, with no exposure to soil, vegetation, windows, or sunshine, as their lives mainly consist of concrete walls and floors (*CAFO*; "Concentrated Animal Feeding"; Kasper). These realities of workers and livestock are in part able to occur due to the labeling of the meat industry as an agricultural production, rather than an industry ("Raising Animals"). Therefore, the meat industry has agricultural regulations to follow that are relatively easy to undercut compared to industrial policy ("Raising Animals").

As of 2020, hog farms across the U.S house 80 million pigs at any time (Matthews and Pinkerton). There are at least 2,500 hogs per building, as that is the minimum number to be considered a CAFO. There are up to 20 animals in each bedroom-sized pen, with some hogs kept in individual cages so small that they are unable to turn around. (*CAFO*; "Concentrated Animal Feeding"). The lifecycle of a hog in a CAFO can be understood first through farrowing, which is when a sow births her litter ("Factory Farming"). Most vertically integrated operations, like hog CAFOs, include all processes from breeding hogs, to the piglets' growth and eventual slaughter, to final processing for the market ("Factory Farming").

Each litter can be made up of as many as 13 piglets and in one year one sow can produce up to 36 offspring ("Pork Production"). After the weaning period, the piglets are moved to a nursery until they weight 50 pounds which takes about six to eight weeks due to their 4 pound-a-day diet of corn and soybeans ("Pork Production"). In the last stage, called "finishing," the pigs are housed in a different building where they live out the last 16 weeks of their lives ("Pork Production"). They consume up to 10 pounds of corn, soybeans, vitamins, and minerals, every day to reach the target weight of just under 300 pounds, while also being fed antibiotics to counteract the effects of their living conditions (Kasper; "Pork Production"). The pigs are then sent to a plant to be slaughtered, with the entirety of an average pig's life spanning just six to eight months (Matthews and Pinkerton).

Global demand for meat has greatly and disproportionally increased over the last fifty years in comparison to rising population numbers (Ritchie and Roser, "Meat and Dairy"). Global meat consumption per capita in 2014 was 94 pounds, a 44-pound increase from 1961 (Ritchie and Roser, "Meat and Dairy"). Production has escalated from 78 million tons worldwide in 1961 to 351 million tons in 2014 (Ritchie and Roser, "Meat and Dairy"). These quadrupled production rates do not map onto the rising global population, as from 1961 to 2014 the population slightly more than doubled, going from around 3.1 billion to almost 7.3 billion people (Ritchie and Roser, "Meat and Dairy"; "World Population by Year"). As additional countries increase in wealth, global demand will continue to rise as there is a link between meat consumption and affluence (Ritchie and Roser, "Meat and Dairy"). Within this global growth, it is important to

note that the proportion of meat consumed within countries and cultures varies, and the increase with wealth or development is not constant or consistent.

The connection between wealth and demand for meat is multidimensional, multiscalar, and has cultural and political-economic aspects. As wealth rises, households may engage in increased consumption of meat, and greater economic privilege can lead to more selective purchasing of higher-quality meat. Increased meat consumption is also a result of the growth in availability of mass-produced, cheaper, more accessible meats. The first dimension focuses on the ability to afford more and higher quality cuts of meat with greater disposable wealth, but this is not the main topic of this thesis. The second dimension lies at the heart of this research, and it revolves around the industry's expansion of inexpensive meat options with a goal to build consumption, not necessarily quality or ethical meat production, while finding ways to minimize operational costs. The meat industry covers a range of production practices, but this thesis refers to the mass scale meat industry, like factory farming, not niche or smaller productions focused on quality over quantity. The effects of the mass-scale meat industry are local, global, and wide-ranging, with social, environmental, and political-economic dimensions.

In this thesis, I bring together ecofeminist, environmental justice, and intersectional lenses to consider how they each, and collectively, aid in the examination of the meat industry, particularly the production of pork and pork products in the U.S. Each of these frameworks have strengths and limitations, but by bringing them together I show the potential for a more holistic analysis than any framework encapsulates on its own.

Statement of the Problem

There are many different types of livestock consumed around the world, ranging from cattle and pigs to horses and ducks, but the most popular are poultry and pork, accounting for 35% and 35% - 40% of global meat produced, respectively (Ritchie and Roser, "Meat and Dairy"). This study focuses on the United States, as it has the highest meat consumption per capita of any country in the world, with upwards of 270 pounds of meat eaten per person in 2017 (Ritchie and Roser, "Meat and Dairy"). The U.S. is the world's largest producer of beef and buffalo, at 13 million tons in 2018, and poultry, at more than 25 million tons in the same year (Ritchie and Roser, "Meat and Dairy"). The country is also the second-largest producer of pig meat, the main focus of this study, at 13 million tons (Ritchie and Roser, "Meat and Dairy"). The United States produced $48.2 billion worth of cattle, $31.8 billion of chicken, and $18.8 billion of pork, not to mention other meats, such as $3.8 billion worth of turkey, all in 2019 ("The Meat Industry Is"). Adding these amounts together, at least $102.6 billion worth of meat was produced in the U.S. in a single year.

The World Watch Institute found that the livestock industry as a whole is responsible for up to 50% of all climate-changing emissions, however more recent studies estimate that 87% of greenhouse gas (GHG) emissions may come from the industry (*CAFO*; Giliver). With 99% of meat production occurring within factory settings in the U.S., rather than on small farms or through free-range farming practices, the many problems of this industry are widespread and deeply rooted in our meat-centric culture ("Environmental Impact of Meat"). While facets of the environmental issues of animal agriculture have received attention, including GHG emissions and

unsustainable resource use, there are other aspects of its effects, such as human health factors, that are equally as noteworthy but may not be as common knowledge (*CAFO*; "Environmental Impact of Meat"; Ritchie and Roser, "Environmental Impacts").

Communities proximate to these industries, plants, factories, and CAFOs are met with harmful animal wastes, industrial chemicals, and odors (Bullard et al., viii; *CAFO*). The effects culminate in a range of costs borne by these communities, such as decreased property values, environmental degradation (the depletion and destruction of natural resources and ecosystems), mental and physical illnesses, and overall decreased quality of life (*CAFO*; *Right To Harm*, 11:23). The placement of industrial facilities is deliberate and, more often than not, they tend to be located near disfavored groups in our society (Brehm and Pellow, 310).

Groups at this frontline of the meat industry may include those who are low income and/or BIPOC (Black, Indigenous, and People of Color), as this is the "path of least resistance" for the industry because of the less political and social power of institutionally marginalized and socially stratified people (Brehm and Pellow, 311; Davies; Gunderson). Communities such as these already face more hurdles in our country such as less access to quality health care, stigmatization, marginalization, and discrimination, as compared to those who have more privilege (Alt; Bullard et al., 10; Collins et al., "Environmental Injustice"; Vaccaro and Koob). However, this is not to say that all people who are low income or part of the BIPOC community are met with the same, or any, effects of the industry. When the siting of industrial operations or factory farms are proximate to these communities, existing inequities and vulnerabilities can be exacerbated through ongoing processes of exposure.

Workers at each stage of the chain face different impacts such as pesticide exposure while growing animal feed and injury when working in slaughterhouses. These effects, and others, like subjection to waste and chemicals, are not isolated within the industry but extend to the surrounding environment and communities, which are likely where the workers live. Even larger regional impacts result from animal agriculture, like GHG emissions for example.

A plethora of work safety concerns arise for workers, compounded with termination and sometimes deportation threats from their bosses who are looking to increase industrial profit and success at the expense of their employees ("Slaughterhouse Workers"). It is difficult for employees to push back against this treatment as "many workers who try to form trade unions and bargain collectively are spied on, harassed, pressured, threatened, suspended, fired, deported, or otherwise victimized for their exercise of the right to freedom of association" ("Slaughterhouse Workers"). These jobs require operating through workplace injuries and health concerns if employees want to keep their jobs. Workplace threats are made up of intimidation techniques to keep complaints from arising, while also reminding workers of how easily they could be fired and replaced ("Slaughterhouse Workers"). This situation is mentally and physically harmful and taxing (*CAFO*; "Slaughterhouse Workers"). Similar to the identities of the surrounding communities, the majority of employees in this industry are either immigrants, low income, and/or Latinx, exacerbating burdens they already tend to endure within our country (Gouveia and Juska).

