Toxic Animal Encounters:

Queer Environmental Threats and Racialized Reproduction Anxieties

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Abstract

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This dissertation interrogates contemporary anxieties about environmental toxins and their effects on sex, sexual development, and reproduction in North America. For instance, recent toxicology reports suggest that commonly-used pesticides can cause frogs to develop intersex traits and enact same-sex mating behaviors. Many concerned consumers and residents have described the environmental issues as threats to hetero-nuclear families in their public fears of what might be to come: being infertile, queer, intersex, and/or transgender.

Feminist science studies, queer studies, and environmental studies have responded to these anxieties by examining how Western sociocultural myths of queerness as "unnatural" surface most saliently in moments of environmental threat. What remains penumbral in the critiques at the intersection of these fields, however, is how race and species operate in the articulation of these environmental threats. My work intervenes by arguing these toxicity panics are pernicious not only because they make normative judgments about sex, gender, and sexuality

but also because they rely on logics of racism and dehumanization. The seemingly innocuous toxin-exposed animal figures are the Trojan Horses that allow these multiply-marginalizing ideologies to circulate.

In this dissertation, I argue that animal figures play a crucial role in these environmental anxieties. Human interactions with environmental toxins – what I call "toxic encounters" – leave traces in the form of *toxin-exposed animal figures* that shape how humans conceptualize environmental disaster and protection. I assert that exposed nonhuman animals act as discursive ambassadors for the longevity of white, heterosexual human families in three scandals: (1) scientific reports of pesticides causing frogs to develop intersex traits; (2) media responses to the 2010 BP oil spill that disproportionately focus on the reproduction of oiled pelicans; and (3) farmers' anxieties about feral pigs overpopulating North Carolina and bringing illness to their family farms. When culturally-significant animals such as pelicans and frogs in the U.S. are exposed to toxins, researchers and activists use them to warn of "future" environmental harm against white human families. In so doing, they often obscure how these toxins enact ongoing and historical reproductive violence against queer people, communities of color, and queer people of color.

I argue that each of the toxic scandals in question must be understood as more than just interfaces in the present moment. By forwarding a multitemporal critical discourse analysis method, this dissertation examines what sitting with ghosts of the figures of frogs, pelicans, and pigs might accomplish. In so doing, I trace how historical and ongoing violence of chattel slavery and colonialism haunts the present in these toxic animal figures. I thus supplement my feminist critical discourse analysis with environmental historical analysis of colonialism's effects on the North American landscape as well as analysis of how certain animals have come to be

valuable in U.S. culture. I also critically analyze scientific literature about environmental toxins in order to understand how each has animal figure been understood as abject in the first place.

This research strengthens the complicated links among queer theory, environmental studies, feminist science studies, and critical race theories by tracing how environmental normativity is articulated through biopolitical taxonomies of Human in these animal figures. And it intervenes in the tensions within critical animal studies between the real and the figurative to recognize that the entanglements are where the toxins often reside. As a feminist project, this work explicates how animal figures animate harmful environmental discourses in order to ultimately disrupt them.

TABLE OF CONTENTS

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INTRODUCTION

In a 1994 episode of *The X-Files*, a popular American sci-fi show, a white and scaly humanoid creature slinks through the Newark sewage system in New Jersey, unbeknownst to humans.[1] At the same time, agents Dana Scully and Fox Mulder of the Federal Bureau of Investigation begin investigating the untimely death of a sanitation worker and a mysterious bite on another employee of the same facility. While conducting the autopsy, Scully discovers a fluke worm wriggling out of the late worker's liver. The agents return to the scene of the crime where they discover the prime suspect: the fluke-like humanoid creature moving between the pipes of the sewage processing plant. In remarking upon the human-parasite hybrid, the agents first comment on its sex. Scully gasps at the creature's appearance and Mulder echoes her shock: "I don't know if you can see it from here, but it has no sex organs. It's genderless" (Sackheim 1994). Although the creature's implication in a murder is what brought it to the FBI's attention, its sex and gender quickly became the focus of the investigation, coming to a close when they discovered that the Flukeman came into existence through radioactive waste. Though this was just a single episode of a television series, "The Host" reveals important elements about ever-present anxieties in the U.S. about sex, gender, species and how they are animated by toxicity. Monstrous figures like the Flukeman function as a foil for humans through unraveling the elements central to their existence: binary sex, heterosexual reproduction, domesticity, nation, and the maintenance of clear species divisions.

Viewers have attributed the creepiness of this chimera to its slimy appearance and its

[1] I use "American" in this dissertation as a shorthand as it is used in American Studies. America is an entire continent, not just one nation who has discursively claimed it in calling itself "America." I thus use American in this dissertation to refer to formations of the U.S. nation-state, which include the mythical American family home.

possession of a hookworm mouth on a humanoid face. Man-parasite hybrids are not new to science fiction, but what makes the Flukeman particularly eerie and memorable even decades later is not just *The X-Files'* frequent re-runs on television; according to viewers, it is the Flukeman's hermaphroditic body and its mode of reproduction: infecting others against their will (X-Files Wiki). The aberrational nature of the creature's sex and reproduction is amplified through the Flukeman's hybrid human-animal appearance. As intersex activist and scholar Morgan Holmes has highlighted, the Flukeman functions as a creepy villain in this episode functions precisely because intersex humans are routinely seen as not-quite-human (2008). Television shows commonly objectify, abjectify, and animalize intersex people to add an element of uncanny or grotesque, suggesting that the figure of the intersex hum/animal has appeal beyond the X-Files. For instance, see: intersex fish-humanoid "Old Gregg" from a 2005 episode of the British comedy, *The Mighty Boosh,* the toxin-exposed intersex reindeer and polar bears in the 2015 British detective-horror series *Fortitude,* or the parasitic Xenomorph from the *Aliens* films and *Aliens v. Predator*.[2]

The Flukeman as a figure is both a reflection and animation of the anxiety, fascination, and repulsion humans have with blurring the lines of sex and species. What makes this figure menacing (and others like it) is the threat they pose to U.S. norms of domesticity, formations which are tenuous and in need of constant maintenance. The Flukeman is insurrectionary in making a home in something that is decidedly unhomely: the sewers. It has inhabited a place that flushes humans' excrement away from their homes, expelling the evidence of the bodily

[2] Old Gregg has become the most famous character of *The Mighty Boosh*, who has facial hair, seaweed hair, lipstick, and wears a tie and a tutu. The shtick of the character is that Old Gregg flashes his victims with ambiguous genitals which seem to emit a blinding light and stuns victims. After flashing them with his "Mangina," he takes them back to his lair to marry or kill them.

functions they share with other animals. What is more, the Flukeman literally invades the home. In a scene that one critic described as "the most disgusting scene on TV," a sanitation worker returns home after being bitten in the sewers and develops a strange taste in his mouth. After brushing his teeth in vain, he takes a shower and, in a state of naked vulnerability, suddenly regurgitates blood and a fluke worm. The viewer then realizes that the mysterious bite transformed this man into the Flukeman's host. Viewers have described this scene as particularly unsettling because "it speaks to deep fears… urban myths people have heard their whole lives about… being attacked in vulnerable places like a bathroom," which builds upon cult-classic horror scenes that take place in bathrooms such as *Psycho* (Hitchcock 1960, X-Files Wiki). Bathrooms continue to be charged spaces, explicitly invested in demarcating male and female and still rife with anxieties about gender-transgression and those who would use bathrooms to cruise. But most eerie is that the man in this scene has already been attacked and is, in fact, giving birth to a fluke worm.

In their investigation, the FBI agents discover that the Flukeman was likely the result of residual radiation from the Chernobyl nuclear disaster. The radiation entered U.S. waters when a decommissioned USSR freighter was transferred, a racialized vestige of the not-quite-white USSR since the Chernobyl disaster. The haunting specter of Communism has invaded the United States, here, creating an asynchronous creature that has stepped out of its appropriate time and quarantine. In so doing, they revive the spectral anti-Communist sentiment from the mid-to-late 20th century, where the USSR and Russia are "less European" through their refusal of capitalist modes of economy (Bonnett 2002). Anxieties about toxicity, sex, and home are thus continually entangled with the nation-state.

The Chernobyl accident is the perfect ghost story because it was an accident, a single

event where something that went wrong, and has had and continues to have irreparable effects. After all, even contained radioactive materials will likely breach their containments without careful maintenance and enforcement of their storage containers. Their half-lives are much longer than the lifespans of humans, and their agencies prove to be a pronounced issue, here imagined as a scaly parasite man. Although this episode aired less than a decade after the Chernobyl disaster occurred, it continues to draw fascinated and horrified viewership. Toxins of non-U.S. origin here are thus an especially potent vehicle of ostensible aberrations in sex, gender, and species.

Cruising Toxicity

What this episode of *The X-Files* conveys is that otherness is both menacing and captivating. In fact, the sinister qualities of this sci-fi show are what make it enticing. It is an affective experience, an adrenaline rush, a means of meditating on existing anxieties in contemporary U.S. society. To think with Sara Ahmed and Karen Barad, conceptualizing alterity is a process of touching that which is outside of the self. Touching alterity, figuratively or physically, is also means of touching the self (Ahmed 2000; Barad 2012). In a physical sense, when I shake another person's hand, I not only feel the temperature and texture of their skin, the firmness of their grasp, and the size and shape of their hands; I feel my own temperature, the texture of my skin in relation to theirs, and my size in relation to theirs. Touching alterity requires not only a conceptualization of the other but also an understanding of the *self* in relation to another.

Avoiding touch is a kind of touch, too. Recoiling from something strange or frightening is often an indication that one has *already* been touched by the other (Ahmed 2000). Moreover, touching can be an ambivalent reaching and recoiling at the same time. One can watch a horror

film while squinting or partly covering one's eyes yet eagerly recount it to others and return to the movie theater again. The affective and emotional response to something *icky*, such as trepidation, disgust, uneasiness, fear, often requires already perceiving and understanding an entity as not only outside the self but *against* oneself, a threat to one's health, well-being, or happiness.

Toxic alterity, thus, produces a unique kind of foreboding allure. Material toxins seeping out of their containers evoke anxiety, fear, and overwhelm at the ultimate powerlessness that humans have over much of their surroundings, even in an era many have dubbed the "Anthropocene" where humans have overpowered the natural equilibria of the environments they inhabit.[3] Toxins are unsettling; physically, they cause us to recoil, to hold our breaths, to inspect ourselves for signs of contamination. Ontologically and epistemologically, toxins can prompt us to grapple with our mortality or, perhaps more commonly, to avoid the thought exercise entirely. In seeking to survive the toxins, we often need to remember who *we* are and what is worth protecting. As such, the encounters that humans have with environmental threats become moments of self-articulation of the "we" worth protecting. This "we" is a rhetorical frame with important gendered, sexed, and racialized characteristics.

In this dissertation, I argue that human interactions with environmental alterity – what we might call "toxic touches" or "toxic encounters" – leave traces in the form of *toxic animal figures.* These traces have lives well beyond their initial encounter and do important cultural work as foils, mirrors, and bellwethers for Human(kind). The Human here is a multi-scalar

[3] The growth of literature opposed to the name "Anthropocene" suggests another kind of strange encounter. For instance, Haraway's aversion to the naming of the epoch is an aversion to re-centering the human suggested by the prefix *anthropo-* (Haraway 2016). I use it because it is the language that thinkers outside of the humanities use.

entity, not just comprised of individual humans but rather the population of humans, signified as capital-H Human. Encounters with environmental toxins shape which entities are Human [enough] to be worthy of protection, often children and future generations of children, families, and the Earth's future. To track these toxic animal figures and the implications they have on how humans conceive of themselves as a species, I attend to several questions: Who and what is capable of being "touched" by toxins? Whence do toxins emerge? And for which bodies do toxins pose a public emergency? Whose bodies are always-already touched by toxins?

Normative discourses in response to environmental crisis often overlook or even erase already marginalized people; in seeking to be vigilant about noticing environmental changes in a population or an ecosystem, these discourses often end up surveilling and marking those who fall outside of the norm, irrespective of whether it is related to toxicity. It can be hard to critique those who use normative language during times of environmental crisis because they so often invoke well-intentioned concerns for the safety of humankind. I urge us to pause in the face of temporal urgency and rethink the temporal logics at play. Environmental disasters often position the future as always-on-the-edge-of-collapse, the urgency makes it hard to exist in any state other than dissociation and/or sheer panic. However, environmental violence is often slow and steady, not just spectral and horrifying environmental disasters that make headline news, and can be "ordinary, chronic, and cruddy," in the words of Povinelli, what Berlant has called "slow death," or Nixon has called "slow violence" (Berlant 2007; Nixon 2013; Povinelli 2011, 3). We must think multitemporally and structurally about what toxic touches enact and what kinds of figures of alterity they invoke, mediate, and create for us to think with.

Queer Ecologies: Figuring Ecological Anti-Normativity

The fraught discursive manifestations of environmental crises have been a growing site of

inquiry in the overlapping fields of queer ecocriticism, feminist environmental studies, and science and technology studies which need brief invocation. Scholars from across these fields have examined how heteronormativity and homophobia are salient in cultural representations of the environment. When the health of an environment is at risk, Western myths of queerness as "unnatural" often surface in full force (Di Chiro 2010; Mortimer-Sandilands and Erickson 2010; Sturgeon 2010).

Well before the formal collaboration between queer studies and environmental studies, called "queer ecologies," Jennifer Terry mused about scientific and public fascination with "gay" and "queer" animals (2000). She posited that the increasing traction of gay [human] politics at the time made "Nature" a useful canvas for storytelling about sexual norms. After all, she noted, definitions of homosexuality have always been defined in relation to nonhuman animals. Here she responds to the interest in seeing sexual diversity in animals by biologists such as Bruce Bagemihl (2000).[4] Gay and queer humans have mobilized this scholarship on sexually diverse nonhuman animals: since scientific work has shown that many nonhuman animals have same-sex mating and even raising of young, we can understand homosexuality in humans as a natural trait. The text was even used in an addendum in the *Lawrence v. Texas* case of the U.S. Supreme Court (2003), which challenged a Texas anti-sodomy law (Smith 2004).[5]

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[4] *Biological Exuberance: Animal Homosexuality and Natural Diversity* details the many different kinds of sexes and sexual behaviors of nonhuman animals and is a text that animated the queer ecological turn across disciplines. The text was also used by a gay rights group in Oregon to prevent a law from passing that would prohibit teaching about homosexuality in public schools in 2000 (Smith 2004).

[5] David Eng's analysis of the case shows the color-blindness of framing it as a landmark victory for gay rights. After all, this was racially-charged case haunted by fears of miscegenation: two white men and a Black man were implicated in a love triangle, and when one of the white men was jealous of the other two, called the police and reported "a black male going crazy with a gun" (Eng 2010; U.S. Supreme Court 2003). The fact that sexual diverse animals were included in a large list of amicus briefs is worthy of further research.

Ongoing scholarship in the sciences and humanities documents the representations of "gay" and "trans" animals to better understand ourselves as humans, our proximity to nonhuman animals, and to defuse arguments that homosexuality is "unnatural." For instance, Noreen Giffney and Myra J. Hird's *Queering the Non/Human* attends to the way that sexuality, sex, and species work in tandem in literature in order to "shatter preconceived notions about what it is that constitutes us as humans in the first place" (2008, xviii). Animals figures function as a tool for many authors, including several in the same anthology, to forge a gay and/or queer politics. Like Bagemihl, their work is often taken up as further evidence that homosexuality should be understood as a natural element in the rich tapestry of life. Myra Hird calls out this trend in her analysis of the politics of non-normative sexes and sexualities among nonhuman beings, such as barnacles and macaques: "nature is often invoked in discussions of morality in so far as natural behaviors are considered to be morally superior" (2008, 228).

A decade later, the *Queer Ecologies* anthology made a concerted effort to animate and assemble research at the intersection of queerness and environment more broadly than animals and figures per se. The anthology reveals the stakes of this interdisciplinary model of intellectual inquiry bridging queer and feminist studies with environmental humanities and environmental studies. Editors Catriona Mortimer-Sandilands and Bruce Erickson propose the analytic they dub "queer ecology" as a critical analysis of the "ongoing relationship between sex and nature that exists institutionally, discursively, scientifically, spatially, politically, poetically, and ethically" (2010, 5). The purpose of queer ecology, however, is not merely to study ontological entanglements; queer ecology is a praxis. It seeks to develop a sexual politics that includes awareness of how the environment intersects as well as an "environmental politics that demonstrates an understanding of the ways in which sexual relations organize and influence …

the material world of nature…" (2010, 5).

Central to queer ecology's praxis, like the queer animal work before it, is an anti-normative politics that centers the diversity of sex and sexuality across species as well as interconnected politics of environmental and queer justice. For instance, Noël Sturgeon emphasizes the stakes of animal films such as *March of the Penguins* (2005), which have been taken up by right-wing conservatives as a representation of the "natural" way that penguins should share labor. The endangered status of penguins emphasizes the importance of their biological reproduction, which is presumed to be heterosexual. Similarly, Giovanna di Chiro critiques the normativity in anxieties about environmental toxins, specifically in representations of gender-bending frogs and scientific debates surrounding the 'endocrine disruptor hypothesis.' Critiquing what she figures as "eco-normativity," she challenges researchers and activists to think through the tensions of environmental justice and queer justice "in calling for stronger environmental protections, the right to a healthy body, and the need for sustainable communities in such a way that resists appeals to normalcy and normativity" (2010, 224).

The *Queer Ecologies* anthology has animated broader scholarship on bridging anti-normative politics with awareness of environmental toxins and what this conceptual cross-pollination might foster across species. For instance, Bailey Kier has responded to public anxieties about endocrine-disrupting compounds in the Potomac Watershed and their creation of intersex traits in smallmouth bass (2010). Centering his positionality as a transgender person, he encourages us to recognize the sexed entanglements of humans and nonhumans. He argues that we are all already "interdependent trans-sex," where sex is a multispecies assemblage of hormones, toxins, and water. Rather than mobilize the image of intersex fish as a warning sign for what is to come for humans, Kier invites his readers to find inspiration in these fish: They

may provide inspiring models of how to adapt, be resilient, and "transform the possibilities of re/production" in the face of environmental toxins (2010, 316).

Malin Ah-King and Eva Hayward explicitly build upon Kier's work and encourage circumventing the tensions between biological and cultural understandings of sex in favor of recognizing how sex is always in "dynamic emergence with the environment" (2014, 1). This recognition of sex as environmental opens up the possibility of seeing sex as an always multispecies encounter. Like Di Chiro, Ah-King and Hayward express concern that endocrine disruptor panics foreclose adequate attention to health threats that environmental compounds might cause outside the scope of sex and reproduction. Inspired by the sex(y) writings on toxicity, Stacy Alaimo proposes understanding human corporeality as *trans-corporeality*: recognizing that humans are deeply interconnected with their natural environments means preventing looking at Nature as a separate entity that can be observed, consumed, or exploited in a manner that is disconnected from humans. Focusing on the trans-corporeality of the sea, Alaimo argues for seeing toxins as emerging from human consumerism and affecting multiple species – including humans and nonhumans (2012).

Radical Negativity and Dwelling in the Toxic Dissolve?

Despite the potential for hopeful thinking and imagining across queer and environmental justice, much of the queer studies scholarship in environmental studies has chosen to embrace radical negativity, inspired by what Nicole Seymour has described as "queer theory's general disdain for the 'natural'" (2013, 5). Alaimo, for instance, recently argued for "dwelling in the dissolve," whereby we radically accept the ongoing and future demise via climate change and sit with the discomfort as a kind of radical resistance (2016, 1). She deepens this call by bringing to mind the fact that seashells are dissolving in light of ocean acidification. "Dwelling in the

dissolve" is a possibility of grieving, but it is more saliently tapping into an anti-social thread of queer theory. These discourses channel ongoing conversations that failure to thrive holds great potential for disrupting the status quo (see Halberstam 2011).

Queer ecological scholarship has also been revitalized with the growing interest in object-oriented feminism (OOF) and feminist new materialism (FNM), both of which attend to the agency of objects traditionally seen as inanimate and thus lend themselves to thinking across species in the first place (Alaimo and Hekman 2011; Behar 2016). In this light, thinking anti-normatively about toxins might also mean reading them as agential in many ways. They animate heated discourses but also tantalizing potential for others who engage with toxicity positively. OOF- and FNM-inspired ecologies entertain the thought of seeking risky encounters, rendering themselves vulnerable to rethink concepts of human and environment. Most recently, Anne Pollock re-reads anxiety-ridden news articles about gay ibises who develop homosexual behaviors as a result of exposure to toxins (Pollock 2016). She flips the script by daydreaming how fun it might be that there are more and more gay birds. Perhaps we should enjoy the prospect of being "intoxicated" or "trashed" in an inebriating sense, she suggests (2016). In many ways, toxicity here means the introduction of a virulent toxin that creates queerly sexed and mating subjects and disrupts heterosexual behaviors and heteronormativity.

To varying degrees, these queer ecological readings of toxicity play tug of war with Lee Edelman's (in)famous work entitled *No Future: Queer Theory and the Death Drive* (2004), critiques humans' pre-occupation with the longevity of heterosexual reproduction, a phenomenon he dubs *reproductive futurism,* which has been taken up *ad nauseam* by queer scholars (and likely will continue unless there is a major paradigm shift.) For those who have the mixed pleasure of being unfamiliar with this work, Edelman critiques campaigns that herald the

symbol of The Child as the entity worthy of a future, writing that "queerness names the side of those not 'fighting for the children,' the side outside the consensus by which all politics confirms the absolute value of reproductive futurism" (2004, 3). Edelman critiques how capitalist productivity is often measured in terms of biological reproduction. In response, he proposes radical negativity, whereby queers embrace the fact that they are not on the side of reproductive futurism and resist the urge to imagine a better or "more perfect" future (2004, 4).

In focusing primarily on sexuality and sexual behavior, queer ecologies have shied away from conversations about the value of reproduction and have often embraced the demise of species in the face of toxic exposure and climate change. Growing anxieties about the extinction of nonhuman species due to toxins presents an important evocation of the reproductive futurist tensions with which Edelman engaged. In his perspective, toxins might permit us to foster new intimacies that are not future-oriented.

Honing Queer Ecologies

Choosing to expose oneself to possible environmental, sexual, and reproductive harm is a provocative call on Alaimo's part, evident in her invitation to "dwell in the dissolve" and sit with the possibility of total destruction. But it presumes, as I have argued with R.Y. Lee, that some are not already immersed in the "dissolve" (Lee and O'Laughlin 2018). The suggestion to sit with the trouble of environmental harm is markedly a gesture informed by great privilege of *choosing* to expose oneself, particularly given that low-income people of color are more likely to already be exposed to toxins in the first place (Lee & O'Laughlin 2018; D. Taylor 2014). In this dissertation, I interrogate something that often remains penumbral in queer ecologies: how racialization and de/humanization function in enacting environmental injustice. Fortunately, I am not the first to broach these questions, though they remain undertheorized. The work of those

who follow, thus, is the necessary context of my contributions to the fields of queer studies, feminist studies, and critical animal studies.

Noël Sturgeon's aforementioned analysis of penguin family values highlights how environmental reproduction-oriented rhetoric reproduces the figure of white, heterosexual family through describing endangered species as reproductive families. She simultaneously recognizes the impact of erasing non-normative intimacy and reproduction in describing penguins as exclusively heterosexual. She also brings in a critical race and feminist studies analysis of reproductive justice as an important environmental justice issue, a matter that has been sidelined in queer ecologies scholarship. She calls upon us to critically examine how environmental damage and destruction is co-constituted with nonhuman animal reproduction, too. In thinking about multispecies environmental reproductive justice, she argues we should recognize that reproduction is but one possible human capacity that should not be addressed in absence of others.

Where Sturgeon falls short, however, is her framing of the American reader as a global savior: "If the family we think of as natural and normal is white, Western, heterosexual, and middle-class, how will we raise consciousness and concern about indigenous and Global South families, many of which suffer more severely from environmental problems today?" (2010, 128). Ironically, she recenters the Western mainstream environmentalist as the expected audience, not in order to tear down the ontologies of the nation-state but rather to interpellate them as saviors of the Global South through consciousness-raising. Those who are most affected by environmental reproductive violence are often those who are brutally aware of the violence at hand. Rather than thinking coalitionally in practice and theorizing, Sturgeon's work lacks a central critique of U.S. hegemony, even in environmental protection, and how the animal figures

she examines are tools of the nation-state.

From another disciplinary perspective, Mel Chen thinks through the important intertwining of race, species, and environmental toxins in their linguistic analyses in *Animacies: Biopolitics, Racial Mattering, Queer Affect* (2012). Chen's work proposes and tracks the animacy of non-animal subjects such as rocks, bacteria, and toxins. Chen notes that toxins are more animated, active, and queer than we often give credit. Chen powerfully notes, in line with my own framing of toxic encounters, "a toxin threatens, but it also beckons" (2011, 265). In their analysis of anxieties about lead in Chinese-produced toys exported to the U.S., Chen explores public fears about white children being exposed by putting the toys in their mouths. Reflecting on their embodied experiences as a queer person of color, Chen ties in their experience with Multiple Chemical Sensitivity Disorder to how they are read as a toxic in public spaces because they are often wearing a mask and being read as ambiguously gendered. Though Chen thinks about animacy in terms of nonhuman animals in important ways, they do not interrogate the specific function of species with respect to the transnational flows of environmental toxins. Chen's near flat ontology of toxins, akin to but not identical to scholarship in object-oriented ontologies, fails to recognize the differential status of toxic compounds, toxic animals, and humans perceived as physically or metaphorically "toxic" as racialized and gender-nonconforming subjects. These, as I will argue, are crucial to examine not just as flat, but as differentially powerful and biopolitical depending on the context.

The final interlocutor of this project is Vanessa Agard-Jones, whose scholarship analyzes environmental toxicity through a postcolonial and queer studies lens. In line with other queer ecologists, Agard-Jones has argued that pesticides and other nonhuman entities, such as sand, are co-constituted with sexuality and gender (2013). But Agard-Jones intervenes to the queer

ecological conversation by examining the differential effects of toxins in the Global South in her analysis of képone, an endocrine-disrupting compound that was banned in France but permitted for use in the French overseas department of Martinique. Agard-Jones has traced Martiniquan men's avoidance of pesticide-drenched produce out of concern that they experience the reduced fertility or, as they have described it, homosexual tendencies that might result (2013). However, Agard-Jones, like Di Chiro, has largely ignored the nonhuman animals involved in these discourses, attending to humans and the inanimate matter that surrounds them. Animals who are very rarely (if ever) seen as Human occupy a different affective power than nonhuman entities such as rocks or toxins, particularly in the formation of the U.S. as a nation-state.

Frightening Figures of Toxic Animals

My work responds to the inadequate attention to race and animality in queer ecological readings of toxicity. I trace the rise of toxic animal figures who function as a specific kind of immaterial animal capital. In using the phrase "animal capital," I invoke Nicole Shukin's eponymous analytic which attends to how nonhuman animals are rendered into both symbolic and material capital. In the process, animals can function as both cultural stand-ins for the nation-state as well as actual physical flesh commodities that are central to human economies (2009). In attending to the cultural function of animal figures, I (and Shukin) adapt Bourdieu's articulation of symbolic capital, an "immaterial" form of economic value that cannot be as easily counted as material capital such as land, property, or goods but function as indicators of a person's hireability or quality (See Bourdieu 1989). Social landmarks, too, hold symbolic capital for a region of a nation.

In focusing on the figural modes of animal capital, I am not simply choosing to focus on half of the conversation (the real and the figurative, or the economic and the abstract). On the

contrary, I take seriously that figures are always entangled with and co-constituted with material bodies. (For instance, the clownfish species of which *Nemo* from *Finding Nemo* is a part made sales of clownfish skyrocketed for personal ownership.)[6] Toxic anxieties themselves function and disseminate through the creation of figures of certain abject animals, a certain kind of "capital" or legibility for others in the debate, relying upon the already-existing function of animals as figures for normativity. (For instance, a "mama bear" or a "mother hen" are used to describe protective female parenting). Though capital is a useful shorthand for the function that animals play in upholding human formations, "figure" is more apt when we are thinking about multispecies symbols as having cultural power.[7]

Animal figures, as rhetorical devices, are fraught in animal studies. In queer ecologies in particular, there is a palpable tension of *how* to use the figure(s) of queer animals, since both normative- and anti-normative discourses function through using them as a reflection of humankind. But the conversation does not move beyond that discomfort, because the focus remains largely on sexuality and environment. My work takes two steps further: Rather than just look at discourses of sexuality, reproduction, and gender that toxin-exposed figures animate (as queer ecologies has done), I further examine the racialized logics these animal figures animate and convey. Moreover, I explicate how environmental toxins animate new and particularly volatile animal figures that interpellate human viewers.

In tracing *toxic animal figures,* I examine how they bolster what Sylvia Wynter calls the category of the Human, a discursive frame that folds certain subjects in and others out. Wynter has described the blunt ways in which Black men in particular have been folded out of the

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[6] See Andrews 2016.
[7] Further work should be conducted on how these queer toxic animal figures function as specific modes of capital, too.

Human in her writing critiquing the Los Angeles Police in 1994 who labeled some cases as low-priority by labeling them "NHI: No Humans Involved." This acronym was used to describe crimes or incidents of violence affecting jobless Black men from the inner city, and a crime with an NHI marker was low priority since no "humans" were affected. Though this kind of categorization is not "overtly genocidal," as Wynter writes, it has genocidal effects through the ubiquitous incarceration of and violence against those young Black men deemed not-quite-human-enough (1994, 45). The widespread stigmatization of being poor and jobless *as a Black man* is precisely what permits NHI to be used as an abbreviation. The animals alluded to here with NHI are not a metaphor here, and Wynter is firm on this point. Beings are humanized and animalized across "species" lines in large part due to the proliferation of the evolutionary and biological sciences. After all, Wynter asserts that contemporary understandings of humans are grounded in teleological narratives about the evolution of the Human species.

Wynter's writing provides a powerful framework to understand how racialization works through dehumanization. However, she does not attend to the animals almost universally deemed nonhuman. Scholarship critiquing the racist logics of the category of the Human often relies upon establishing a binary of human/animal in order to demonstrate that the line has moved too far*,* ironically reifying the very system under critique (Weheliye 2014; Wynter 1994). As Syl Ko notes, this scholarship implies that the line does belong between *homo sapiens sapiens* and all the rest, according to much of antiracist interrogation of animal studies (2017). After all, it is only the existence of these quintessentially nonhuman animals in their very animality that can prove how violent it is to use animalization as a means to subordinate another human. Rather than understand humans and nonhumans as continually separate Wynter's framework can be expanded to assess how species logic permits different and entangled forms of violence across

species.