The meat industry and supply chain are influential around the globe and within the United States, impacting institutions, environments, and communities. In what

specific ways do the effects of the supply chain and meat industry manifest in visible and invisible ways? What are the environmental and human costs? Do they overlap or influence each other? These are some guiding questions that framed this project.

Through ecofeminist and political-economic frameworks, it is possible to investigate the intersectional dynamics of power, privilege, and environmental justice and racism that are present here. These lenses allow for a deeper understanding of the meat industry's supply chain, as well as the experiences of those directly and indirectly affected. Looking first to the environmental impact and then delving deeper into what that means for humans and how these issues are intersectional and multilayered in nature will present a fuller picture of the problem and work towards answering the overarching questions of this thesis.

Organization of the Thesis

In the chapters that follow, I demonstrate the nature and scope of the social and environmental issues raised by the meat industry, and the potential of ecofeminist, intersectional, and environmental justice frameworks to elucidate and analyze these issues multi-dimensionally. In Chapter 2, I present my literature review which starts with a brief overview of the state of knowledge on the environmental impacts of the industry, followed by discussion of the different aspects of ecofeminism, including its relationships to patriarchy, logics of domination, feminist environmentalism, and intersectionality. I continue with a discussion of environmental racism and justice, the effects of environmental harms from industrial pollution on BIPOC, low-income groups (which can include BIPOC), and the environment. I conclude my literature review with scholarship that helps us consider these harms as different forms of violence that can be

inflicted by the meat industry, including the manifestations of the harms as well as the structures, processes, and actors that make this violence possible and who and what is most affected.

In Chapter 3, I present a brief history of the meat industry within the United States and how political, demographic, societal and industry changes influenced its growth over time. In Chapter 4, I describe how the meat industry emerged into such a powerful industry and actor locally, nationally, and globally. I bring this history to the current day, where I discuss the realities of meat plant workers and the ways the industry wields its influence for its own interests, such as finding ways around regulations that keep employees safe, leading to unnecessary bodily and mental harm.

In Chapter 5, I focus on North Carolina hog farms and use the story of the state, as well as the reality of Duplin, located in the eastern part of the state, to consider how the combined frameworks of ecofeminism, intersectionality, and environmental justice help us see the potential and utility of these lenses through a multidimensional analysis. I conclude this thesis with Chapter 6, where I discuss the promise and potential of these frameworks to elucidate the issues of the meat industry and explore some preliminary ideas for how to address these problems based on the information and perspective that analysis with these frameworks provides.

Chapter 2: Literature Review

Environmental Impacts

In this section of the literature review I study the environmental impacts of the meat industry and the ways resources like land, and more importantly, water, are used in large and unsustainable quantities. I discuss the different areas of production that use water and how the resource is integral to many of these processes, while also aiding in environmental contamination. I briefly look at hog farms in North Carolina where contaminated groundwater and inadequate hog waste disposal are not only negatively impacting the environment but also the citizens living in proximity to the meat operations.

The quantity of industrialized meat consumed in the U.S. and globally requires high amounts of resources to rear the total livestock necessary to meet consumer demand. One-half of all habitable land on Earth is used solely for agricultural purposes, with 77% of that land going towards animal feed crops, livestock grazing, and housing and raising the animals (Ritchie and Roser, "Environmental Impacts"). Livestock products only account for 18% of the calories and 37% of the protein consumed worldwide, however (Ritchie and Roser, "Environmental Impacts"). Additionally, these animals outweigh the number of wild animals on the planet by fifteen to one (Ritchie and Roser, "Environmental Impacts").

Large quantities of water are required in many aspects of the meat industry for beef, pork, poultry, and other meats (Olson-Sawyer). Water is used to grow crops to feed the animals, given to the livestock to drink, and used to scald (clean) the animals and their meat in preparation for the market ("Environmental Impact of Meat"). It has

been determined that 80% - 90% of water use worldwide is for agriculture ("Environmental Impact of Meat"). For every ton of vegetables, 11,300 gallons of water are needed and for fruit it is around 38,000 gallons ("Water Sustainability"). In animal agriculture, annual water consumption can be up to 74 trillion gallons, with 132 gallons of water needed in the slaughtering process per carcass. Every ton of pork requires 121,000 gallons and one ton of beef utilizes 145,000 gallons of water (Water Sustainability).

When watering crops, excess water may runoff, causing the chemicals from pesticides, herbicides, and/or fertilizers that were applied to those plants and soil to spread (Ritchie and Roser, "Environmental Impacts"). Runoff pollutes water sources, causing eutrophication, algae bloom, and dead zones. Eutrophication is a process where high levels of nutrients, like nitrogen, increase the number of algae in a body of water (Ritchie and Roser, "Environmental Impacts"). Algae feed off of the oxygen in that area, killing off fish and aquatic life (Ritchie and Roser, "Environmental Impacts"). Agricultural production contributes to three-fourths of these occurrences, and as previously mentioned, over three-fourths of all agricultural land is utilized for the meat industry, highlighting the significance of this pollution (Ritchie and Roser, "Environmental Impacts").

Water also plays a role in waste-disposal processes, oftentimes further polluting already contaminated water sources such as groundwater and lakes (Alt). The industry is unable to keep up with increasing waste buildup from rapidly expanding CAFOs. Paired with already lenient regulations and law enforcement on waste treatment and

removal, much of the waste discharge from animal farms and factories is done so illegally and in enormous quantities (Harris).

This poses a problem not only for the environment and ecosystems but also for people. Around 80% of the residents of rural North Carolina drink well water (groundwater) which is commonly contaminated by the many hog operations in surrounding areas (Harris). To illustrate the large impact of CAFO waste disposal, Harris points out that the waste produced by 8 million pigs in North Carolina requires processing equal to that needed for the waste of 15 million people. This is equivalent to the populations of the states of North Carolina, Virginia, and Arkansas combined (Harris). Not only is this an environmental problem, but it is a social one as well. Communities proximate to the meat industry's operations face the brunt of its emissions and effects on the environment, that can be elucidated with environmental justice and ecofeminist lenses, which I discuss in turn.

Environmental Justice

The term "environmental justice," defined and developed by Robert Bullard, posits that the environment encapsulates all surroundings, including "where we live, work, play, worship and go to school, as well as the physical and natural world" (Bullard et al., 1). The term states that regardless of socio-economic status, ethnicity or race, all individuals have the right to meaningful involvement in the development and enforcement of environmental laws and that no one should bear a disproportionate environmental burden from industrial operations or governmental policies (Bullard et al., 2).

Attaining environmental justice is not only an ecological violence problem, but a social one as well, as inequality is legitimized through social discourses and structures (Brehm and Pellow, 308). Economic, socio-political, and racial factors are at play, as institutions, such as the meat industry, use the status of marginalized communities and where they live, frequent exclusion from policy-making and urban planning, and racial discrimination, to produce and sustain environmental inequality (Brehm and Pellow, 310-311).

A part of the environmental justice lens is understanding environmental racism, one path through which systemic racism has been enacted through the meat industry (Alt). The term refers to how people of color are unevenly impacted by environmental hazards, such as pollution (Alt). According to the co-director of the North Carolina Environmental Justice Network, this is not a mistake as companies target communities they know have the least amount of economic and social power to fight back against industrial operations (Alt). Bullard et al. echo this sentiment of "condemning them [communities of color] to contamination," and add that the response, or lack thereof, of local and national governments to toxic contamination that these communities of color face is also a form of environmental racism (xii-vii).