In this project, I bridge Wynter's contributions with Shukin's by asserting that animals function as a specific kind of discursive hinge to allow for unique and contradictory systems of violence that affect *both humans and nonhumans*, whereby biopolitics becomes *zoopolitics* in Shukin's words (2009, 5, 9). Under zoopolitics, "species difference [acts] as a strategically ambivalent rather than absolute line, allowing for the contradictory power to both dissolve and reinscribe borders between humans and animals" (Shukin 2009, 11). Taking a page from feminist new materialism, I explore how humans and nonhumans are enmeshed materially, conceptually, economically, reproductively through racialized environmental toxins. Toxins themselves are agential and rowdy entities, and they play a major role in creating animal figures that are distinctly toxic: abject or threatening in some way to the longevity of the Human.

Bridging and extending Wynter and Shukin's heuristics, thus, I formulate *toxic animal figures* as those signs of nonhuman animals which are racially-charged and zoopolitical, looking specifically at cases involving frogs, pelicans, and pigs, as well as the multispecies figures with whom they cohabitate. I follow the words of Aph Ko & Syl Ko, who assert that the racism and species violence "have a common source of oppression, which is systemic white human violence" (2017, 11). In other words, white supremacy fundamentally thrives on the logic of species differentiation. In order to interrogate and interrupt white supremacist logic, we must unpack how the human/animal binary "us[es] the very same racial logic that posits the 'human' as whiteness" (Ko & Ko, 27). Toxic animal figures are important and revealing enactments of this divide. Yet, as merely cultural figures featuring the images of nonhumans, their content is rarely taken seriously.

Rather than understand the toxin-exposed figures in this dissertation as just fictive figures

that perform important interpellation and ontological work, I assert that they are figures embedded within reiterative discursive practices that, again, actually constitute bodies, rather than bodies existing separate discourse. Just material bodies do not precede discourses, nor do animal lives precede discourse or culture. Certainly, different kinds of nonhuman animals have different modes of being, engaging, communicating, sensing. But when it comes to the matter of humans engaging with animals – the focus of much of critical animal studies—it becomes impossible to think through the animal, "see from the animal side," to channel Baratay, without also bringing the ever-familiar discursive and cultural caricatures of animals (2015). It would be naïve of us to think we can simply think outside of these cultural references which are the backbone of the U.S. nation-state.

Methodologies of the Project: Intersectional Hauntings and Encounters

In this dissertation, I trace a kind of political economy of toxic animal figures. Recognizing that economy stems from the Greek root for "managing a household," I examine how toxic animal figures function in managing the white "American" myth of hetero-reproductive domesticity (Beneria 2003). This project is strongly informed by intersectionality as a hallmark feminist methodology in recognizing that race, species, and sex are co-constituted.[8] Intersectionality is a necessary framework to conduct the kind of research in question here. After all, ethically engaging anti-racist, feminist, multispecies scholarship requires recognizing the co-constituted nature of these formations rather than their similarities or parallels, which has been the unfortunate logic of many animal activists in recent years. Intersectionality is crucial in

[8] To be clear, I use methodology here to describe the meta-theory which structures the analysis and informs the methods. There is a tendency in academia to stylize "methods" as "methodology" which is not the meaning of methodology here. Intersectionality, thus, is the meta-theory which understands that social identities and systems are intertwined. The method, on the other hand, is feminist critical discourse analysis, which I mobilize in an intersectional way.

examining how subjects are interpellated as environmentally-oriented and/or opposed citizens.

In adapting intersectionality, I must honor my indebtedness to Kimberlé Crenshaw, whose juridical scholarship examines women of color's experience of violence through both race and gender to demonstrate the ways that women of color are marginalized in both feminist and antiracist discourses (1991). Though hers is certainly not the origin of intersectional thinking, merely the formal coining of the term, I mark this work as "intersectional" to flag it as an explicitly feminist project. In so doing, I contribute to multispecies adaptations of intersectionality (Ahuja 2016; Boggs 2013; Deckha 2006; Gaard 2013; García 2010; Gillespie 2013; Kim, 2014; Mackenzie and Posthumus 2015; Weaver 2013, 2017).

Intersectionality is not a perfect methodology. On the contrary, it is slippery, tricky to wield as an analytic, and ethically murky when it is not attending to violence against Black women, the juridical roots of Crenshaw's term (Crenshaw 1991; Nash 2014). So, too, do identity politics often reify the very institutions that allocate resources to those who are legible as rights-bearing subjects. But animal figures function precisely through the shaping of identities and enact identity politics in how they mobilize home, family, and Americanness. Thus, intersectionality is a fitting method to understand and disrupt the machinations of these figures. Moreover, it is necessary to note the word "intersectional" has a different valence in environmental studies and animal studies that it does in feminist and queer studies. In the former fields, it is a shorthand to mark one's work as committed to thinking through the systems of violence against humans and nonhumans as co-constituted.

Intersectionality is powerful not just as a research methodology to understand intersecting systems of inequality, but also to recognize how an author informs her work. A person's position and standpoint always inform how she approaches and is approached by the world, and therefore

undoubtedly shapes her research. In writing this project, I've come to realize that my own subjectivity has been formed through and against how I have been interpellated as a gender-nonconforming body moving through the world. Many have reminded me with words, sneers, and unwanted touches that I often stick out from my surroundings. My hypervigilance in public spaces and my subjectivity has informed my readings of these gender-bending discourses about toxins. Rather than feign interest in being an objective observer, I not only concede that I am enmeshed in the subject matter but also that my implication, my partiality, and non-objectivity offer fruitful insights.[9] In other words, the strange encounters and the toxic touches I examine in this work are always already informed by my own embodied experiences.

My anxieties about toxins have been more abstract, a marker of my privilege, since I've needed to be diligent in finding the origins of toxins. Rather than living in a community of visible toxins, my entry into this project has been one of the privileged white anxieties which I critique. As a white person who was more able-bodied in my recent past, I had the privilege of doing unpaid organizing for environmental and animal justice groups rather than taking an additional part-time job. In this organizing on and off since 2007, I learned first-hand how white these movements can be in spirit, recruitment, goals, and actions. Given my lack of embodied experience with environmental racism and the degree to which environmental racism, I make an explicit intention to reflect on the racialized and racist implications of toxic discourses through critically interrogating how they mobilize whiteness.[10] The environmental anxieties here are always racially marked when they posit white families as the presumed future victims of environmental harm.

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[9] I keep in mind Dian Million's provocative reminder: "But what is objective except Western science's own wet dream of detached corporeality?" (2009, 73).

[10] I intend to develop an analysis of whiteness in toxic animal figures in future publications.

Each of the chapters takes a similar argumentative turn: I argue that each of the toxic scandals in question must be understood as more than just interfaces in the present. In so doing, I trace how the onto-epistemologies of "past" violence haunt and shape the present moment.[11] Here I channel María Elena García's conceptualization of "multispecies hauntings" (2015, 161). Similarly indebted to Avery Gordon, I honor haunting as "one of the ways in which abusive systems of power make themselves known and their impacts felt in daily life" (2008, xvi). I trace the ghosts who are often hiding in plain sight as well as those who are more elusive, yet gnawing at the present, urging us to remember that the naturalization of structures of power is founded upon violence.

In this project, I call for both interrogating and manipulating time as a staunchly queer and anti-normative method/ology. Queer studies scholarship has demonstrated how time is an important marker of progress. One's legibility as a subject who obeys *straight time* and *chrononormativity* occurs by meeting the normative markers of life including marriage, buying a house, and raising children (Freeman 2010; Muñoz 2009). I extend this work by asserting, alongside Sylvia Wynter, that time is crucial to ontologizing the Human. After all, temporal progress narratives frame certain populations as always-already-backward. These temporal logics operate in a unique way during environmental crisis; natural disasters or toxic spills are often perceived as phenomena in the present which risk affecting the future generations of humans. This present-and-future orientation of damage control and risk management precludes attention to the ongoing and historical environmental violence against multiply-marginalized humans.

[11] In using the language of "onto-epistemology" as I do here, I seek not to flatten the distinction between ontology and epistemology, but following object-oriented feminism scholars and feminist new materialist scholarship, find it crucial to examine how these are always co-constituted (Alaimo 2016).

Moreover, in articulating what is under threat, humans often reify nostalgic understandings of what humans *once* were in order to brace for the future of environmental demise.

In working with and through temporality, this project contributes to scholarship in queer and feminist studies that recognizes temporality as a crucial site of meaning-making. José Esteban Muñoz, who examined contemporary and historical queer artefacts as modes of potential, has provided powerful insight on how "the past is a field of possibility in which subjects can act in the present in the service of a new futurity" and of queer futurity as attentive to the past in order to critique the present (2009, 16). For Muñoz, this means thinking both forward and backward: "The *then* that disrupts the tyranny of the *now* is both past and future" (Muñoz 2009, 29). Inspired in large part Muñoz, I trace toxic animal figures as palimpsests of past and present environmental violence in order to inch towards a future of possibility. In bridging this with the historical methodologies forwarded by Lisa Lowe (2006) and Banu Subramaniam (2014), I trace how obfuscation of historical violence and its categorization as existing squarely in the past fail to recognize how these systems live on, alive and well. I interrogate haunting as a kind of temporal rupture, a failure to stay in sync, and a fissure in the seemingly natural operations of extractive environmental industries. Rather than understanding it as a flashback or a dissociation, it can be a fruitful multitemporal endeavor, a praxis.

Unearthing these ghosts is disturbing and unsettling at several moments in this project. But listening to the ghosts behind each toxic figure and of other toxic animal figures is not intended to provoke an empty kind of hopelessness. Like Muñoz, I consider hope and hopelessness as having a dialectical rather than oppositional relationship; in other words, hopelessness is not the opposite of hope. As he writes in his dialogue with Lisa Duggan, "… bad sentiments [such as feeling cranky, depressed, and jaded] can signal the capacity to transcend hopelessness. These

sentiments associated with despondence contain the potentiality for new modes of collectivity, belonging in difference and dissent" (Duggan and Muñoz 2009, 277). My work intervenes by forwarding multitemporality as a way of interrupting the affective and emotional enlisting that toxic animal figures do. Multitemporality is not only a methodology but a praxis that calls for sitting out of sync and disrupting the notion that environmental violence is felt in discrete, contained moments of urgency.

Methods

As with its methodologies, this dissertation intentionally refuses a strict and formulaic method of analysis. The beauty of being situated in feminist studies is that it refuses to prescribe methods to answer questions. I maintain social phenomena are rarely able to be captured through a single lens, perspective, or medium, making feminist studies a particularly useful field to think through complex questions. Though it is certainly valuable to work with a single method of inquiry, such as ethnography, literary criticism, or historical analysis, multifarious methods are necessary to understand the logics that sustain environmental extraction.

Feminist critical discourse analysis allows us to take seriously how words and images matter. Rather than observe them as individual speech acts, we must see how they both reflect and inform broader discourses. Discursive violence functions not simply through single forms of media but gains hold of popular consciousness through the dispersal of ideologies across various media across time and space. The multiplicity of the sites of this iterative process is what obscures how this is nonetheless a process always in (re)iteration. They create subjectivity and difference through both what they enunciate as well as what they make silent.[12] The widespread

[12] See Jodi Melamed's *Represent and Destroy* for more on how popular media are important technologies to instill ideologies of multiculturalism.

access of popular culture texts permits a wide audience of engagement and plays an important affective role in grappling with toxins and one's role in their circulation.

Interrogating popular culture and media is valuable because popular texts often display more candid language than more traditional texts in academia. When it comes to particularly contentious topics such as non-normative sexuality, popular media such as online news articles, op-eds, personal blogs, and YouTube videos allow for authors and creators to more freely convey their fears, anxieties, and hopes about toxic exposure than might be permissible under the ostensible objectivity in much of academic publishing. In fact, the primary surveillance of YouTube videos in the current moment seems to be on copyright infringement rather than assessing the content of videos for hate speech. Digital media such as these are unique in that they allow for public responses directly on the same text through comments, shares, or retweets, and become living documents. The widespread circulation and uptake of these pieces reify social formations on a broader scale.

Responding to the gaps and silences in these popular media, I supplement my discourse analysis with historical analysis, feminist science analysis, and micro-ethnography work from ethologists. Given the multitemporal methodology of this project, I investigate the echoes of the toxic animal figures with work from environmental historians on colonialism's effects on the North American landscape. Moreover, I incorporate micro-ethnography work, for instance reading and listening to several interviews conducted by Mark Cave with wildlife workers and volunteers after the 2010 BP oil spill, as part of the "All Things Great and Small" Oral History Project. I trace not only the power of these animal figures in people's everyday lives but I also imagine what it may mean to stretch the *figures* of the animals by bringing in ethologists' reports on them. These reports, as we will see, often are integral in shaping these figures yet they also

hold potential to disrupt them. In so doing, I attempt to trace the voices of the nonhuman animals involved in each of the scandals as moments of specific violence targeting bodies who are assessed as differentially valuable and/or disposable at the same time that I examine them as figures, a task which is not easy to do. By tracing how human norms of gender and sex show up in nonhuman animal accounts can reveal important things about the environmental structures which subjugate humans and nonhumans in different but entangled ways.[13] I argue that dramatic representations of toxic violence work to re-center a certain kind of Human as the rightful subject in ways that need renegotiating.

Obligatory Caveat

Certainly, it should be noted, environmental anxiety and normativity operate in a variety of ways across times and spaces, in ways that are even contradictory. My analysis does not negate these nuances but rather pays attention to the function of toxic animal figures as tools of hegemony and the nation-state. I seek not to reify the nation-state by continuing to center the U.S. (though that is certainly a risk of this project) but rather to trace how toxic animal figures are *already* nationalist projects of the U.S. that enact racialized and colonial violence. In attending to how toxic touches are folded into the U.S. as domesticity- and citizen-building efforts, I analyze the violence of this formation. Though I examine possibilities of rupture throughout the dissertation, this is not the primary goal of the project; future research will focus more explicitly on the potentiality of anti-nationalist multispecies intimacies that respond to the entangled projects of racial and colonial violence.

[13] In future work, I intend to further examine how multispecies ethnography can disrupt toxic animal figures.

Dissertation Overview

Each chapter cracks open a different scandal wherein a single species of non-human animals is exposed to environmental toxins ultimately caused by human beings. I examine how the figures of exposed nonhuman animals act as discursive ambassadors for the longevity of white, heterosexual human families; when gregarious and culturally significant animals such as pelicans in the U.S. are exposed to toxins, researchers and activists use them to warn of "future" environmental harm against white human families. In so doing, however, they overlook how these same figures are vectors of racialized violence and the toxins that animate these figures in the first place enact complex reproductive violence against queer people, communities of color, and queer people of color. I interrogate several conundrums: How can one address endocrinological and reproductive effects of toxins without reifying gendered and racialized norms of "good" cis-hetero families? How can one do so in ways that recognize the harm of species difference as an ontology? And also avoid a flat ontology that risks ignoring specificity?

I argue toxic animal figures are at work in three recent environmental scandals in U.S. The first chapter transects the ongoing feud between Black frog biologist Tyrone Hayes, mentioned in the opening vignette, and the pesticide company he formerly researched for: Syngenta. Hayes uses inflammatory language to explain that the pesticide atrazine caused his frogs to develop as intersex, expressing anxiety about what their affected reproduction will mean for the longevity of the species. The crude humor behind the abnormal intersex frog figure obscures ongoing violence against intersex people but Hayes also uses the figure to raises awareness about the multigenerational environmental reproductive violence facing communities of color. The toxic animal figure here is so powerful that Syngenta enacted a racist smear campaign against Hayes, and the simultaneously created a racialized advertising campaign.

Describing weeds as not only invasive but "resistant" and in need of pesticide application, Syngenta calls upon farmers to be Resistance Fighters, and use a white-washed power fist (Figure 3). I analyze this interface in the present moment as well as through a historical analysis of technologies and ontologies at hand, including the strange and eugenic histories of atrazine itself and the scientific model of assessing biological (inter)sex.

The second chapter examines the racialized sexual politics of the 2010 Deepwater Horizon disaster and the function of the oiled brown pelicans as figures in the wake of the catastrophe. I argue that pelicans are not only animal figures with material and affective power as the state mascot of Louisiana, but that they carry a specific reproductive power that is pronounced after the 2010 spill. Environmental activists and animal protectionists depict pelicans as hetero-reproductive to emphasize the disastrous effects of the spill: they function as toxic animal figures precisely through their sexuality and their reproduction. Through a semiotic analysis of the history of the Louisiana state flag and its entanglement with French colonialism and chattel slavery in Louisiana, I explicate just how pelicans have come to function as The Pelican, a singular figure of white motherhood (Figure 5). With this history in mind, I examine how the mascot of the maternal pelican is taken up by environmentalist filmmakers, politicians, and authors (Figure 6). I trace media and wildlife workers' focus on the reproductive health of pelicans and examine the ways in which many of these stories center the white family home as endangered by the spill via (or against) the tragic image of the oiled pelican mother. I expose how the offending oil company, BP, has circumvented the conversation through centering its LGBT family-oriented hiring practices, focusing on former CEO's book*, The Glass Closet: Why Coming Out is Good Business* (Browne 2014). The company's silence about pelicans is quite remarkable.

The third chapter examines the emergence of hyper-reproductive feral hog figures in North Carolina. I analyze the power of the ongoing stories that Southerners tell about wild and feral hogs in the U.S. as an invasive species overpopulating the area and threatening the health of humans and domesticated hogs as carriers of illness (Figure 7). Through critical discourse analysis of hunting shows and popular American culture, I trace how the wild and feral hog is used as a foil against white American family home. I devote particular attention to a Discovery Channel show entitled *Pig Bomb* (2012) and a BBC special called *The War on Hogs* (2015). These storytellers frame the wildness of these hogs as temporally situated in the past and seek to enact their containment through tracking their cross-breeding with domestic pigs, pinpointing the DNA melding of the multiple types of wild and domesticated species. Anxieties about cross-breeding and overpopulation of pigs are co -constituted with eugenic ideologies about humans. By framing American homes as under attack by hyper-reproductive feral hogs, white farmers are able to forget about their ongoing occupation of Indigenous lands. So, too, do these discourses fail to examine the broader environmental reproductive violence of the pork industry, whose controlled breeding of hogs has led toxic fecal waste to spill into the majority- Black communities nearby and strained local family relations.

Rather than understand each chapter as a kind of case study in a sociological sense, I frame each chapter as a glimpse into the toxic environmental psyches of the contemporary U.S. The purpose is not to fully explicate each scandal (nor does the limited scope of this project permit this) but rather to tug on a loose thread at the hem of environmental discourses. Tugging at each allows us to see the power that these figures have in order to ultimately disrupt the toxicity of their power. This can ultimately foster reflections on what sitting with *and* against toxicity, wildness, and multispecies intimacy might look like as more than (just) an individual

process, upon which I will offer us moments at the end of each chapter to ruminate.

ONE: Atrazine, Intersex Frogs, and the Making of a Scandal

One morning in February of 2014, I sat hunched over my laptop, precariously balancing my oatmeal and coffee across my lap at the same time, as graduate students are wont to do. Watching a live stream of the *DemocracyNow!* daily news, I listened as news anchor Amy Goodman interviewed a scientist-whistleblower. Dr. Tyrone Hayes was being persecuted by the chemical company that he was critiquing, namely Syngenta. Hayes used to work as a research consultant for the company, he explained, but severed ties when they forbade him from publishing about the detrimental health effects of one of their pesticides, "atrazine." The tale sounded familiar: a scientist uncovers the harmful effects a common chemical has on wildlife and the chemical industry tries to extinguish their efforts. Much like a contemporary Rachel Carson or Erin Brockovich, Tyrone Hayes has spoken out against atrazine for nearly two decades despite the company's efforts, including publishing and lecturing on the chemical's effects on the sexual development of frogs (Hayes et al. 2003).

My feathers suddenly ruffled when Goodman asked Hayes to explain the problem. "Professor Hayes, talk about exactly what you found. What were the abnormalities you found in frogs, the *gender-bending* nature of this drug atrazine?" she asked, drawing out the syllables from the adjective (2014). *We don't know anything about frogs' genders in the first place,* I muttered to myself. *Sex was a different matter, but even then*. I braced myself as he responded:

> Initially we found the larynx or the voice box [of frogs] didn't grow properly [when exposed to atrazine…which was] an indication that the male hormone, testosterone, wasn't being produced at appropriate levels. Eventually we found that not only were these males demasculinized or "chemically castrated" but they were also starting to develop ovaries or starting to develop eggs. Eventually we discovered that these males

didn't breed properly (Hayes in Goodman 2014)

Linking to a clip from a recent lecture Hayes had given, I watched as Hayes projected the image of one of his amphibian test subjects onto the screen. Pointing to the dissected gonads of this frog, he explained: "[t]he second most commonly used pesticide, atrazine… led one of my frogs to develop a set of testes here, ovaries here, another testis, and more ovaries … which is NOT normal, even for amphibians. There's a whole *party* going on in there!" Hayes said, chuckling while gesturing to the image (pictured below). He simultaneously cued a slide animation that dropped large red block-text across the image, whose characteristics and diagonal position evoke the ink from a stamp that "APPROVED" or "REJECTED."

Figure 1: Slide representation of frog with hermaphroditic traits (Hayes and Chaffer 2010)

I was repulsed, but not by the endocrinological effects of the pesticide on this disembodied figure of a frog turned intersex. On the contrary, I started to feel defensive. Why is "chemically castrated" an appropriate term? And how did these frogs become the butt of the joke? My hairs were standing on edge from the discourse this pesticide seemed to have animated. It became a strange encounter in an Ahmedian sense; I had already been physically touched by normative gendered and sexed discourses in the past, which had taught me to recoil.

For years I experienced medical scrutiny by physicians who examined me curiously. My

body hair was unusually thick and dark for a female-bodied person. None of the women in my family seemed to have the same patches on their forearms that grew thicker over time. Presuming something had gone hormonally awry, the doctors recommended a battery of physical exams, ultrasounds, blood tests, and urinalyses by endocrinologists who suspected I had elevated testosterone levels that indicated a deeper pathology. Polycystic ovary syndrome? A thyroid disorder? Cancer? Worried about these possibilities, I complied. Yet after months of expensive and painful tests, the conclusion was anti-climactic: my body hair was idiopathic, meaning it existed for no known cause. While physicians officiously reminded me that having hair was not harmful, my medical file greets new providers with the information that I am afflicted with "idiopathic hirsutism." I've leaned into this, taking my hairiness as a testament to the biological and phenotypical diversity of sex. Perhaps my own gender transgressions over time worked in tandem with my increasingly androgynous body. (My primary care physician politely stopped asking why I haven't considered laser hair removal.)

But my self-found pride has been tempered by violence over the years. In public, I've been stalked, approached, and harassed by strangers who have needled "Are you a woman or a man? *What* are you?" Assailants have made clear that being visibly gender-nonconforming, especially when also visibly queer, is what makes me a problem. As such, I've been touched literally and figuratively by these normative and regulatory encounters. My entry into panics about pollutants causing "endocrine disruption" has largely been one of avoidance and ambivalence. I have thus felt defensive about arguments that biological sex diversity indicates a pathology because I bear scars of this normative logic.

Once I read more into the scandal and the figure of the toxin-exposed intersex frog, however, I realized that the discursive violence of Hayes' presentations was just the tip of the

iceberg. Hayes has admitted that he uses exaggerated language about his atrazine-exposed frogs to "piss off the chemical companies" whose employees have stalked, disparaged, and threatened him with sexual violence and even lynching (DemocracyNow 2014; Slater 2012). In returning the volley, Hayes even responded with his own sexually lewd emails to company employees, adding fuel to the fire of his captivating and enraging toxic animal figure. (Syngenta publicized these emails after filing an ethics complaint against him.) The [inter]sex panics were animated precisely because of the toxic feud that was not only gendered and sexualized but also racialized.

As such, I use this chapter to examine how the figure of the *intersex atrazine-exposed frog* has come into being through and against the pesticide atrazine. The dramatized monstrosity of the figure has animated what some call "one of the weirdest feuds in the history of science" between Hayes and Syngenta (Slater 2012). Through analysis of the violence at the heart of the multispecies scandal, I argue that the figure of the toxic intersex frog is founded upon the (bio)political logics of pesticides, and in so doing functions through the invocation of many *other* toxic figures, making it less of a new phenomenon but rendered anew with urgency. The continued use of pesticides broadly marks certain subjects less- or non-human and shaping the boundaries of the Human often to the advantage of their producers.[14]

To unpack the formation of the atrazine-exposed intersex frog, we must contextualize precisely how the figure has come to be and to what effect. After all, pesticides animate and shape toxic animal figures as well as the ever-present figure of the Human to many political

[14] Some clarification of terms is important. I use violence here to describe systems of marginalization that are often rendered visible through individual acts. In so doing, I seek to move beyond an articulation of ethics in solely individualized terms. I use "subject" as a humanizing means of countering the dehumanization at work. Though there are valid critiques of recuperating the "subject" from dehumanization, I use "subject" here to start at a ground zero of sorts.

ends. Chemical producers and environmental whistleblowers alike use toxic animals as vessels for norms of sex and sexuality, demonstrating that pesticides' effects are multidirectional; atrazine seems to transform everything it touches and by extension everything that touches. The intersex frog figure is just one example. As such, the production of pesticide-exposed animal figures is materially, ontologically, and discursively intertwined with the production of toxic compounds themselves, such as pesticides by an agribusiness company in this example. These figures thus become a node of anxieties about the health of a population, including "will there be enough food?" and "will our future children be able to reproduce"? These toxic animal figures are technologies in a Foucauldian sense.

In order to understand this complex scandal in the present, we must understand its echoes. After all, while this is an interface of volatile *re*actants they are in a metaphorical chemical reaction, igniting and exploding discourses, they are not singular instances. They make up larger and long-lasting structures. Methodologically, this requires allowing transgenerational multispecies histories to flood in, contrary to the often presentist habits of the news cycle. Sitting with the discomfort of multiple temporalities, straddling the past and the present, and being out of sync of any single moment is a methodology that allows one to sit with what Subramaniam has described as the naturecultural ghosts of the present (2014). These ghosts are always already present, constantly lurking, whether one attends to them or not, and they affect how we are touched by (or recoil from) others (Gordon 2008; Spivak 1995). As such, I encourage us to recognize à la Derrida that an entity is never static; it is simultaneously *revenant* (returning) and *arrivant* (arriving), seemingly tautologically emerging out of a past and always having to return to it (Derrida 1994). But rendering this iterative process visible is a means to think otherwise. In order to track the emergence of *toxic animal figures*, we must trace atrazine's logics and

directionalities. I thus assemble a non-linear archive of atrazine as a naturecultural object from historical production, contemporary marketing, and recent provocation of environmental panics.

Atrazine's Roots: A Colorful History of (Un)Making Pests

Colonial Pest-Making

Pesticides are not often described as colonial technologies in mainstream U.S. environmentalism. But a (de)colonial historical analysis of the ontological and material development of pesticides is necessary to unpack this ongoing scandal. History is not a singular, static entity and is instead informed and enacted through the many multi-scalar histories. Despite the limitations of the environmental historical scholarship that makes sweeping claims, the work of disturbance ecologists is useful to understand the stakes and presents of toxic animal figures.

After all, the toxic animal figure of the atrazine-exposed intersex frog is built upon the historical subjugation of other toxic nonhuman figures: pests. *These* toxic nonhuman figures (liminally animal, as not all pests do not fall under the kingdom of 'animals') have not just been a constant reality of North America, however. The creation of pesticides such as atrazine likely facilitated the rise of pest animals and co-produced their bodies and immaterial figures. In other words, wielding the figure of the atrazine-exposed intersex frog as a cause for alarm requires countering the long-lasting powerful figure of the hyper-fertile pest animal. The figure of *invasive pests* is not ecologically toxic in a traditional sense but [ostensibly] destructive to the wellbeing of humans.

According to several disturbance ecology historians, European colonial settlement likely stimulated the need for pest control in the first place (McWilliams 2008; E. Taylor, Holley, and Kirk 2007; Williams 1992). Settler colonialism of North America thrived by carrying plants, insects, animals, and viruses from Europe that helped ensure the success of white settlers, a

process that Alfred Crosby has described as "ecological imperialism" (Crosby 2015; Subramaniam 2014).[15] Despite the trope of the pristine untouched "New World" that circulated at the time, many tribes had cultivated and maintained forests through a variety of methods depending on tribe, region, and time. One of the most powerful was the common practice of controlled burning of plants and trees to foster biodiverse ecosystems including moist forests, open oak forests, and grasslands (Crane 2014; Lake et al. 2017; McWilliams 2008; Stewart 2009). The eviction and genocide of Native peoples thus often accompanied the overgrowth of forests. For instance, a member of the Coquille tribe explained that burning was a means of preventing the Douglas fir from "encroaching on the open prairies and crowd[ing] out the other timber" (Lucy Thompson qtd. in Wells 2011). Settler colonialism likely encouraged the proliferation of what many now deem "pest" species, especially insects and plants that may grow along or in competition with food crops (McWilliams 2008; Wells 2011).

European settlers' apparent aversion to forests led to another kind of disruption for forest-dwelling nonhuman species of North America. Destruction of the woods killed many natural predators of insects and upset ecosystems on a massive scale. For instance, thinning tree cover from previously lush woods of North America in the 17th and 18th centuries made many winter freezes less severe (McWilliams 2008). Although many European settlers had hypothesized that thinning out woods and clearing land for farming use would reduce insect populations by decreasing the amount of moisture and foliage protection the opposite likely occurred; the ground thawed faster during winter freezes, allowing insect larvae that would have previously died under the severe cold to survive and even thrive (Cronon 2003; McWilliams 2008;

[15] I refer to settler colonialism here as the material invasion of North America by Europeans during the 16th through 18th century, as exploration, colonization, and settlement. I recognize there are far more modes of settlement that have occurred and continue to occur on the continent.

Steinberg 2012). While deforestation led to the demise of many plants, it also encouraged the growth of hardier plants with thicker leaves with denser nutrients, making them especially appealing to insects (McWilliams 2008, 14).[16]

It would be remiss to suggest that colonialism of North America had a singularly detrimental effect on the land, that Native stewardship of the land was entirely environmentally sustainable, or that competition among nonhuman species did not exist prior to colonialism. However, colonial destruction of habitats has had marked effects on the land through encouraging the proliferation of hardy plants and this history should not be dismissed. Pests and pesticides are thus always materially and discursively connected to European colonialism of North America. This material history is often obscured from the popular framing of pests as invaders. This gives them more power as animal figures who maliciously foist themselves onto unsuspecting humans, rather than creatures whose very existence has been co-produced by humans.