Environmental justice therefore is focused mostly on the intersection of race and environmental harm. However, as Brehm and Pellow argue, the lens should also take into account other aspects of people's social locations including class, indigeneity, space, and citizenship, among others (311). The inclusion of intersectionality into the environmental justice framework allows for this expansion, creating a fuller picture of who is affected and the ways environmental burdens can manifest. Intersectionality also

aids in more fully piecing together how environmental justice looks at rising health concerns related to cumulative hazardous environmental exposure as discussed by Solomon et al.

In the next section I look further into intersectionality, an approach employed by many ecofeminist scholars, as well as the framework of ecofeminism itself.

Ecofeminism and Intersectionality

Ecofeminism posits that animals, women, and the environment face related forms of domination and oppression, stemming from the organized system of male supremacy and patriarchy (Gaard, 28; Adams). Patriarchy is a gendered system that permeates the relationship between humans and the environment, defining who and what has more power and rights (Adams). Through an ecofeminist lens, patriarchy is seen as being "responsible for both the oppression of women, the poor, and indigenous people and for systems of production and consumption which view nature as a commodity to be used and discarded" (Woehrle and Engelmann). Therefore, objectification of the oppressed, whether it be groups of people, animals, or the environment, fragments the full being of things, assisting the normalization of their exploitation (Adams). An entitlement to abuse arises, making it easier to offload the effects of the industry onto the environment and disfavored groups (Adams).

Contemporary ecofeminist work emphasizes the intra-actions between all humans (not just women) and nature while discussing the way we are a part of the environment rather than existing as a separate entity (Gaard, 42). I point to contemporary ecofeminism because earlier forms of the feminist movement, beginning in the 1970s, were criticized as essentialist (Adams). This was due to the perpetuation of

gender binaries through holding the position that women are more peaceful than men and the identification of the inherent relationship between women and nature (Adams). Examining power structures and understanding logics of domination are aspects of ecofeminism that can unpack and challenge constructions of nature and the justification of the power of some and not others (Ludlow). As Gaard points out, this is, and will continue to be, an important and useful lens until "sexism, heterosexism, transphobia, classism, racism, speciesism, ableism, ageism, and global inequalities produced and exacerbated by industrial capitalism and the legacies of colonialism cease to be a problem" (43).

Feminist environmentalism is a similar approach that has focused on bridging feminist theory, frameworks, and methods with the study of environmental issues and bringing the environment into feminist theorizing more generally (Braun and Sylla, "Plastic Bags, Pollution and Identity"). One such connection is bridging environmental justice with intersectionality (Braun, "Interrogating Large-Scale Development and Inequality"). Intersectionality is an approach and method developed by Kimberle Crenshaw to capture the intersecting and dynamic nature of multiple axes of identity and experience, and how these may take particular shape in the places where differently situated people work and live ("Mapping the Margins").

Ecofeminism, Industrial Pollution and Inequality

Looking at general industrial pollution as a whole in the U.S., which includes but is not limited to the meat industry and its emissions, helps us see how environmental justice and ecofeminism understand intersectional dynamics of domination and social locations. Through the stories of groups within the LGBTQ+ community we can

understand the mechanisms of industrial operations and how social and environmental oppression come together, as well as how socio-spatial segregation leads to increased exposure to health hazards, oftentimes exacerbating inequality. While not all members of the LGBTQ+ community are met with the same, or any, industrial pollution, the environmental and LGBTQ+ movements fight against similar systems of subordination and power, and thus can help us understand overarching themes and lenses that are crucial to bring together when focusing in on the meat industry.

Industrial operations and factories more generally are sited near marginalized communities more often than not (Harris). The hazardous pollutants emitted impact the environment and those living in surrounding areas which adds layers to preexisting social and institutional oppression (Collins et al., "Environmental Injustice"). As an example, Timothy Collins et al. report on the LGBTQ+ community and exposure to environmental pollution in urban settings. Their work brings to light how social and environmental oppression converge to create intersecting forms of abuse that reinforce discrimination of marginalized groups, as well as how these challenges often lead to other issues like health complications.

National socio-spatial segregation exposes same-sex couples to increased levels of industrial environmental pollution in comparison to opposite-sex couples (Collins et al., "Environmental Injustice"). Gay enclaves tend to be situated within more neglected areas of cities which are more polluted due to their proximity to the sources of emissions (Collins et al., "Environmental Injustice"). Same-sex households face 12.3% and 23.8% greater cancer and respiratory risks respectively from hazardous air

pollutants (HAPS) than opposite-sex households (Collins et al., “Environmental Injustice”).

The intersection of multiple forms of oppression is highlighted through Collins et al.’s discussion on the social and environmental effects and burdens that LGBTQ+ people living close to industrial factories face. This convergence of discrimination, marginalization, and exposure to toxins and environmental pollution can often lead to mental and physical health issues, exacerbated by less availability and access to quality healthcare (Collins et al., “Environmental Injustice”). Additionally, Davies argues that the LGBTQ+ and environmental movements both work to fight similar systems of subordination, power, and privilege, thus it is no wonder that there are so many intersections in the way they are similarly affected by violence (Davies; Detwiler, 53).

Collins et al. emphasize the importance of keeping in mind how the marginalization of this community through heteronormative discourses is quite real and intensified by environmental distress, but it also allows a space for community organizing, empowerment, and autonomy (Collins et al., “Sexual Orientation”). These ways of finding strength have helped some in this situation to find safety and political electoral leverage through their spatial location (Collins et al., “Sexual Orientation”). Intersectional ecofeminism captures the conceptual power of both feminist theorizing and environmental justice perspectives with a nuanced critique of political economy, capitalism, and the politics of work and place, all of which I will work with and develop further in subsequent sections.

Ecofeminist and Environmental Justice Issues in Industrial Meat Operations

Returning to focus solely on the meat industry, in this section I more fully delve into the groups most affected by industrial meat operations (surrounding communities and meat workers) and how these burdens are also felt by the environment. Through intersectionality and ecofeminism, we see why certain groups have higher rates of exposure to negative impacts from the industry than others and how these effects compound on existing inequalities these communities face in the U.S.

Studies have proven that the industrial operations of the meat industry are also located in certain areas where there are increased numbers of those who are marginalized in our society (Bullard et al., x; Harris; Wilbur et al.). These groups experience different environmental effects because of their decreased political and social power and structural marginalization (Alt). Low-income people and communities of BIPOC are among the groups that are negatively and severely impacted by the meat industry, but this is not a trend spanning the entirety of these populations. An intersectional ecofeminist lens gives space to uncover and grapple with the connections between environmental and human discriminations and how social and environmental oppressions are institutionalized in our society (Ludlow).

Intersectionality is therefore a key framework for understanding the meat industry. Through this lens it is possible to both analyze the different components of the environmental justice and ecofeminist frameworks and consider what perspectives they add to this study, as well as understand the different social locations of those most burdened by the industry. With intersectionality it is clear that that race, class, ethnicity, ability, age, and other factors are not mutually exclusive, but rather, “reciprocally

constructing phenomena" (Collins, "Intersectionality's Definitional Dilemmas"). Knowing that minority and low-income groups are already affected disproportionally in our society by actors such as large institutions, cumulative exposure to stresses in the environment from the meat industry against a "background of vulnerability" can lead to increased health and impact risks (Solomon et al., 84).

The industry's effects are multilayered in the ways they manifest and how they impact humans and the environment. Going through the supply chain, animal feed agriculture needed to rear livestock involves herbicides, pesticides, and fertilizers that contain chemicals, impacting workers, environmental health, and surrounding communities' wellbeing (*CAFO*; Gunderson). As the animals grow, their waste is managed in waste facilities or hazardously disposed of into the environment, overwhelming ecosystems and polluting natural resources that nearby communities rely on (Bullard et al., 50; *CAFO; Right to Harm*, 24:50). Once ready for slaughter, workers take on the mentally and physically tolling, and often unsafe, job of breaking down the animals and processing the meat (*CAFO*; "Slaughterhouse Workers,").

The entirety of this process is resource intensive as it requires land for crops, and grazing if the animals are not in CAFOs, and water to produce crops, dispose of waste, and sanitize meat (Alt; "Environmental Impact of Meat"). GHG emissions are an aspect of this as the environment and humans further from the facilities also bear the burden of meat production pollution (Ritchie and Roser, "Meat and Dairy Production"). Through intersectionality we can see how social and environmental justice, as experienced through different social identities and locations, are not only intrinsically

linked but affected in similar and layered ways by meat production, a concept and connection further studied in the next section.

Community Impact

Looking deeper into the impact that surrounding populations feel from proximate meat facilities, these groups tend to be made up of a majority of communities of color and low-income individuals. Again, using the example of North Carolina, the industry uses nuisance claim regulations, environmental racism, and sacrifice zones to its advantage to attain the highest profits at the expense of surrounding citizens and the environment. Studying Indigenous Tribes in the state emphasizes this reality while also exposing issues they face that are specific to the Native experience in relation to industrial meat production.

Factory farms in particular have been noted to be intentionally built near low-income and communities of color without their consent (Alt). Unsurprisingly, these people are also hit with water and air pollution, and some residents have reported haphazard spraying of feces and urine as a method of waste disposal in and near their communities (Alt). Bullard et al. highlight this in their study; “African Americans are 79 percent more likely than whites to live in neighborhoods where industrial pollution is suspected of posing the greatest health danger” (3). This is environmental racism (Alt; Bullard et al., 95; Harris).

Environmental racism is manifest in different aspects of the meat industry, including the way livestock operations, landfills, and waste disposal sites are situated deliberately in or near communities of color (Alt). North Carolina hog CAFO operations follow this trend as they tend to be concentrated in areas with a higher

number of black and low-income citizens (Alt). Additionally, the buildings are built and populated with no prior consultation with those in the communities who are most affected by the facilities and their emissions (Alt). An Iowa County resident, Gary Nester, explained his situation in *Right to Harm*; "I went down and they were working on this driveway for this building here. I asked him [hog house construction worker], 'what are you doing?' And he said, 'well we're gonna build hog houses here.' I said, 'well why didn't you tell us?'" (01:08 - 01:17). The hog houses were put up only 750 feet from Nester's home.

If a resident were to speak out about this targeting manifested through economics and politics, North Carolina has certain conditions that nuisance claims must meet, many of which have been crafted such that it is extremely difficult to meet every requirement (Harris). Civil actions based on these claims will not be considered if reporting on changed conditions from the surrounding communities, rather than within the communities directly housing the industrial facilities. Additionally, if operations are more than a year old (similarly, if the CAFO was not bothersome at its inception) and/or if the nuisance claim is calling out anything other than operation negligence, it will not be considered (Harris). Not only is the industry disrupting surrounding groups' land and quality of life, but through legislation their claims become less meaningful and they must find alternative routes of retaliation and attainment of justice (Harris). This is evidence of the industry's political strength that it has weak nuisance claims processes.

The meat industry similarly differentially targets and disadvantages Indigenous populations and their tribal lands that are near the CAFOs and meat plants. Wilbur, Keene, and Smith discuss this in the *All My Relations* podcast and explain that

"violence upon the land is violence upon the body." There is no separation between humans and the environment, but instead a reciprocal relationship, and thus it is easy to be affected by the mistreatment of the environment (Wilbur et al.).

Governmentally sanctioned "sacrifice zones" are commonly located in or around Native American territories, another way environmental racism is used against communities based on race (Bullard et al., 14; Wilbur et al.). These zones are areas where the land, people, and resources are exploited based on the premise of discovering natural resources or utilizing these areas for trash dumps (Wilbur et al.). Affected Tribes often become "economic hostages" (Wilbur et al.). In Smith's case, 85% of her Tribe's, the Diné (or Navajo) tribe, revenue derives directly from the corporations and industries supporting and implementing exploitative practices on and near their land (Wilbur et al.).

It becomes increasingly difficult to remedy these injustices and voice the health impacts these folks are facing, as many have the mentality, "don't bite the hand that feeds you" (Wilbur et al.). When Tribes speak up for themselves other difficulties arise, such as when Native American communities who are matriarchal are misunderstood and less respected within the wider patriarchal society (Wilbur et al.). Women leaders tend to be met with discrimination, with their Tribes and concerns left unacknowledged (Wilbur et al.). Bullard et al. argue that this inadequate response and lack of protection from toxic threats is equivalent to conducting a human experiment within these zones through environmental racism.

The reality of the Lumbee Tribe in North Carolina further highlights these themes in the story of their history with animal agriculture. The county this Tribe's land

is located within has high concentrations of CAFOs, a trend within many Native American communities in North Carolina (Alt). No permit or environmental study is needed before building a facility of any size for poultry rearing in the state (Alt). Lack of regulation and care for surrounding areas has led to a significant rise in the effects and emissions from CAFOs like nitrogen buildup in the soil, fly infestations from the poultry, and high cancer rates (Alt). This is all connected to the oppression, racism, and colonial sentiments of both our government and the meat industry and it emphasizes the institutionalized trade-off of human and environmental burden for profit (Alt; Bullard et al., xii). Burdens felt by surrounding communities and the environment come to fruition through different forms of violence that act in slow and fast ways to create a multidimensional effect of mistreatment.

Environmental and Regulatory Harms as Violence

Understanding the structuring of and ways through which violence can be inflicted upon different groups and the environment is crucial to having an intersectional perspective of the effects of the meat industry. In this section I express how different forms of violence are not mutually exclusive, but rather can work in tandem and be multilayered in their influence and effects. For example, many types of slow violence (prolonged exposure to a chemical, for example) are also aspects of larger structural and biopolitical motives of subjecting certain communities to higher quantities of toxins over others. Further, I examine how and why capitalism, an economic system controlled by private, rather than public, businesses, and the use of political and economic power allow for the meat industry to attain increasing profits while enacting different forms of violence upon minoritized groups.

Violence inflicted upon different ecosystems and marginalized groups by CAFOs add together, creating intertwining layers of brutality. Slow violence, which is delayed, sometimes invisible, damaging, and spanning time and space, is a part of these layers (Davies). An example of this is incremental environmental hazard buildup and exposure to toxins becoming a part of one's daily life, sometimes bridging lifetimes and generations (Davies). Another is climate change, including GHG emissions.

Structural violence is at play here as well. It marks how uneven social constructions and conditions, like gender, race, and health, subject certain groups to "the power of death" more severely than others (Davies). Through discrimination and marginalization, certain populations, specifically people of color, face increased levels of toxic exposure and are disproportionally at risk of experiencing slow violence (Davies).

Biopolitics, another form of violence, describes the use of legalities to enforce which lives are deemed legitimate and administer and regulate those lives accordingly (Davies). This goes hand in hand with necropower, the subjugation of life to the power of death, effecting which bodies exist on varying levels between life and death (Davies). These two terms look at the use of power structures and ideas about expendability to administer environmental harms targeting the health and wellbeing of those deemed dispensable (Davies). Examples of these types of violence are the contamination of drinking water, chemicals causing difficulty breathing, dying trees, and unbalanced ecosystems, which oftentimes overlap and converge with forms of slow violence (Davies). Slow and fast violence coexist and can combine with past and present

injustices to create stacked intersections of oppression and domination that expose people to "the power of death-in-life" (Davies).

The meat factories also benefit from laissez-faire capitalism, a system where governmental interference in private affairs is limited. Although some regulatory policies do exist, the meat industry spends large amounts of money lobbying to ensure that they are working within a system with lacking regulations. The industry leverages political and economic power to advance their interests, and this prioritization of profit above all else shifts the costs and burdens of the productions onto workers, neighbors, and the environment (Gouveia and Juska). Potential violent outcomes can range from worker harm, to excess pollution, to disease outbreaks from contaminated meat (Bullard et al., 7; Gouveia and Juska). An element of this approach involves keeping the costs of labor low by hiring vulnerable workers, which is partly evidenced by the fact that 38% of meat processing workers are not born here in the U.S. and have precarious legal, political, and/or economic statuses. This precarity becomes a de facto tool to discipline and ultimately exploit employees (Gouveia and Juska; "Slaughterhouse Workers"). The meat industry uses the lack of strict governmental operational oversight to impose its own form of regulation on its workers, keeping them obedient through fear and insecurity. This ties to Davies' discussion as the employees are forced to continuously work in dangerous and unhealthy workspaces, subjecting them to a form of slow violence (Davies).