Despite the major influence that "American" settlement played in the proliferation of unwanted insect and plant populations in North America, pests have often been described as being un-American in their obstruction of U.S. agricultural progress. Ontologically, the very categories of "pest" and "invasive species" are founded through colonial logic, as others have noted: one is a justified resident and the other is an intruder (Head 2017; Kim 2015; Subramaniam 2014). What is more, defining a species as "invasive," "alien," or "non-native" is rarely one of biological taxonomy per se. It is instead a loosely used signifier taking the shape of an *invasive pest figure* that spans many unwanted species. Many different kinds of 'pests' such as mosquitos, moths, and beetles as well as plethora of plants "weeds" were often understood to be

[16] Here we might even read these plants and insects as reminders of resistance to colonialism.

unpatriotic simply because they threatened the colonial agricultural economy in the U.S. For instance, the Hessian fly received its name during the American Revolution because it seemed to appear just after the arrival of Hessian troops, otherwise known as German soldiers hired by Britain (McWilliams 2008, 8). The Hessian fly continued to be a scourge on wheat, barley, and rye crops, and with its name carried the reminder of the foreign-ness of the pest.

It is no matter, apparently, that many of the weeds ostensibly encroaching on food crops were and are nutrient-rich plants edible to humans, too, and sometimes even more nutritious than the crops they invade. But their lesser sociocultural value has justified their continued perception as "invasive." Other plants that were cultivated during 18th century in U.S. colonies as valuable crops – such as Velvetleaf, a rich source of dietary fiber – are now deemed invasive. Velvetleaf is currently listed as invasive in 48 U.S. states and even deemed "noxious" in four (Integrated Pest Management 2015). This demonstrates the extent to which the *invasive pest figure* is a geographically- and temporally-specific formation.

The growing anxieties about pests in the U.S. in the mid-1800s became especially palpable in and through the development of biological sciences at the time, including entomology (the study of insects), botany (the study of plants), and economic ornithology (the study of birds as actors in pest management). These fields of study provided a rich opportunity for U.S. settlers to codify colonial ontologies of certain species as nuisances and therefore the need for pesticides (McWilliams 2008). Under the rubric of objectivity, these life sciences articulated differences across plants and animals in order to not only understand but also to better control them. In so doing, they attributed differential value to species by determining their potential usefulness and/or harm to human civilization. The *invasive pest figure* was thus defined by the ill effects that each species enacted. The biological sciences were helpful in engraining white settler

ideologies in popular farming cultures; cross-industry collaboration meant that farmers were soon taught to how to identify species and subspecies of invasive plants by their morphologies, assessed via observation of roots, leaves, and flowers, in order to apply the appropriate antidote to the "problem," though at this time the herbicides available were largely ineffective (McWilliams 2009). Because the biological sciences operated under the scientific method, there was infrequent interrogation of the politics beyond that scientific method itself.

Synthetic Pesticides: A Colorful Affair

Despite centuries of using organic pesticides to keep the nonhuman rabble-rousers at bay (commonly tobacco and chrysanthemums in North America), farmers found them to be largely ineffective against the growing specter of pests. This and the long development of the rhetoric against invasive pests made North America an appealing market for synthetic pesticides by the company J.R. Geigy, an entity that would become the foremost producer of synthetic pesticides in the 20th century. It would carry the tradition in its successor companies, Ciba-Geigy, Novartis, and ultimately Syngenta.

J.R. Geigy Ltd. began as a dyestuff company in Switzerland in 1758 and became a successful enterprise when William Perkins accidentally discovered that fuchsia dye could be created from coal tar (1856). Fuchsia (or mauveine as it was called at the time) had begun as a research experiment to develop a synthetic source of quinine for British troops to aid their conquest of nations where malaria hampered their efforts (Garfield 2002; Lesney 2004). Despite their failure to create another source for the colonial biotechnology of quinine, an effort to keep British troops alive longer through the destruction of this particular kind of *invasive pest figure*, Perkin's experiments revolutionized the field of dye production globally. Given the growing demand for dyes at the time, J.R. Geigy Ltd. focused on synthetic fuchsia since it was believed to

have superior lasting effects to those of plant-based dyes. The bright and regal color was hardly harmless, however. This dye of wartime intentions became a toxic compound that continues to have biopolitical effects (Cartwright 1983).

Despite the ostensibly colorblind politics of contemporary environmental research, the pesticide in question here is fundamentally infused with color. The family of chemicals from which Tyrone Hayes' struggle originated, the *triazines,* would not have been developed without the J.R. Geigy company's scientific discoveries in dyestuffs. Perhaps unsurprisingly, given the dye's derivative of coal tar, synthetic fuchsia dye began to have toxic health effects. Factory workers experienced respiratory ailments and, later, higher rates of bladder cancer, which brought fuchsia back to the lab. Preliminary experiments suggested the compound had a greater ability to stain bacterial microorganisms than human cells and led scientists to hypothesize dyes might be effective in actually killing bacteria, too (Lesney 2004). Inspired by the prospect of a wider market for this now-toxic dye, J.R. Geigy shifted its focus again in 1914 and hired organic chemists to develop pharmaceuticals and pesticides, primarily fungicides, insecticides, and rodenticides.[17] It was under the auspices of J.R. Geigy that researcher Paul Müller soon developed and marketed the powerful and now-banned pesticide *dichlorodiphenyltrichloroethane*, commonly referred to by its more easily-pronounced abbreviation: DDT. As Müller explained in his Nobel Prize speech for the discovery, he had applied lessons he learned in creating synthetic dyes to his process of developing moth-proofing agents, fungicides, and ultimately pesticides such as the revolutionary DDT (Lesney 2004; Müller 2008).

[17] Though herbicides fall under the category of pesticides (literally 'killers of pests'), herbicides target certain nuisance plants without harming the protected crop.

It was not until the mid-20th century that J.R. Geigy focused specifically on synthetic herbicides to kill pest *plants.* In this shift, the company relied on a specific kind of *invasive pest figure.* As the company explained in their glowing review of their research in 1972, "[f]or a long time man had evidently not felt himself so helpless against weeds as against other pests" (qtd. in Müller 2008, 13). Demonstrating that humans had entered a new era, J.R. Geigy marketed atrazine and its related components for so-called "right-of-way" use on private property, railways, and later agricultural fields. [18] After dozens of herbicidal compounds were developed, it became clear that atrazine was particularly effective at protecting corn and consequently became one of the most commonly used herbicides by corn farmers (Müller 2008).

The history of pesticide development against *invasive pest figures* demonstrates how colonialism has informed the production of atrazine; pest production occurred through the historical and ongoing invasion and colonization of North America by European settlers. While it may be marketed as colorless on the market, atrazine has a colorful history of intent, created from the desire of British soldiers to extinguish the pestilent malaria in their sites of conquest in the Global South – the pesticide functions to extinguish more than just nonhuman plants and insects. The creation of dyes to add flair to the fashions of upper-class white people in Europe contrasts with the ongoing violence of pesticides. After all, pesticide sales thrive on the continually xenophobic descriptions of plants as "invaders" and "aliens" in popular U.S. media which are entangled with the desire to create strong borders to keep immigrants, especially immigrants of color, out (Subramaniam 2014). Given the distinct yet intertwined colonial and xenophobic logics behind the development and use of pesticides against a series of *invasive pest*

[18] The presumption here in this technical term is that one is a rightful traveler and another is a vagrant.

figures, it should come as no surprise, then, that herbicides have been explicitly used as chemical warfare. Perhaps most infamously in the U.S., 2,4-D in Agent Orange was used during the Vietnam War to remove trees and foliage acting as "enemy cover" for the Viet Cong, despite the lack of knowledge about the compound's lasting effects on human health (U.S. Department of Veterans Affairs).

This is the incendiary naturecultural baggage that Syngenta brings with it when it enacts defensive measures against Hayes' research and advertises its pesticides. The historical violence of pesticide development is hauntingly absent from Syngenta's day-to-day public relations and marketing.

Scientia Intersexualis: **Figuring the Atrazine-exposed Intersex Frog as Decidedly Strange**

As alluded to in the opening of this chapter, Hayes' public scholarship functions by describing non-normative sex development as "freaky," which he describes as the cause for amphibian population decline (Hayes and Chaffer 2010). In his research, Hayes reports that exposure to low levels of atrazine led North American leopard frogs to develop eggs in their testes. In a 2010 TED Talk, Hayes describes these as "large, yolked-up eggs bursting through the surface of [a] male's testes." That might be as painful "as having a dozen chicken eggs in my testes!" he says, grimacing and laughing (2010). He describes them as "NOT NORMAL," "impaired," "retarded," and "to use a technical term: 'they's all messed up inside'" (Hayes and Chaffer 2010). Though his description of these frogs as "chemically castrated" is inflammatory, it is not dismissed wholesale. The fact that these descriptions evoke laughter from Hayes' audiences and retweets suggest that they align with long-standing ideologies in contemporary U.S. society that equate intersex with abject. These kneejerk anxieties fail to account for the fact that fertility, sex, and sexuality exist on a spectrum across species and intersex has long preceded

the advent of synthetic pesticides. By playing on these comical turns of phrase to talk about his frogs, Hayes creates the figure of the atrazine-exposed intersex frog as an abject entity that is decidedly NOT human.

Public anxiety over recent reports of intersex frogs apparently obscures any need to think critically about the *idea* of a stable and binary sex, that entity which is supposedly at risk of loss. As many intersex activists have voiced and as my own embodied non-normative body narrates, the premise that biological sex is naturally binary is violent. It erases the ubiquity of intersex traits among humans and as well as among nonhuman species. The social construction of sex is evident even in Hayes' own research if one takes a closer look at the methods. Interrogating the history of intersex violence and its connection to Hayes' construction of the figure of the atrazine-exposed intersex allows us to see how this toxic animal figure is socially constructed. In so doing, it unravels the galvanizing power of the figure for environmentally concerned citizens as well as the incendiary power of the figure against Syngenta.

The Making of a Test Subject

Hayes' research, as previously discussed, rings the alarm on "genetic males" being "feminized" by pesticides. His abject figure of the atrazine-exposed frog only functions under the assumption that intersex is a pathology. Despite feminist science studies' assertions that intersex is common, with or without the presence of endocrine-disrupting chemicals, Hayes emphasizes the significance of his findings when he notes that "[t]hese abnormalities [of intersex] were never observed in control animals in the current experiments or in over 10,000 observations of control animals in our laboratory over the last 6 years," he notes (Hayes et al. 2002).[19]

[19] Growing literature attends to the sex/ual diversity of nonhuman animals which Hayes fails to mention here (See: Roughgarden 2004; Avise 2011).

What Hayes does not reveal to the public is that none of his frogs are actually easily identifiable as what he calls “genetic males” in the first place. Hayes’ research required him to *create* a “truly” male group of *Xenopus laevis* frogs, to which he alludes in an endnote (Hayes et al. 2010). Male and female African-clawed frogs have some differences on average; females are generally larger, males often have darker colored pads on their arms, females have slightly larger bumps between their legs. However, one cannot assume that a frog that appears to be male is actually male. Biological sex can be elusive in general, but it is especially elusive in amphibians given their unique chromosome structure.

Humans, unlike frogs, have variations of the sex chromosomes “X” and “Y,” having a single or multiple X chromosomes, which are quite large, and small Y chromosomes, which carry surprisingly little genetic information. The presence of a single Y chromosome in humans usually marks that human as “male,” even though many XY humans develop phenotypically as female. (Humans cannot survive without an X chromosome, as it carries the bulk of crucial genetic material). Yet the Y chromosome is dominant; a human embryo will likely develop as female unless a Y chromosome is present to activate the shift in development of ovaries to the development of testes. Consequently, one will likely develop as male, but there are many different permutations of X and Y chromosomes with different physical expressions (“phenotypes”). Humans can look at the number and size of their chromosomes (“karyotype”) by breaking apart a single cell to examine the genetic material therein, assembling each of the chromosomes as pairs, and displaying it as a picture (“karyogram,” see below).

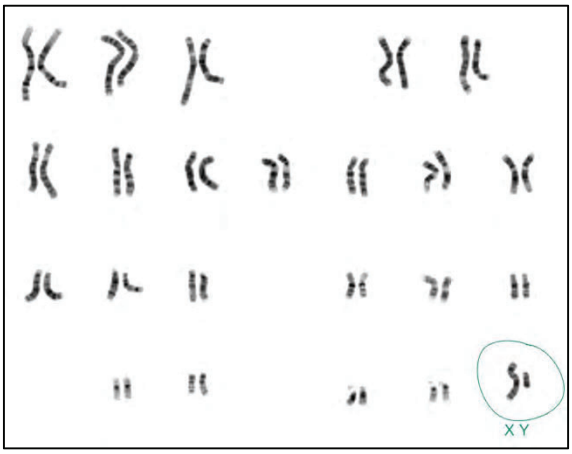

Figure 2: Karyogram of human chromosomes (image adapted by author from Wiki Commons)

As seen above, the X chromosome is quite large in relation to the Y chromosome.

Frogs' chromosomes differ dramatically from humans and African clawed frogs' chromosomes (*Xenopus laevis)* are particularly unique. These chromosomes have been named different letters to help distinguish them from the human X and Y chromosomes: W (female) and Z (male). Unlike humans' chromosomes which are male-dominant (a single Y chromosome determines if a human will develop as male), African clawed frog chromosomes are female-dominant, meaning the existence of a single W chromosome triggers a development cascade for the growth of ovaries. Thus, ZW is intended to denote a female African clawed frog and ZZ a male. Unlike the large X chromosome and the small Y chromosome easily viewable on a human karyogram, *the sex chromosomes of this frog cannot be morphologically distinguished on a karyogram.* In other words, a "genetically" male frog (ZZ) cannot be confirmed to be male simply by examining its karyotype since both Z and W chromosomes look the same. (Unfortunately, this is so unremarkable on a karyogram that few have published their images of this species' sex chromosomes, otherwise I would include such an image).

Given the phenotypic similarities across amphibian sexes and the possibilities for genetic

variation, it was thus impossible for Hayes' team to know if any given sample of frogs was genetically male. Hayes and his team had to construct it by "reverse-breeding" wild frogs, as he called it. This was a process so tedious that he delegated the task to a research assistant (Hayes et al. 2010; see Figure 3 below). The genetically male frog population (ZZ) was developed in the following manner: first, the researchers captured a sample of wild *x. laevis* frogs, presumed to be both male and female (ZZ and ZW), and exposed them to estradiol in order to stimulate the production of female-traits in the developing. These frogs were still both male and female genetically, even though they all had female characteristics. The second phase (F1 in the figure below) entailed breeding these now phenotypically female frogs (both ZZ and ZW) with male-appearing wild frogs (presumed ZZ but not confirmed for the aforementioned reasons). After this breeding cycle, Hayes identified the female frogs that produced only male-appearing offspring, since these must have been ZW "genetic males." (After all, estradiol-exposed ZZ frogs who bred with wild ZZ males would always result in ZZ males since the presence of a single W chromosome was an indication that these frogs would develop as female). *These* definitively genetically male frogs (albeit exposed to estradiol at this point and thus appearing to be female on sight) were *then* reversed back to male ZZ by *breeding them with already determined ZZ males from a former study.* The offspring of this second phase of breeding were ultimately the sample population that Hayes used in his study of atrazine.

This method is revealing: researchers studying hormones have to do extensive work to create a test group of confirmed males before even "starting" their research. Though controlling the conditions of a test group is common practice, this controlling of sex is far more rigorous than studies of other species, such as humans who have more easily observable chromosomal

differences.[20] Yet frogs are still somehow deemed be a good indicator species for predicting human health. The optics of Hayes' research and widespread popular science news is that endocrine disruptors are feminizing animals. While this may not only be possible but also probable, it is quite revealing that the "natural" males we treat as the baseline are far from naturally-occurring. They have been bred twice under human supervision before ever arriving at the state of a "genetic male" waiting to be a feminized. The optics of the pop science frame atrazine as creating intersex traits and same-sex mating, yet Hayes has already been mating genetic and phenotypic males together in his study (breeding ZZ males with ZZ females). Yet the research and its popular uptake describe frogs who develop intersex traits as "abnormal" and "freaky" rather than interrogating the baseline.

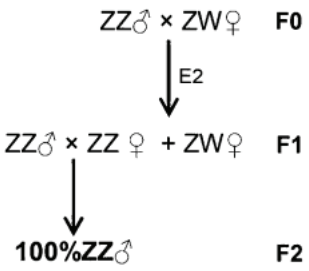

Figure 3: Rearing process for the ZZ colony prior to experiment, table from Hayes et al., 2008. Note: E2 = estradiol used to convert the frog population to female, and F0, F1, and F2 refer to the multiple breeding phrases necessary

Given how long it took me to fully grasp the nuances of amphibian chromosomes, I understand why Hayes might not explain his research process to his audience. His public lectures are more powerful if the focus is on the "chemical castration" and "homosexual" behavior these

[20] Observable here refers to the chromosomes examined via karyotype, not phenotypical traits. It is also quite interesting that few have critiqued Hayes' attention only to male frogs. The female frogs, after all, are only relevant for developing the ZZ male sample group.

pesticides are causing in wildlife. But analyzing frogs' chromosomal differences from humans may have highlighted that frogs are not and should not be good indicator species for humans in the first place. The figure of the atrazine-exposed intersex frog, thus, is created through the omission of how frogs' sexes exist in the first place.

Moreover, the toxic animal figure here functions as a foil for humans, which Hayes makes clear in his reification of a human-animal divide. Despite Hayes' emphasis on frogs as an indicator species, therefore connected to humans, he simultaneously permits his viewers to render his frogs abject (or to abjectify), by describing frogs as fundamentally different from humans. In his 2010 TED Talk, for instance, Hayes describes frogs as lacking the "ancient structure that separates [humans] from other animals," namely the placenta (Hayes and Chaffer 2010). This anatomical difference is what makes them useful, according to Hayes. "Amphibians are good indicators and are more sensitive because they have no protection in the water – no eggshells, no membranes, and no placenta," he notes (2010). Frogs can thus act as a warning sign for humans, as a kind of "canary in the coal mine," an expression that is in itself wrapped up with non-human animals' literal and metaphorical burden of predicting the futures of humankind. Yet Hayes' own scientific research had to first wield the power to bend frogs' sexes, signifying that sex is already flexible. Frogs' reproduction is important inasmuch as it is predictor of human reproduction. Though frogs are understood to have the right to exist as a species, the frogs are certainly not worthy of individual autonomy.

Scrutinizing Intersex

By formulating his comically abject figure of the *atrazine-exposed intersex frog,* Hayes describes intersex as a pathology rather than a naturally-occurring trait. In obscuring that wild *Xenopus laevis* frogs cannot technically be test subjects yet because their sex is unknown, he

contributes to a broader cultural practice of othering intersex across species lines, similar to *The X-Files* episode examined in the introduction. Intersex scholars and advocates have explained that these discourses have material effects; pathologization of intersex has justified the nonconsensual medical surveillance of infants, children, and adults with non-normative sex morphologies (Karkazis 2008). Infants born with genitals that are not easily identifiable as male or female have historically undergone surgeries to "correct" their bodies without adequate informed consent to even the parents. These often-unwanted surgeries create long-term health issues for many intersex people, including discomfort when urinating or having sex (Dreger and Herndon 2009; Fausto-Sterling 2000). Anxieties about intersex children in the 1950s and the toll they might take on society at large ushered in the era of John Money's "Optimum of Gender Rearing Model," which strictly policed intersex children to present and behave exclusively as either a boy or girl and punished any who failed to do so (Dreger and Herndon 2009). The pathologization of intersex continues to be haunted by the vestiges of Money's widely-used model even if it has largely fallen out of favor.

With this in mind, Hayes' dissection of frogs to document their intersex traits bolsters the regulatory medical discipline of sex, demonstrating how that seemingly harmless figure of the *atrazine-exposed intersex frog* is a biopolitical mechanism that justifies medical surveillance and pathologization of intersex. Intersex is simultaneously a fascinating spectacle [to non-intersex people] and something that is hidden. After all, frogs' intersex traits are not visible prior to dissection. By continuing to frame intersex as a pathology, Hayes concedes that intersex requires scientific and invasive monitoring. In this way, intersex is not only something to be suppressed and prevented but something to be screened for, something that needs to be sought out. The reproductive health of the human population thus justifies the killing of frogs' lives in the

present. Intersex, despite its presumption to be anti-reproductive, is proliferative in this way, animating sciences and protocols as well as discourses of normativity. Intersex becomes a spectacle in Hayes' public lectures, wherein he capitalizes on social anxieties about intersex and performs what he calls "entertainment" with a catchy atrazine rap and comical depictions of intersex (qtd. in Slater 2012).

Though Hayes uses his foreboding lectures to warn of the "chemical castration" that atrazine may cause, he re-enacts a metaphorical castration every time he speaks. After introducing the subjects of his research, he figuratively castrates them by showing images of how he has sliced them open. Hayes also shows different images of disembodied human genitals that do not neatly fit the category of male or female (including hypospadias and small penises) in order to show some of the potential effects of atrazine on humans. The toxic animal figure that interpellates viewers as sexed humans who should also be concerned: Am I next? Have I been exposed? Is this frog connected to me? This presentation reinforces the notion that endocrinology and the scrutiny of intersex is an adequate and important means of maintaining the future health of human populations. Despite his efforts to smash the status quo of pesticide production, Hayes is still required to use the logic of the endocrinological sciences in which he is housed.

Intersexuality as Animality and Homosexuality

Moreover, atrazine-exposed intersex frog as a figure enacts discursive sex/ual violence by describing intersex as a trait in exposed frogs that might "someday" affect humans. Hayes' failure to mention currently intersex humans places these subjects in an awkward position. Since Hayes positions humans that are intersex as a forthcoming anomaly, they should theoretically not yet have shown signs of intersex. These panics erase the ongoing histories of human intersex

people. And they implicitly animalize them.

Hayes' sexually violent rhetoric is presumably only permissible because there is no code of conduct on how one can speak of nonhumans in public spaces, since these are not rights-bearing subjects who cannot be offended or harmed by verbal descriptions. But it also signifies their lack of value culturally. (I suspect that if a French bulldog were described as freaky and "all messed up inside" there would be public outrage.) As much as Hayes values his amphibious companions – he refers to them as "my frogs" – frogs are always outside of the realm of the Human. He makes this clear in a phrase he tacks on in most of his scripted lectures. When describing intersex in frogs as not normal, he clarifies that it is "not normal... "even for amphibians!" (2010). This phrase dispels any concern that the audience might have about frogs being different from humans and suggesting that intersex is not normal even in nonhuman animals.

The animalization of intersex is one of the more toxic elements of Hayes' discourse. Hayes' rhetoric follows both contemporary and historical frames of dehumanizing *people* with intersex traits, a discursive register which needs unpacking here. This ontology echoes 13th-century European literary descriptions of intersex and hermaphroditism (and their lasting effects). It was thought that what distinguishes a human from an animal trait was the possession of an easily distinguishable sex (DeVun 2014). Intersex thus has a history of troubling the divide between human and nonhuman (DeVun 2014). Here animalization of intersex humans has been further compounded by overlap with dehumanizing racialized images from the Middle Ages of a "hermaphroditic infidel" who was described as Jewish or Muslim (DeVun 2014, 471). Though Hayes' pathologization of intersex frogs never mentions historical ontologies of intersex, he uses the same frames when he describes intersex as never-fully-human.

Hayes' rhetoric also echoes violent 19th-century European discourses about intersex and

hermaphroditism by describing morphological variation as not what is inherently problematic but its implications on sexual behavior as grounds for social outcry (Foucault 2003a). [21] According to this logic, intersex humans could not be persecuted on account of their bodies alone, but rather their illegibility as *heterosexual* subjects. Hayes similarly draws out the growing social discomfort with intersex by describing intersex frogs as genetic males who engage in sex with other males. Hayes mirrors this logic when he exaggerates his claim that intersex bodies are sexually deviant in a way that most can agree with: he projects an image of two frogs engaging in intercourse and says "[t]hese are just two brothers consummating their relationship" (Hayes and Chaffer 2010). The audience laughs on cue as Hayes collapses non-normative physical sex with homosexuality and incest. In so doing, he uses the toxic animal figure to blur the categories of queerness, intersex, trans-ness, and even incest to dramatize the effects of atrazine, which he describes as "wreaking havoc and causing hormonal imbalance" (2010). Hayes inflammatory language, paired with his performance style of using rhymes and comedy his *toxic animal figure* all the more compelling as not just a figure but as a meme. It is no surprise, then, that his work has been picked up by right-wing extremists such as Alex Jones who assert that "the government is putting chemicals in the water turning the frogs gay!" (Jones 2015). The fact that Hayes has been taken up widely for his description of frogs "who didn't breed properly" demonstrates to what extent anxiety about sex and sexuality is produced through the figure of the atrazine-exposed frog.

[21] It is crucial to distinguish the genealogies of "intersex" and "hermaphrodite," but this is outside the scope of this paper. In short, hermaphrodite is a term now seen as offensive when used to describe humans as it has a clinical tone. Historically, hermaphroditism has signified the possession of fully functioning male and female reproductive organs whereas intersex has signified the possession of a hybrid of organs, but does not consist of two fully functioning sets of gonads and genitalia.

Hayes points out that the intersex traits of these frogs and their non-normative sexual behavior is not just significant because it is simply "freaky" but because it means there is massive amphibian decline and extinction on the horizon. "Everybody is out there looking for dead frogs and what killed the frogs," he explains. "We're asking, 'How come there aren't any new frogs?' Atrazine isn't *killing* the frogs. But if they're reproductively impaired, that's killing the *population*" (Hayes qtd. in Slater 2012). By tracing the effects of atrazine on the reproductive systems of frogs, Hayes carries the torch of Rachel Carson, suggesting that the "silent spring" of landscapes without birds might coincide with "silent nights" of frogs who cannot croak. Hayes again reduces frogs' wellbeing to their ability to reproduce and hypothesizes that this might have dramatic negative effects on future generations. But there is little questioning of sex testing in the first place.

Darnell the Frog: A Port in the Storm

The racialization of the *toxic animal figure* here requires further interrogation. Despite the racism in his field, Hayes leans into his Blackness explicitly in his frog research to convey the wide-reaching effects of atrazine on communities of color. Hayes' David vs. Goliath story is further demonstrated by the fact that the "barefisted biologist" speaks often about how he grew up in the segregated South and faced ongoing, systemic racism to reach his current position (Hayes 2010; Mock 2015; Slater 2012). Growing up on land that was formerly a plantation and going to Harvard on scholarships made Hayes feel that he owed people the truth, he says. "My family were Baileys, which meant that we were owned by a man with the name of Bailey," Hayes recounts in a short film dedicated entitled *What's Motivating Hayes* (Demme 2016). He speaks frankly about the systems of poverty that traditionally prevent scholars of color to attain tenured research positions and explicitly works to counter the environmental racism at the core

of contemporary pesticide production. He demonstrates that the specter of slavery is always already informing the present, and motivating him to enact environmental justice.

He projects Blackness onto his African clawed frogs, playing on the link between his African-Americanness and the African origin of the species. In describing the effects of atrazine, he sometimes describes it as affecting a single frog, who he names "Darnell." "The big news this year," Hayes says, "will be Darnell (*Xenopus laevis)* and his atrazine-treated brothers and sisters… brothers with severely impaired fertility and sisters (genetic males) who lay eggs" (Hayes 2008). Naming the frog and even taking photos with one of his amphibian subjects helps to convey the value of the species (see figure below).

Figure 4: Hayes confronts one of his research subjects (Annie Tritt in Slater 2012, cropped)

Naming his frog "Darnell," a traditionally Black name, is intentional. Hayes has written at length about reclaiming the power of his Black name "Tyrone" (2008). Darnell offers an opportunity, a figure, for Hayes to allude to the racialized effects of the pesticide, even if he doesn't talk about the effects of atrazine on Black people specifically. Hayes joked in a lecture last December (2017) that these are technically African-American frogs since he often collects

them as discarded test subjects from other labs in San Diego.[22]

Toxic exposure-related infertility is deeply racialized, as Hayes is quick to point out. Only white bodies are seen as worthy of being saved from toxicity and, relatedly, worthy of reproducing. The successful maintenance and reproduction of certain crops are implicitly deemed more valuable than the reproductive health of those workers applying the pesticides. Citing the USDA that the majority of farmworkers are Latinx, Hayes notes that "they have levels of atrazine in their urine that are 24,000 times what we use in our laboratory" (2010). People of color across the globe are more likely to experience atrazine-exposed infertility and/or reduced sperm count, meaning that the toxic animal figure acts as a powerful reminder of the environmental racism that pesticides enact (Hayes and Chaffer 2010).

The environmental risks of this kind of labor have long shown effects on fertility and reproduction and here Hayes contributes to growing attention to this issue. For instance, in the 1970' and '80ss, the majority male Latinx workers overseeing the production of the pesticide *Nemagon* in California discovered they were infertile. The same was true of Nicaraguan banana workers who applied the same chemical to crops well after the discovered effects in California. Many became sterile or had children with birth defects (Bohme 2014). And there was documented evidence that the employing companies — DOW Chemical, Dole Food Companies, United Fruit, and Chiquita — had been aware of the serious health risks of pesticide use and nonetheless allowed workers to be exposed (Bohme 2014). Racialized sexual violence has been profitable to pesticide producers, albeit less so when they are sued by affected workers (see

[22] Hayes oddly describes the African clawed frog as the "lab rat of amphibians" because they were found to be useful as a human pregnancy test and have thus become popular to test on given their hormonal overlaps with humans. After all, African clawed frogs who were injected with human pregnancy hormone began producing eggs.

Tellez v. Dole, for instance).