To understand why the industry is so easily able to produce and continue injustices and how it has the power to do so, it is helpful to look at its emergence and

history in the United States. This history provides context for the current workings of the meat industry and how its growth and influence have been sustained over time.

Chapter 3: The Emergence of the U.S. Meat Industry

How did we get here, to have created a meat industry that unsustainably depletes resources, pollutes the planet, and so greatly affects those in and around the factories and livestock agriculture? Meat consumption has risen globally every year since the early 1960s as more "emerging economies" come forward and disproportionally consume increasing amounts of meat (Lundström). In contrast, developing countries have not seen much, if any, increase in their meat consumption (Lundström). We can see here the way the industry is shaped by demand and production. As countries develop and their riches increase, citizens can afford and consume increased amounts of meat products as these goods are associated with wealth and rising social class in many places (Lundström; Schulz).

A discussion of the history of the meat industry in the United States illuminates the innovations and processes that led to the emergence of the massive industry we know today. While there are downsides to having the meat industry be such an enormous force, it is important to see how integral it has been to the U.S. throughout major events, like the Industrial Revolution and the World Wars, as well as its economic significance to the government and its employees.

Settlers who came to what is now the United States originally relied on hunting wild animals for their meat supply (Boyle and Estrada). Starting in 1539, livestock animals such as pigs, cows, oxen, and goats were brought overseas to the colonies ("A History of the Meat Industry," 2). With increased domestic livestock supplies, William Pynchon began driving and packing cattle and hogs respectively from 1655 to 1662

(Boyle and Estrada). Butchery and retail shops started to open, as did meat markets and public auctions in the 1700s ("A History of the Meat Industry," 3; Boyle and Estrada).

With the Industrial Revolution emerging in the 1760s, colonial cities grew in size and meat demand expanded as well, sparking the advent of cattle ranches (Boyle and Estrada). The first meatpacking plant for pork products was established in Cincinnati by 1818 and in 1836 the disassembly line began to be utilized. This invention increased productivity as the hog carcasses were moved from one station to the next, with a butcher placed at each stop performing a different job like skinning, cutting, or cleaning the meat ("A History of the Meat Industry," 5). This innovation also changed the type of workers needed, as they began to specialize in one aspect of butchery or on one part of the animal, rather than one butcher working with an entire carcass (Gouveia and Juska). Further, the demographic of the workers began to shift to Black, Mexican, and/or immigrant individuals so that the industry could use their socio-economic statuses and sometimes precarious legal standing in its favor and to keep wages low (Gouveia and Juska, 370).

In the 1840s growing Irish populations immigrated to the U.S. and were delighted by the increased availability of meat, as they were used to the food being primarily for society's elite (Charles). The livestock industry was quickly flourishing and becoming a lucrative business for many. Meat became a national industry due to its importance in America at such an early stage of the country's history and advancing technological innovation in agriculture and livestock (Charles).

With railroads emerging around 1865, beef and pork processing plants spread further west and cattle drivers were able to use train cars to transfer their livestock more

efficiently (“A History of the Meat Industry,” 7; Boyle and Estrada). Between 1867 and 1875 the refrigerated rail car gained in popularity, allowing for cattle and swine to be slaughtered before transportation and their meat preserved until reaching its destination (Boyle and Estrada). These cars were filled with real ice, but in the 1890s artificial cooling techniques were invented and soon widely implemented (“Meat Industry Timeline: 1891-1916”). Also around this time, increased infrastructure, highway systems, and refrigerated trucks allowed for greater and more widespread transportation of meats (“A History of the Meat Industry,” 8-9; Boyle and Estrada). U.S. beef and pork exports totaled 395,540,000 pounds and 671,222,000 pounds respectively in 1891, making it an increasingly growing industry both domestically and internationally (“Meat Industry Timeline: 1891-1916”).

Canning exploded in popularity in the early 1900s during WWI as a way to increase the preservation of meat and more easily transport rations to the troops, with Chicago alone canning 1.5 million pounds a week (“A History of the Meat Industry,” 26). The industry expanded and increased its capacity to meet the needs of both U.S. and allied troops and provide them with food (“Meat Industry Timeline: 1917-1941”). Canning continued in importance through WW2 and became a symbol of the progress and resilience of Americans, as well as a multi-billion-dollar industry for the country (Whitfield, 3).

Following WW2 in the 1950s, two-thirds and one-fourth of hogs and cattle respectively were sent directly to market to be sold rather than to centralized stockyards where the animals were kept before slaughter or going to market (“Farming History”). This was possible due to the increased numbers of packinghouses built in or near towns,

and thus closer to where the livestock were raised (“Farming History”). This marks a shift away from the stockyard operations towards a more industrialized and mechanized meat operation system (“Farming History”).

The forties and fifties saw the introduction of antibiotics, proteins, vitamins, and other additives to the diets of all livestock. This allowed for increased numbers of animals to be confined in their respective feedlots, decreased disease rates in the livestock, and it also fattened the animals so that more meat could be produced and sold more quickly (“Farming History”). Around the same time, scientists were working to perfect selective breeding and artificial insemination which were used for a variety of outcomes, like resistance to insects, heat, and/or drought, and the ability to gain weight easily (“Farming History”).

Between the 1950s and 1970s the number of U.S. farms was cut in half while surviving farms grew in size (“Farming History”). Increased agricultural and mechanical innovations played a main role in this transformation and allowed for progressively specialized farms (“Farming History”). Home refrigeration also aided in the ability for consumers to get cheaper frozen food options. In 1959 Americans were spending $2.7 billion every year on frozen foods, many of which were “TV dinners” that always included a portion of meat as a part of the meal (“Farming History”). Fast-food chains, including KFC, McDonald’s, and Wendy’s exploded in popularity in the 1960s, greatly altering the meat supply chain through offering cheaper, more processed meats that tended to be made up of leftover cuts that consumers would not purchase otherwise (“Farming History”).

All of these post-war advances aided in creating our current industry and set the stage for meat to be a readily available and cheap option for U.S. consumers. They also allowed for the industry to be further mechanized and focus on profit rather than quality.

Meat and production standards and regulations were enforced from the 1900s onwards and focused on meat inspection, grading meat quality, and farmer protection ("Meat Industry Timeline: 1917-1941," "A History of the Meat Industry," 20-22). However, legislation is commonly not fully observed, and the industry is now powerful enough to shape regulations in its favor, rather than be regulated by other forces (Johnson). This has affected all aspects of the industry, including the way livestock is raised, how their meat is processed and butchered, workers' rights, and the quality and safety of meat sent to market (Johnson).

Although the downfalls of the industry are very real, it is crucial to acknowledge its importance to the United States. It contributes an enormous amount of money to the economy ($894 billion yearly) and directly and indirectly creates and supports the jobs of millions (almost 6 million people) ("Meat and Poultry Industry Contributes"; "The Economic Impact"). Given the size and power of the industry, it is essential to consider the numerous, if seemingly invisible, social and environmental costs which I discuss in the sections that follow.

Chapter 4: Political Economy

A political economic lens provides a useful framework through which to see a new side of the meat industry, the money it generates, and the experience of its many employees. We see both its importance in creating jobs, as well as how crucial it is to have people to take up employment to fill those jobs, even though working for the meat industry, especially directly in the factories, is often potentially dangerous. Due to its economic and political strength in the U.S., the industry is able to sway policies or find loopholes through regulations. This causes issues such as environmental pollution, proximate community and worker harm, consumer health scares, and an overall lack of accountability for its actions. Additionally, I discuss how it is integrating smaller-scale farmers in developing countries, which has been criticized as simply leading to competition and reliance on fully developed countries, rather than aiding in the development of those countries and their citizens' prosperity.

Workers are integral to the animal industry (Schulz). While it is true that more technology is being created and implemented in ultimately all levels of meat production, from packing, processing, wholesaling, and working in retail, employees are still indispensable ("Meat and Poultry Industry Contributes"). The industry adds around $894 billion to the U.S. economy each year, contributes six percent of total U.S. GDP, and directly and indirectly employs 5.9 million people ("The Economic Impact"). Directly, those in retail and wholesale who sell the meat products to consumers make up 2.1 million of those jobs, generating $278.9 billion in economic output and $68 billion in wages ("The Economic Impact"). Indirectly, suppliers who offer livestock, machinery, advertising, and packaging for meat, among other things, generate $363.3

billion to the economy with 2,084,100 people employed in this sector ("The Economic Impact"). Regarding taxation, firms and employees pay almost $96 billion in revenues, and consumption of the products creates $3 billion in sales tax for the country ("The Economic Impact").

Agencies at both the state and federal levels have failed to create and enforce laws that ensure safety, health, and the overall protection of slaughterhouse employees through laissez-faire capitalism (Gouveia and Juska). U.S. labor laws and OSHA (Occupational Safety & Health Administration) are in place to protect and support these workers' rights. However, meat-processing workers still face specific and predictable risks, like common repetitive stress injuries, that are glossed over by employers even when safe alternatives, including regulating butcherers' line speeds and doing away with mandatory overtime, are clear and attainable ("Slaughterhouse Workers"). The prevention of worker injury, and sometimes work-related death, is put to the wayside in support of increased profit. The Food Empowerment Project interviewed an employee in an undisclosed meat facility who explained this reality; "Once the company got fined for safety violations and the manager told us: "Be careful or we'll have to pay more fines' – not 'be careful because you might get hurt.'" ("Slaughterhouse Workers").

This safety issue includes high rates of termination threats, terminations themselves, discouraging workers from voicing safety problems, injuries, or other concerns, while simultaneously conditioning them to accept their circumstances ("Slaughterhouse Workers"). The situation allows for the employers and the industry as a whole to boast low injury rates, when in fact this is simply not the case ("Slaughterhouse Workers").

Additionally, increased automation of technology and domination tactics used by the industry lead to workers becoming at-will and "disposable" ("Slaughterhouse Workers"). Technology takes on more complex jobs leaving "low skill" options open for workers that necessitate minimal training. With workers being frequently fired or quitting, there is a flow of new ones coming in and older ones leaving the workplace ("Slaughterhouse Workers"). Therefore, unionizing has become a difficult task due to the constant hiring and firing cycle and the harassment and pressure put on the employees by their employers to give up their freedoms ("Slaughterhouse Workers").

Many non-immigrant workers are black and brown people, a large amount of whom come from low-income communities ("Slaughterhouse Workers"). Cheap labor is easier to maintain for the industry because of these worker demographics, making it more difficult for them to move up in social and economic status (Gouveia and Juska).

Other political-economic aspects are meat safety regulations and sickness outbreaks, like that of *E. coli.* from Jack in the Box beef burgers in 1993, infecting over 700 people, and *Salmonella* from Foster Farms' chicken in 2013, infecting over 600 people (Healthline; Johnson). Even in the face of these clear health issues, CAFOs have still been able to not only evade regulatory measures but influence them as well (Johnson).

The industry has connections to powerful friends in high up legislative positions and large monopolies over meat production (Johnson). Tyson, the largest poultry producer, also owns IBP, the biggest beef producer in the United States (Johnson). It has thus been easy to continuously push back against angry consumers demanding stricter regulations around sanitation and food safety in these facilities (Johnson).

Instead of agreeing to implement new rules and appropriate legislation, the industry has swayed senators to rule in favor of its wants, many of which have a connection to poultry operations, allowing for improper testing for bacteria like salmonella to continue (Johnson). Even the USDA is not permitted to shut down plants based on high levels of salmonella alone, a ruling implemented by the U.S. Court of Appeals in 2001 (Johnson).

Fights over regulation, who should enforce it, and what it should look like, have taken place not only between consumers and those in powerful industrial positions, but also by meatpackers and local and state governments (Gouveia and Juska). Those working within the industry claim that "the market" (consumers) should be enforcing the regulating, although this can lead to a highly individualized consumer choice, while governmental officials call for increased institutional involvement, which, as mentioned, can be corrupt and swayed by those with power (Gouveia and Juska).

The Pathogen Reduction Act of 1994 was passed in hopes of reducing these illnesses through extensive decontamination practices, such as rinsing the carcasses, steam vacuuming and pasteurization, and ozonation (Gouveia and Juska). However, the Act has been criticized as a profit scheme solely focused on "taming nature" rather than fixing the system, as the protocols look to fix contamination rather than question where it originated from and addressing the root of the issue (Gouveia and Juska). The Act also does not challenge how meat contamination seems to be embedded within these concentrated and industrialized operations (Gouveia and Juska).

Not only do these political issues occur within our country, but because of the vast amount of meat production and global influence of the U.S., we also impact the

politics and economies of other regions of the world (Lundström). Within the Livestock Revolution many believe us to currently be in, more farmers in developing countries are turning from legumes and cereals to livestock (Lundström). These small-scale farmers, therefore, become vertically integrated into this meat system (Lundström). Proponents argue that it alleviates poverty and focuses on animal wellbeing due to standardization (Lundström). Critics explain that this standardization leads to poorer farmers becoming indebted to larger companies through requiring financial assistance to maintain and upgrade technology needed to stay within the system (Lundström). Further, larger corporations are also purchasing substantial tracts of land in developing countries for livestock farming due to the seemingly lucrative meat consumption market of more developed countries, pushing smaller farmers out and increasing land competition (Lundström).

Keeping this chapter, as well as the entirety of the thesis thus far in mind, in the next chapter I turn to a case study to examine how these overarching frameworks, concepts, and themes intersect and support a multidimensional analysis of a contemporary situation involving the hog industry based in North Carolina.

Chapter 5: Case Study

North Carolina Hog Operations

The different stages of the supply chain, global demand, and the size and power of the meat industry in American society and globally all play a part in its overall operations and success. Thus far I have discussed relatively broad themes and looked at how different groups and the environment feel the effects of the meat-making process. What does this mean on a micro level where industries take hold in particular places and have great influence over the surrounding area and the people living there? What does it mean to live and work next to industrial meat operations?

In this chapter I focus on the hog farming productions in North Carolina that most harshly effect BIPOC and low-income households. Specifically, I look at Duplin, North Carolina, where I highlight the community impact of hog houses using the concepts and frameworks discussed in my literature review. These ideas and lenses demonstrate the utility of bridging environmental justice and intersectional ecofeminist approaches in understanding the multidimensional impacts of the meat industry, and specifically hog farming and processing, in the case that follows.

Hog production is a large part of the economy and culture of North Carolina. In 2020 it was ranked third below Iowa and Minnesota for the number of hogs raised (Guidry et al, Shahbandeh). The industry generates $10 billion every year and supports 19,000 jobs in the state (Doherty). Between 1982 and 2017 the number of hogs increased from 2 million to 9 million in North Carolina, while the number of hog farms in the state decreased in number from 10,000 to 2,000, underscoring the presence of large, industrial facilities, rather than smaller family farms (Guidry et al.). The

concentration of hogs is immense within the state, with the average number of hogs per CAFO being much higher than in the CAFOs of other leading states in hog farming (Kravchenko).