Though Hayes describes atrazine as a uniquely American problem, environmental reproductive racism is a transnational phenomenon. For instance, Vanessa Agard-Jones' research on pesticides in Martinique highlights how Black banana workers on the island have been negatively affected by the pesticide *képone,* which is illegal for use in the E.U. due to known health risks but deemed acceptable to use in the largely poor, Black French overseas territory well after it was banned in the E.U. (2014). If a nation determines that it does not wish to use a pesticide for health concerns, for instance, it is not uncommon to source products from other countries, especially for crops that can be relatively safely consumed even if exposed to pesticides. (For instance, banana peels protect much of the fruit from contamination but the same cannot be said for the workers applying pesticides, harvesting the fruit, and processing them for shipment.) In this way, the sale and consumption of bananas in the U.S. is always inflected by the trace of racialized reproductive injustice of its production outside of the U.S.[23] Raising awareness of the violence of atrazine as Hayes does can lend itself well to thinking transnationally about environmental justice.[24]

Through racializing his frogs as a singular Darnell whose brothers and sisters are "all messed up inside," Hayes toggles with humanizing his figure of the toxin-exposed frog just enough to draw the environmental support to think intersectionally about pesticides' harm. Yet he simultaneously dehumanizes intersex by framing it as a fundamentally nonhuman pathology that is only forthcoming in humans. Hayes has expressed gratefulness that his work has reached

[23] The U.S. imports nearly all of its bananas, 94% of which come from Colombia, Costa Rica, Ecuador, Guatemala, and Honduras (Evans and Ballen 2012). The only commercial bananas that are produced in the U.S. are grown in a small area of Hawaii.

[24] The transnational politics of environmental reproductive justice work are unfortunately outside of the scope of this project.

"minorities who would never have had access to this information" because he knows just how infrequent it is that environmental studies come back to the communities who disproportionately experience environmental reproductive injustice, though he does not use that phrase (qtd. in Slater 2012). He believes his unconventional performance style as well as his unflinching attention to the environmental injustice of atrazine, has been part of his success. Naming his test subject and embracing Darnell for a photo opportunity is certainly contrary to scientific norms. The wellbeing of frogs, however, remains ironically outside of the scope of his conversation.

The African clawed frog is a liminal porous figure, both literally and figuratively in terms of its susceptibility to toxins and also to toxic human formations. Its porosity allows us to recognize the entangled nature of humans and nonhumans through circulation of pesticides. All the while, though, the frog must function as the limit outside of the human, for we can apparently not grieve it or protect it as a creature with sensation, sociality, and individual idiosyncrasies that differentiate it from the rest of its species. Perhaps for Hayes, in an unraveling climate of mass amphibian extinction, the category of the Human may be a useful port in the storm, even it is a problematic one.

Rather than simply categorize it as irony, it may make more sense to understand it through Vicky Kirby's logic in *Quantum Anthropologies*: "[I]f the identity of 'the human' cannot be defined against Nature to secure its difference, then things will get *decidedly strange*" (2011, 98, emphasis added). After all, re-centering the Human as the more evolutionarily evolved creature is a dual gesture of both guilt (humans should take responsibility for their actions) and pride (our evolutionarily advanced bodies make us less at risk to pesticide exposure; great work, everyone, on developing that placenta!). It is Hayes' ambivalence about frogs that makes it clear not only how the boundaries of the non/human are fluid and flexible but also the political power that the

toxic figure of this intersex frog has. Thinking about multispecies ethics here in eschewing animal testing would mean opening our human selves up to experiencing our own toxic presents.

Reifying a human/animal divide, even when strategic, is always an act of othering. And while Hayes uses othering of frogs to validate the labor of Latinx farmworkers exposed to atrazine and bring students of color under his wing at Berkeley, there are larger repercussions of this ontological gesture implicit in his use of the atrazine-exposed intersex figure as a bellwether. Syl Ko reminds us, however, that "[t]he human-animal divide is the ideological bedrock underlying the framework of white supremacy. The negative notion of 'the animal' is the *anchor* of this system" (2017, 45). This is precisely not about comparing animal oppression and racist oppression as analogous. Instead, this is about interrogating how racial and species othering collude: the two "have a common source of oppression, which is systemic white human violence" (Ko & Ko 2017, 11). As I will articulate throughout the rest of this text, sex and sexuality are integral here. Thinking together with Aph and Syl Ko and intersex activists, we can think intersectionally about toxic harms.

Staining Darnell: Fuchsia Entanglements

What is perhaps surprising is that Hayes' anti-pesticide scholarship/activism relies not only on the ontological devaluation of lesser-than-human subjects as Syngenta does in its pesticides; Hayes' figuring of Darnell relies on the same material substance that led to Syngenta's business successes: synthetic fuchsia dye. In his research studying the effects of atrazine on male frogs, Hayes studies how they develop in water containing small amounts of atrazine and later dissects them to count, measure, and document their gonads. In so doing, he follows customary histology protocol in how he dissects his specimens and prepares them for examination under a microscope. Each cross-section of a frogs' gonads is given a dye bath according to the type of

tissue and test; different types of dyes bind to different parts of cells, making it easier for pathologists to identify different types of tissues and cells (fat, muscle, blood, etc.) In one of the two images that Hayes commonly projects in his public lecture, we see a Mallory trichrome stain that shows a frog's multiple ovaries and testes in a bright fuchsia-pink tint.

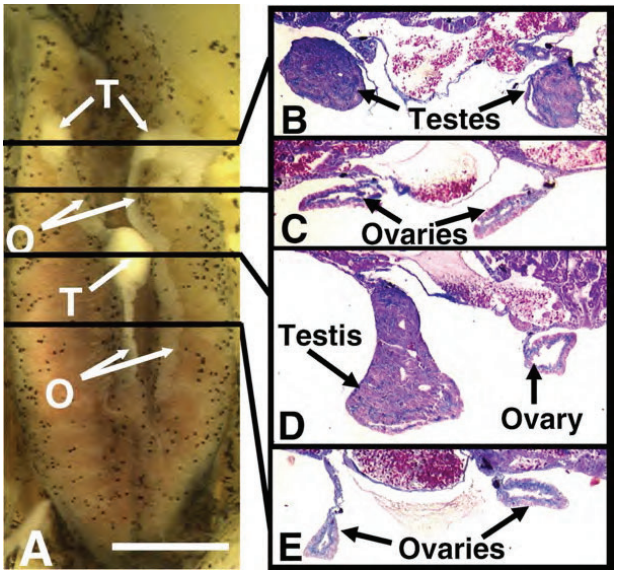

Figure 5: Dissected gonads of a frog exposed to atrazine (Hayes 2010)

The Mallory trichrome stain contains three dyes: acid fuchsin, aniline blue, and an orange dye known as "gelb." Here it is the fuchsia and blue dyes that result in staining the gonads of this frog on the right with a pinkish and purplish hue. The ovaries themselves, he points out, do not absorb any dye, which is what makes them easier to identify.

Dye is what Hayes uses to highlight the monstrosity of the intersex frogs, it is the ink of his textual evidence, and it is the bread and butter of his lectures. Fuchsia is the ink that helps Hayes wield intersex as decidedly abject, as eerie, and new. It helps his readers and viewers visually distinguish the gonads in his papers and presentations. Darnell, the now-infamous figure of the *atrazine-exposed intersex frog*, would not exist without the same chemical against which Hayes positions that same figure. The fact that Hayes relies upon the same substance that Syngenta's

company used to sell, synthetic fuchsia, demonstrates just how intertwined toxic discourses are that invoke toxic animal figures as the reason to act. In short, the powerful construction of Darnell as a figure through dye demonstrates that resistance efforts are often informed by the structures they are seeking to critique. Without attending to the murky histories that have brought the figure into being, environmentalists cannot ethically wield Darnell as a figure.

There is no space entirely outside of the original text, no space that is materially or discursively outside of the toxic vestiges and products of capitalism, no *hors-texte* in a Derridean sense (Derrida 1998). The ubiquity of dehumanization highlights the importance of shifting *systems* of biopolitical ontologies. Hayes' narrative is merely one of the most vocal in a sea of environmentally-oriented panicked voices in response to the behemoth agrochemical industries. It is to the interface that I now return.

The Frog of War and a Toxic Slew of Emails[25]

Hayes and Syngenta existed in opposition for years, one advocating for pesticide regulation in the name of frogs and the other actively marketing its own pesticides against invasive plants and animals. Just as Hayes' *toxic animal figure* was gaining traction after his 2010 TedTalk was posted onto YouTube, Syngenta was in the midst of a campaign to take Hayes down. After years of trying to counter Hayes' research, seeking to deflate the toxic animal figure, Syngenta realized it had to take down the maker of figure: Tyrone Hayes, himself. Syngenta's explicit slandering campaign in 2010 escalated their feud made the figure of the frog all the more powerful.

In 2010, Syngenta filed a public ethics complaint against Dr. Hayes and the University of California Berkeley for offensive and threatening emails he sent to employees of the company for years. Over the span of a decade, Hayes sent up to 1800 unsettling emails, some including

[25] Thanks to Dashka Slater for the incendiary title of "Frog of War" in *Mother Jones* (2012).

sexual threats (Nadel 2010).[26] One of his most unnerving emails, to an undisclosed recipient, says "ya outa' luck… see you're ****ed… (I didn't pull out) and ya fulla my j*z right now!" (cited in Nadel, 2010). Reifying rape culture logic, the ultimate insult is not just sexual assault but forced insemination, leaving the survivor with the decision of how to handle a potential pregnancy and/or sexually transmitted illness. Hayes uses this image to reinforce his virility through sexual threats and asserting the power of his semen, perhaps strategically reproducing the trope of the Black man as rapist to intimidate his opponents. Inexplicably Hayes sent all of these messages to employees with whom he had been in contact. Unfortunately for Hayes, Syngenta profited from this.

Claiming to be interested in professional scientific debate, Syngenta waged an ethics complaint against Hayes as a pièce de résistance of a careful campaign to discredit Hayes. As evident from notes made public following an unrelated class-action lawsuit, Syngenta worked over a decade to minimize Hayes as a threat, attempting to "set a trap" for Hayes, including by recording his conversations and publishing his unconventional emails which at that time were largely hip-hop soliloquies and harmless chants of "what's my name?" (Ford 2004 qtd. in Union of Concerned Scientists). Syngenta employees also sought to "exploit Hayes' faults/problems," and "research [his] wife" (Union of Concerned Scientists). The assumption, Sherry Ford of Syngenta wrote, was that "if TH [Tyrone Hayes is] involved in a scandal, enviros will drop him" (Ford 2004 qtd. in Union of Concerned Scientists).

Little did they know that by painting Dr. Hayes as a caricature, they were only giving Darnell power. They sought to twist what makes Hayes a powerful public scholar: the

[26] Teabagging, for those who aren't privy, is a crude term for an unwanted show of dominance whereby one person drags their testicles across another person's face.

importance he places on his positionality as a Black researcher and his commitment to communicating authentically using rhymes in lectures and in writing. Without ever speaking of race, their smear campaign is coded in racist logic when they describe him as "aggressive, unprofessional, and insulting" (Nadel 2010). They not only rely on tropes of Black men as overly angry, hypersexual, and unhinged to discredit Hayes. They thus re-create the racist figure of the Black man as lacking intelligence and culture. This figure is easy for Syngenta to recruit, as it is alive and well in contemporary U.S. society. By framing Hayes as engaged in disorderly and unprofessional conduct unbecoming of a scientist, Syngenta protects its product and obscures its own ethical failings.

As Hayes has explained in multiple interviews, the emails he sent likely escalated as a result of direct harassment from Syngenta employees, including degrading comments about his appearance and mannerisms, visits by hired consultants to discredit his work at lectures around the U.S., and internet takedowns on the recently launched website *atrazinefacts.com* (Aviv 2014; DemocracyNow 2014; Slater 2012). What fanned the flames most was the sexual threats the company had made against Hayes. Speaking on *DemocracyNow!*, Hayes explained that a Syngenta employee, Tim Pastoor, had referred to him as "Tea Bag" before he went to testify as part of a class-action lawsuit against Syngenta in Illinois, a play on words of Hayes' first- and middle-initials (Slater 2012). What is more, Hayes said Pastoor threatened him by saying "[n]ext time you give a talk, I'm going to bring some of my good old boys and let you tell them how atrazine is making them gay. That should be fun. How about that, Tea Bag?" Given that term "good old boys" is a phrase used to describe white conservative Southern gentlemen, this is an explicitly racialized sexual threat. Pastoor calls forth the specter of slavery in the South to compound his threat of racial assault (DemocracyNow 2014; Slater 2012). After another lecture,

a Syngenta employee threatened Tyrone's family with violence: "Your wife is home alone right now. How do you know I haven't sent somebody there to take care of her? Isn't your daughter there?" (qtd. in DemocracyNow 2014).

Hayes says he contacted a lawyer at Berkeley for help, but the university would not support him legally (Duke Sanford School 2016). As a result, Hayes took matters in his own hands with an email rampage against the company, which he sent to various key members of the Crop Protection Team who had been involved in weekly "atrazine meetings," attended by toxicologists, the company's counsel, communications staff, and the head of regulatory affairs (Aviv 2014). In response to Pastoor's in-person threats, Hayes returned the volley:

> so go'head, bring "your boys" / cuz I'm bringing the noise / I told ya, you can't stop the rage / you been braggin / but we'll see who's tea baggin / when TDawg hits the stage." And later, Hayes wrote: "How does timmie like his Tea? cream? brown sugar? maybe a shot of jack? But then I thought why dilute it? don't pollute it. why don't you just serve it BLACK? - TB Hayes

His retort demonstrates his engagement in the terms of violence, not refusing to stoop, but rather to recognize this is central to the business, even in his own antiracist activism and scholarship. But because Syngenta's actions were absent from the conversation, Hayes was left looking like the aggressor.

Hayes himself was painfully aware of the racialized politics at play, which he explained in an interview at Duke: "I used to make a joke that they had a list of ways of 'how to piss off a black guy.' They had psychological profiles on me, and part of what they played on was the race card. They played on this imposter syndrome—you don't dress right, you don't speak right. They tried to make me uncomfortable with who I was" (Hayes qtd. in Beroset 2016). In a personal

email to a Syngenta employee, Hayes is quite frank about this, using expletives to remind his enemy that their gaslighting and dehumanization tactics have a long history:

> … I saw what you wrote (you dumb d*ck!) you know… it was a strategy for controlling slaves… keep them physically strong, but mentally weak… convince them that they are dependent, feeble of mind… 'we still think you are crazy' … make them believe that all they have is physical strength… 'my wife is afraid he might stab me or something' ([name redacted] the tool)… 'there are personel safety concerned regarding tyrone' ([name redacted]) … 'they asked for security… i guess your rhyme scared them' ([name redacted]) (qtd in Nadel 2010).

Recognizing the embeddedness of pesticides in racial violence, Hayes notes that their smear campaign is racist in spirit. By depicting him as unprofessional, unhinged, and possibly threatening, they seek to discredit his science, his animal figure, and therefore his word against atrazine. Ironically, it was Hayes' vocal and unconventional engagement that helped secure his public appeal and it was the reason Syngenta sought to discredit him. "It is unfortunate that Dr. Hayes has not … limit[ed] himself to appropriate scientific debate," a Syngenta Litigation Counselor clinically wrote (Nadel 2010). On the contrary, however, Hayes has been committed to traditional scientific debate in his reification of sex as a regulatory discipline.

But the politics of respectability and scientific objectivity, as we have seen, have always been racialized. Because Syngenta's efforts to extract labor from Hayes were unsuccessful (he left his contract with the company after feeling his morals prevented him from obscuring the findings), it makes sense that Syngenta would try to take advantage of the optics of the scandal in order to influence their bottom line. Akin to the pesticides they produce, the company uses racialized violence in their public relations, all without mentioning race explicitly. With this, we

see that their efforts to take down Darnell required mobilizing racist tropes of Black men as unintelligent, uncultured, and threatening. The fact that Syngenta needed to enact such a targeted campaign, however, demonstrates just how compelling Hayes' research was and is to others in the scientific community; he could not, in fact, be easily dismissed.