A study comparing communities adjacent to hog farms to the average community in North Carolina found that those closest to the operations were home to a higher number of African American (28.8% to 19.3%, respectively) and Native people (2.4% to 0.8%, respectively), as well as people with lower household incomes ($39,005 to $46,414, respectively) and education statuses (Kravchenko et al.). Further, there are lower numbers of primary healthcare providers in those areas (54 to 76 for every 100,000 residents, respectively) (Kravchenko et al.). This is problematic as people living close to North Carolina hog farms have higher rates of infant mortality, tuberculosis, anemia, and other health problems resulting in hospital admissions compared to those who are non-adjacent (Kravchenko et al.). Health problems and hospitalizations result from a plethora of emissions from the industry, like aerosolized hog waste and barn gassing, including, but not limited to, harmful chemicals like ammonia, methane, mold, cleaning agents, and bacteria (Guidry et al.).

The film, *Right to Harm,* highlights the stories of five different communities directly affected by the meat industry, one of which focuses on the situation of a resident of North Carolina, Elsie Herring. I draw on the people and events in the film to demonstrate how the bridging of political-economic, ecofeminist, and intersectional frameworks, as well as applying critical concepts of structures, processes, and impacts as violence, help us analyze and understand Herring's story, the situation her whole community is in, and the state-wide problem that is hog farming.

Duplin County, NC

Traveling to Duplin County in North Carolina, we meet Elsie Herring. Herring is a Black woman living on land that has been in her family for generations. She reminisces about her great grandfather, a freed slave who bought a portion of the land that she now owns, and the way her grandfather was born and raised on the same land she resides on (Barnes; *Right to Harm*, 17:20). For years her grandparents, great aunts and uncles, and cousins have lived in the area, and currently, the land is split between herself, her sister, and her nephew. This area is more than just property, it holds a legacy, and Herring expresses that sentiment: "this land connects me with my family that I didn't know" (*Right to Harm*, 17:43).

Across the street from her nephew's house is a spray field that has been active since 1986. Hog houses were built nearby, including a lagoon system where hog waste is collected, none of which was discussed with the citizens before construction. Waste is then sprayed on nearby fields but is described by the industry to proximate residents as "organic fertilizer" (*Right to Harm*, 21:48).

The first time she remembers this spraying, Herring was sitting with her family on her nephew's porch when they were hit by the mist. She discusses this event and asks, "where do you go in this world where people blow animal waste on another person?...why would you feel like you have a right to blow animal waste on me?" (*Right to Harm*, 18:32). The continuous smells and stenches from the hog houses have only added to this burden.

The hog houses and waste spraying have negatively affected Herring in many ways. In terms of health, she has experienced shortness of breath, headaches, nausea,

mood swings, and mental health issues. She asserts that, at some point, she decided that she would not stand by and let this go on any longer in silence.

Many complaints and concerns have been raised by Herring and other members of the community to "state and federal regulators, the governor, the attorney general, state lawmakers, the county health department," and the state Department of Environment and Natural Resources over the last three decades (Barnes). However, the voices of these people have been ignored. She is part of a nuisance lawsuit filed by 500 Eastern North Carolina residents against Murphy-Brown, the company responsible for the hog operations. As a part of the case, they set up a 51-hour vigil with a mock hog farm, including 40 gallons of trucked-in hog waste. They were met by threats that if even one drop was spilled, hazmat would be called to deal with the toxic waste. This supported the citizens' point that the company was lying about their "organic fertilizer" and that this substance could be quite harmful to the health and wellbeing of the residents in Duplin.

As of December 2020, monetary compensation was agreed to be extended to the plaintiffs and other 500 North Carolina residents involved in the court case (Barnes). Many are finding hope in the ruling, including Herring, who expressed that "it's important that industry understands that they have to be held accountable for their bad behavior. They destroyed the quality of our lives." (Barnes). However, others worry if these reparations will continue with their needs in mind and evolve into positive and healthful changes within hog farming operations (Barnes).

Elsie Herring's story, which echoes the realities of so many other residents in North Carolina, emphasizes how sacrifice zones are more common than they may seem.

Environmentally, hog waste is a problem. With so much being produced in Duplin County, and across the state, methods of processing and disposal have become overwhelmed and the haphazard waste spraying that is occurring contaminates the air, ground, and groundwater (Harris). Socially, Herring and her community are feeling the effects as well from the deliberate placement of the hog operations and waste disposal processes so close to their residences.

These decisions on operation locations and methods of waste disposal are easy routes for the industry to take through employing environmental racism. As Dr. Sacoby Wilson (UMD School of Public Health) explains during his interview in the film, Duplin County used to be where many slaves lived, and their ancestors now live in the same areas today (*Right To* Harm, 16:59). The racism present here works to take advantage of Herring and her community's socio-political and economic statuses. She explains this in interviews with the ProPublica Journal and North Carolina Health News; "'We are the avenue of least resistance,' Herring said. 'We don't have any money. We don't have a voice. We don't have any representation.'" (Buford). "'Historically,' she said, 'this is just the way our system has incorporated people of color into the scheme of things, the policymaking and decision-making. We're left out. Totally.'" (Barnes).

The residents of Duplin understand what is going on with the hog industry and they do rise up and have a voice. However, that voice is ignored and quieted by the industry and governmental powers. As the study highlights, Herring and others expressed concerns for years, but little was been done to recognize and address their worries by those in power. The requirements that must be met to file North Carolina

nuisance claims have a hand in this. In Duplin, operations have been functioning well past a year, as they began in the 1980s, and the filed claims cover a plethora of problems and complaints, not simply operational negligence. So, in this case, and surely others, it is difficult to get people's voices heard as these nuisance claims do not fit within the North Carolina requirements. This is an institutional problem, not only an industrial one, and overall, it diminishes the situations and lived experiences of people like Herring (Harris). Other modes of seeking justice become the best options for these kinds of circumstances when voices continue to be pushed down, which is the path that Herring and her community took with pursuing a lawsuit and 51-hour vigil.

North Carolina nuisance claims laws uphold structural violence as unequal social conditions are sustained and created through legislative decisions and regulations, making it easier to subject communities to harm. Patriarchy also has a role in this violence (Adams). The process of objectification creating fragmentation leading to exploitation as a normal practice, as discussed by Adams, has occurred in Duplin. The meat industry and those in legislative power feel entitled to use, or allow the use of, the land and Herring's community as a sacrifice zone in favor of increased profits. The effects, emissions, and byproducts from the hog operations are transferred by the industry onto proximate lands and people without qualms, as they are simply objects in its mind (Bullard et al.).

Laissez-faire capitalism upheld by the industry is also exemplary of structural violence, as the industry can take many operational matters into its own hands (Gouveia and Juska). Therefore, it is possible to continue with waste spraying on the fields, as the company explains away this toxic material as simply a harmless organic fertilizer, thus

regulating the wellbeing of surrounding lands and communities through different forms of harm. This form of structural violence, similar to the others I have mentioned, also adds to the environmental racism affecting Herring and her community.

Structural violence is working as a form of biopolitics, as different administrative and legal choices here add to, and create abuse and exploitation which ultimately regulate people's lives (Davies). The legitimization of some inherently delegitimizes others, in this case, the residents of Duplin County. The lives of those in the community become institutionally controlled and thus do not have complete autonomy over their own wellbeing. Necropower functions in a similar way through inflicting sickness and decreasing the quality of life of those in Duplin County, exemplifying the structural violence in our society that is performed so easily through the vessel of the meat industry.

Slow and fast violence work in tandem in these scenarios (Davies). Slow violence, being more delayed and spanning space and time, includes the 30+ year exposure to toxins in Duplin and long-term health issues like asthma or chronic pain that ensue. Fast violence works in more immediate ways, such as the instant exposure to the mist from waste spraying and the consistent bad scents that Herring must deal with on a day-to-day basis. This is also applicable to the environment, as slow violence steadily pushes natural ecosystems out of balance, with the immense and unnatural amounts of waste sprayed or dumped in small areas. Fast violence acts in quicker, more obvious ways, like the contamination of the air and water sources.

Through different forms of violence that work together with environmental racism and other levels of domination and objectification, the meat industry creates and

amplifies discrimination against disfavored groups and the environment. Herring's story is only one of many that underscore and illustrate this, and similar situations exist anywhere these industrial buildings and meat factories exist and operate.

Chapter 6: Conclusion

Meat is an incredibly popular foodstuff globally and demand for the good continues to rise. While developing countries moving from poverty to lower- and middle-income levels are increasing their meat intake, already developed countries have stagnant, yet much higher rates of consumption per capita (Ritchie and Roser, "Meat and Dairy"). Generally, with more disposable income comes an increasing demand for meat, as well as the ability to purchase it. However, the purchasing and consumption of meat does not look the same everywhere, and both culture and socio-economic class can shape preferences and options for meat.

For some consumers, there is an emphasis on purposeful and quality consumption, which can often cost more. For others, purchasing lower quality and industrially grown meat has seemingly become the norm, or simply what seems affordable from their perspective. Part of the political economy of the industry in the U.S. is the ubiquitous mass advertising of cheap, fast, and accessible meat which markets the good as a main and important source of protein. Yet, the true costs of this cheap protein production are not necessarily reflected in the price of meat items, and not readily visible to most consumers. The problem this thesis has covered is concerned less with the former type of meat production and more with the latter, which is immense, unsustainable, and costly for both humans and the environment. Environmental justice and intersectional ecofeminist approaches can help reveal these costs and effects and analyze the multidimensional dynamics that shape and sustain the meat industry's power and influence.

These costs can be both visible and invisible, short-term and long-term. Meat-plant workers must find ways to deal with mental and physical health problems, blatant discrimination, harsh work environments, political, economic, and social exploitation, and exposure to pollutants. Residents proximate to the industrial facilities also must bear the brunt of violence and environmental racism carried out through emissions, pollutants, toxins, and chemicals, which can lead to mental and physical health problems and overall decreased quality of life. Sometimes those who work in the industry are also citizens in proximate communities, further creating intersecting costs and burdens. The environment becomes polluted, abused, exploited, and is thrown out of balance by the waste management problems and dangerous emissions from the meat industry. Patriarchy and capitalism play parts in these effects as the former allows for the exploitation of the land and people, and the latter makes it so that the industry can, to some extent, do what it wants regardless of governmental rules set in place. Sacrifice zones and lenient regulations are also important here and all of them are linked and intertwined, as understood through intersectionality, environmental justice, and ecofeminism.

There are many ways in which the health of the environment and the wellbeing of humans are affected by the meat industry in converging ways that are inseparable from one another. Wilbur et al. explain this point well when they say that there is a reciprocal relationship here and violence upon the land is violence upon the body.

With all of this in mind, where should we go from here? How does the contribution of this thesis add to possible future research? The combined frameworks of intersectional ecofeminism and environmental justice help reveal both the fuller picture

of how meat is produced, as well as the reality that for both the people and the planet, the practices of the meat industry cannot go on much longer in the same matter they have been. The planet simply cannot support it, and it is causing unnecessary and immense harm to many people within, and surrounding, the industrial operations of meat.

One of the most common arguments circulating currently is a diet shift. With Meatless Mondays and Veganuary (Vegan January) gaining popularity in the U.S., this is a real trend that increasing amounts of people are participating in. I agree that eating less meat will cause the industry to produce less of the good because demand will simply not exist. However, this is a superficial change, as the deeper, systemic issues covered in this thesis are not addressed here. Further, the same companies producing meat products, like Tyson, are beginning to make plant-based alternatives, so even when purchasing these products consumers are still supporting powerhouse meat companies. Additionally, the workers in the meat facilities need employment. It is important to consider this if consumers want to slow, or even completely stop, meat production. Other options must be available to these employees so that they can still support themselves and their families.

The diet shift logic also does not take into account socioeconomic class. Switching to higher quality meat is costly and not affordable for everyone. A vegetarian or vegan diet can be economical if it is based on basic staples like pantry items, dried goods, fruits, and vegetables. However, if a consumer is looking for something extra, plant-based food and drink alternatives are quite a bit more costly than their meat and dairy counterparts. Even moving towards an organic lifestyle with a focus on

sustainably produced goods leads to higher prices. Almost all of these diet shifts are not as easily fulfilled through fast-food options and thus generally require more time and energy to prepare into meals. This is another expense that someone of lower socioeconomic status may not have the resources to pursue.

Another popular argument has to do with regulation. I have noted how negligent policies and regulations are problematic for both the environment and humans. A regulatory and policy-based approach is getting closer to making real change. Increased and more strict oversight on all levels of production, consideration of environmental and human rights when creating policies for the industry, and focusing on sustainable and healthier options moving forward are some changes that could produce real and favorable outcomes. This would increase costs for the industry as it would not be able to cut as many corners or work outside the parameters of laws and their permits. Things to consider, however, are the legal power of the industry as a whole, the companies with monopolies over meat production, and political corruption. This makes regulatory changes more difficult as there is always the chance that facilities or companies could find ways to operate in favor of reducing costs at the expense of the environment and humans.

There is also a more critical and ethical approach to consider relating to the dissociation we have as a nation between ourselves and the food we eat. With meat so readily accessible in all of its forms through grocery stores and fast-food restaurants, what we are eating, where it comes from, and the processes that went into producing that good become disconnected. The average consumer may not be aware of what it means to purchase industrially produced bacon or a burger patty, they only know that it

tastes good and is relatively cheap. More awareness and education are necessary to understand what is happening to animals, different communities, and the earth. Education alone will not be the key to figuring out these issues, as topics like environmental justice, human rights, and the problematization of the meat industry are by no means new areas of study. Many people have some basic idea about the meat industry's practices, yet still consume meat daily. However, I do maintain that education can be powerful for some, or we would not continue to see advocates speak out, rallies in the streets, or the continued circulation of disturbing documentaries revealing the innerworkings of the meat industry. I believe that with this knowledge, more pressure on those in power, educated consumer choices, and overall pushback against the practices and effects of the industry are possible and can create change towards healthier and safer practices.

This awareness also has the potential to spark other, deeper conversations about issues ingrained in our society, culture, governments, and institutions, that are not isolated within the operations of the meat industry but play a major part in its practices and effects, nonetheless. Considering what and who is most affected by the meat industry uncovers greatly entrenched discriminatory practices and perspectives that are sustained and produced in the United States, made easier by unfettered patriarchy and capitalism. While these are quite large and multifactorial themes and problems, they do have a hand in the practices of the meat industry. It is important to acknowledge this to take steps towards uncovering and understanding why the environment and those who are low-income, immigrants, and BIPOC are targeted by the meat industry, as well as other institutions in our nation.

Overall, there is no easy or straightforward path to take to begin to fix the wrongs that have been committed by the meat industry. However, spreading awareness about these important and unfortunate realities of our country, acknowledging and amending the divide between ourselves and where our meat comes from, and pressuring those in power to create and enforce new regulations, have the potential for substantial and radical change. Even cutting down on meat consumption can have its own effects, but it must be coupled with these other actions, and the convergence of these actions will be more powerful than any one on its own.

Moving forwards with new studies and research, one area that might be helpful would be readdressing the 1994 Pathogen Reduction Act and discussing ways that meat processing could be made cleaner and create safer meat products with minimized water use. On that same note, investigating ways for the meat industry to introduce more sustainable processes into its operations that are not so resource intensive and emit less pollution is an important area to pursue. The safety of workers is also still in need of addressing, including a shift towards safer workplaces and increased autonomy for the employees over their jobs and working hours. I believe research about how to implement changes addressing these issues would be beneficial in working towards improving the mental and physical health and safety of workers.

Overall, I want to stress the importance of future research continuing to think through the utility of intersectional ecofeminist and environmental justice frameworks for investigating similar industries locally and globally and uncovering their underlying structures and processes.

Finally, continuing conversations and research on the ingrained issues in our society that include, but also extend beyond, the meat industry, has been, and will continue to be, crucial to moving in the direction of justice for many groups of people who have historically been disfavored in our society.

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