Syngenta's Resistance Fighters®

"Frogs are doing quite fine in Kansas," said the head of the Kansas Corn Growers and Kansas Grain Sorghum Producers Associations, a major proponent of Syngenta's product. "Anecdotally, I'd say they must not have read Dr. Hayes' studies" (qtd. in Slater 2012). The toxic frog (of war) has certainly made an effect on the company and its consumers, who are primarily corn growers. But Syngenta's focus is on re-rerouting the conversation from Darnell, evidenced by the fact that they have written literally nothing about frogs on their website.

Syngenta's current Resistance Fighter® campaign, housed at the aptly named web domain resistancefighter.com, reveals their broader strategy in the atrazine panics. In this campaign, U.S. farmers work with Syngenta to fight against weeds that are not killed by the common pesticide *glysophate.* One advertisement pitches the campaign succinctly: "Resistance is a problem. Be part of the solution. Become a resistance fighter" (2017). In this campaign, Syngenta raises awareness about regional-, state-, and crop-specific invasive species on their website and provides the ammunition to fight "the enemy," wherever in the U.S. a farmer might be (2017). To encourage public participation, Syngenta chooses annual Resistance Fighter® leaders for each major region of the U.S. to be model farmers and mentors for other farmers in the area. The Resistance Fighter® campaign posts training videos on their website and maintains a strong Twitter presence via the hashtags #toughweeds or #resistancefighter. Using catchy digital modes of engagement, Syngenta continues its long history of recruiting farmers to not only use their

products, but to emphasize the necessity of chemical pesticides. So, too, does the construction of

Figure 6: Resistance Fighter® home page, 2017

the invasive species as "the enemy" reify xenophobic logic, constructing certain beings as worthy insiders and others as intruders, eerily similar to the environmental nationalism that historians noted in the 18th and 19th century in the U.S.

This seemingly run-of-the-mill marketing campaign of Resistance Fighter® reveals the long history of racial violence in the production of pesticides. The rallying logo is a stark yellow fist emerging out of a rocky ground paired with the phrase "Resistance Fighter." At first glance, this might look like a call for political resistance solidarity. On the contrary, Syngenta seeks to squelch the resistant weeds. Though the clenched power fist has been used across social movements from Socialist Uprisings in Mexico in the early 1900s to various second and third wave feminists to the Black Panther party, the specific clip-art style fist with a thick outline most resembles the power fist used by the Black Panther party and recently taken up in the BlackLivesMatter campaign in the U.S. In omitting the colonial and racist roots of pesticide development and using the power fist for economic gain, Syngenta appropriates this fist to argue

that corn treated with Syngenta products will prevail. It is here that we see clearly how atrazine continues to act as a technology of racialized reproductive violence, justifying the extraction of labor and even life from racialized beings whose reproduction is deemed deviant. And figures are precisely necessary to enact this.

Though less than half of the corn grown in the U.S. will directly enter human mouths, a threat against corn is seen as fundamentally un-American, which should not be surprising given its heavy subsidization by the U.S. government (USDA 2017). According to Syngenta, one of the most pernicious threats against corn is the so-called “pigweed,” a plant resistant to common pesticides. Known otherwise, pigweeds include ten species of amaranth, a highly nutritious plant and a staple valued in many Indigenous communities. Palmer amaranth is one of the most stubborn resistant weeds yet has a higher percentage of protein than most commonly consumed grains such as wheat, rice, maize and has protein that is highly digestible (Malten 2010). This should not come as a surprise as many other “aggressively proliferating” invasive weeds are edible and/or medicinal, including St. John’s Wort, dandelions, and chickweeds. Crosby has a useful reflection on this seeming contradiction: “Weeds are not good or bad; they are simply the plants that tempt the botanist to use such anthropomorphic terms as aggressive and opportunistic" (2015, 150). Pigweeds remain a nuisance because they threaten the current agro-economic structure that primarily funnels corn towards livestock feed and ethanol.

As evident in Syngenta’s simultaneous efforts to squelch Hayes, being a good Resistance Fighter® likely also means fighting resistance from environmental activists who might use the very power fist that Syngenta appropriates. The racial politics here are no coincidence. Hayes’ activist-scholarship in African American Vernacular English and Syngenta’s obfuscation of racialized environmental violence work in tandem. Syngenta’s white-washing of its power fist

implies that race is not an issue here, whereas Hayes points out that environmental racism is endemic to their operations. What binds the two, ironically, is their reliance on species differentiation in the animal figures they wield. Hayes animalizes intersex frogs into *Darnell* in order to protect future humans. Syngenta deems certain crops and certain humans more valuable than others in their wielding of the figure *resistant crops,* an extension of the *invasive pest figure,* as well as the trope of the aggressive Black man. All three are linked in policing of Non/human divide, and they do so by enacting sex/ual violence: Hayes dissects frogs' gonads and dehumanizes those who have intersex traits, Syngenta thrives on studying the reproductive cycles of invasive species in order to halt their proliferation, and baits Hayes with their own threats of sexual violence.

Moving Forward, With the Past

If ontologies and technologies *for* pesticides and against them are founded in entangled disciplines, it should not be surprising that the two key players of each industry should be engaged in such a toxic, heated feud. Of course, Syngenta firmly disputes any wrongdoing or sexual threats. For instance, Syngenta's lawyer explained in a slander suit against Hayes and *DemocracyNow!* "there is no reason why Dr. Pastoor would risk his reputation by making criminal threats of lynching and rape" (Nadel 2014). While it is not clear who is right, per se, their efforts eerily echo white supremacists of Reconstruction-era U.S.: Black men were commonly accused of sexual violence against white women, and, when confronting their white male accusers, were condescended to with implications that white men would never stoop to such levels.

Many people have not only excused Hayes' words but applauded them. The Dean of UC Berkeley decided not to take disciplinary action against him and a professor in Hayes'

department, David Wake, described Hayes' emails "quite hilarious" (Aviv 2014). Gawker author Hamilton Nolan praises Hayes: "You know, everybody would love it if this happened in a Katt Williams movie or something, but when a guy does it in real life then suddenly the pesticide company has to go crying to the guy's boss. We stand with you, Dr. Tyrone Hayes. Please C.C. me on all future emails containing threats of jiz" (Nolan 2010). Rather than being a moment of reflection for Hayes, who admits that he was momentarily concerned about the safety of his future research funding, he chocks his success up to the lawsuit. "Thanks to their advertising [in the suit], I'm giving 129 talks in the next year," Hayes explains (qtd. in Slater 2012). Since the ethics suit, circulation of his research increased on popular blogs, further contributing to his self-perceived success.

A feminist analysis of Hayes' emails would condemn his language as disturbing and inexcusable. It can and should also be read as retaliation against the sexual assault threats by Syngenta employees and a means to fight back against their racism, but cannot be reduced to a simple retaliation gesture. A simple understanding of power would miss what is right before us: a proliferation of violence via a single pesticide and its animation of powerfully *toxic animal figures.* These figures function through obfuscation of the histories and ontologies that inform them. Here we must follow Leah DeVun's call to "allow this past to intrude, to be attentive to its processes and iterations, and to keep the future open. What is at stake is a mode of being and a relation of difference that rests… on a rethinking and remaking of the human itself" (DeVun 2014, 479). Temporally we must be prepared to sit out of sync, to both reside in the residue, while also resisting the structures that have created the residue entirely. Resistance here means recognizing that some of us have always been positioned as out of sync and have far more to

gain by avoiding exposure entirely.[27]

Hayes is working on several new papers, including one he contends will be his most "disturbing" yet, another abject figure of Darnell (2017). In it, he will show that male frogs exposed to atrazine early in life have "feminized" brains and tend to assume the bottom position when copulating, even when placed in a tank with females. While these frogs lack female sex organs, Hayes explains, their hormonal profile looks female, and "they have an identity that says female" (Slater 2012). The sexual positions of frogs, while perhaps interesting, need not be "disturbing." To describe the unconventional sexual behavior of frogs as disturbing marks a general trend to need to cling to sexual norms in a time of environmental crisis.

Perhaps the tide is turning in the sea of endocrine disruptor panics, however. In a 2017 lecture hosted by the UCLA Center for Women, Hayes said he aspires to be more careful in his language: "small penises and disappearing sperm really attract the attention of the media and that's another thing I think we need to get past and focus on … females" (Hayes 2017). Thanking a research assistant for pointing out his often "stupid" language to him, Hayes notes that the language of binary sex, too, is alienating people who we need to have involved in the conversation: "Words like top and bottom [to describe frogs' coitus], male and female, can be isolating to individuals that we really need to be our allies outside of the scientific community. I think we can all learn a lesson and… get rid of our binary thinking about what sex means so that we can really be more effective at spreading this [information about pesticides]" (2017). Unfortunately, Hayes delivered his good intentions while standing in front of his infamous slide

[27] Here I mark my departure from Stacy Alaimo's ethics of "dwelling in the dissolve," inhabiting the catastrophe of climate change to see how this could be fruitful (2016). Her method fails to recognize that choosing to engage or disengage is only novel and even possible for those who do not live continually in exposure.

projecting the words “NOT NORMAL” across an image of a frog with intersex traits. His intentions nonetheless mark a shift from presentations that were intended to be provocative about the life and longevity of the Human in the face of environmental toxins. Certainly, then, where there is power, there is resistance.[28] Perhaps, then, the terrifying figure of the chemically-castrated Darnell can be retired or at least adapted to make room for conversations of multispecies environmental justice that do not rely on the taking of life, even in the name of protecting other life.

[28] This turn of phrase is inspired by a line of Michel Foucault: “where there is power there is resistance” (1978, 95)

TWO: Remembering the Pelicans after *Deepwater Horizon*

Winding along the narrow two-lane highway down the Louisiana coast in the summer of 2016, I held my breath as I looked out over the marshland. *I hope there are still pelicans,* I thought to myself. Having grown up in Florida, I would periodically visit the Gulf Coast with relatives and was fascinated by the awkwardly beautiful brown pelicans preening and sunbathing on the docks of Cedar Key, inconveniently taking over popular fishing and tourism spots to dry their wings, nap, and take unceremonious shits. As I begrudgingly visited family out of a sense of biological obligation and expectation that I would be a compliant daughter, I found great pleasure in watching these birds who seemed to have little care for human norms.

Indebted to work of many doing multispecies ethnography, I visited coastal Louisiana in hopes of spending some time with what I thought of as "real" pelicans rather than just their ubiquitous cultural representations (Gillespie 2015; Kirksey and Helmreich 2010; Weaver 2015). As a species with cultural and political power across the South, I sought out to examine how their physical lives – their movements, behaviors, and intimacies – were inflected by their function as a mascot. I was thus confused to find so few pelicans on my drive down through the marshland. It was only once I arrived at the southernmost point of Louisiana that was accessible by vehicle that I spotted clusters of brown pelicans, sunbathing on a rock barrier next to worn wooden posts that once supported a dock, I presumed. At hundreds of feet away from me in the Grand Isle State Park, these birds were mere outlines. I considered the advertisements I had seen earlier that day for boat and kayak tours leaving from Grand Isle that promised to get close to the birds. Despite my fascination with these birds, it felt unethical to enter the Gulf waters propelled by the same oil that invaded the habitats of an insurmountable number of scaled and feathered creatures.

Standing in the thick 95-degree heat, I watched transfixed as sixteen brown pelicans flew in a pristine symmetrical V across the Louisiana skyline, soon to return fifteen minutes later in the same formation. A single pelican flew out of formation and began to circle the dock upon which I had perched. I stared up at them, and they made eye contact and began to fly in a circle around me. Insistent on watching the bird, I turned in circles to keep eye contact. After the pelican orbited me three times, I began to feel uneasy, not only from the dizziness of turning in circles in the scorching heat. This bird was just as magnificent as the ones I had admired as a child, but this encounter was very different and I couldn't quite put my finger on it. I realized, standing on this public park dock covered with rotten fish bait and debris from previous fishing visitors, that perhaps my presence was an intrusion. Though I had no interest in fishing — in fact I was opposed to consuming the bodies of sentient creatures — I realized I had nothing to offer this pelican.

I felt unwanted as soon as entered the island, though, and that certainly colored my position on the dock. "Jesus Reigns Over Grand Isle" was the first sign I saw upon entering the island, in a sea of U.S., advertisements for the various oil companies in the area, and a large pro-life billboard. The conservative politics of the residents had materially shaped were embedded in the physical structure of the island through its nationalist conservative rhetoric. What had been a marker of queer and gender nonconforming legibility for me in New Orleans amongst queer and trans folks at an LGBT festival, my body hair became a threat on the island. Wearing one of the two "women's" jeans I owned and a fitted t-shirt, I thought I could pass. (I must admit, I wasn't entirely sure what I was trying to pass as.) The motel owner scanned me from head to toe when I checked in. He paused while twirling the room keys around his finger. "… Just you?" he asked confused. I nodded. Telling me the rules about gutting and disposing of fish entrails on the

property, I listened politely. My years of living in a conservative part of the Southern U.S. had taught me well. As sweat began to pool at my temples, though, I realized that my efforts to pass would be unsustainable.

As the weather forecasted triple-digit temperatures, I changed into the thinnest shorts I could find and threw on my markedly lesbian sandals, consigning myself to whatever might happen This was certainly a choice I could afford to make, given multiple other privileges. I sought to find lunch and entered the one grocery/general store on the island. Perusing the produce, I heard laughter coming from somewhere in the store. Looking curiously to the origin of the sound, I saw two sets of eyes fixed on me, peering through the windows of the swinging doors separating the customer side from the employee side of the deli. When I made eye contact, they had been pointing in my direction. The laughter still reverberated thirty feet away. As if in a cartoon, I looked behind me to see if there was an object behind me that had drawn their attention. Realizing that I was the only one in the aisle, I returned my gaze to the faces behind the deli and they had stopped laughing. I looked down at myself, and noticed I was wearing colorful shorts that accented my hairy legs and chipping sparkling toenail polish. I had apparently become a comical object, a strange creature on the island.

I cautiously entered the Grand Isle park in the same shorts, where a magenta flag flapped at the entrance to indicate that the water was unsafe to swim in. Immediately I thought of the synthetic fuchsia and purples of J.R. Geigy and was reminded how ubiquitous pesticides are. But I also thought of the BP oil spill – the toxic scandal that had brought me to the island in the first place. Code Magenta, after all, is the mayday distress signal used by oil rigs across the U.S. and was used on the *Deepwater Horizon*. Though there was virtually no mention of the disaster, it was captured in the very silence. The park ranger explained to me that the magenta flag was

raised because of untreated human sewage in the water. It then made even more sense to me that these pelicans might be wary about my presence. Pelicans were using these waters as their hunting grounds and ingesting human sewage and oil was enacting material harm. My presence and my ambivalence about being in the space were a revealing enmeshment.

Flotsam and Jetsam

There is a wide array of creatures who inhabit the Gulf, many of whose paths I crossed paths during my time in Louisiana and whose lives are indeed valuable. But the focus of this chapter is on how the *figure* of the pelican is crucial to understand environmental violence off the Louisiana coast and how that figure has worked in ways that obscure other human and nonhuman animals. And despite pelicans' unique individual encounters with each other, with other water creatures, with water, land, and, of course, humans; pelicans are recognized more commonly as abstract entities.[29] In this chapter, I argue that pelicans are not only animal figures with material and affective power as the mascot of Louisiana, but that they carry a specific *reproductive* power. This power of The Pelican, as a singular abstract entity rather than the birds in their multiplicity, is pronounced after the 2010 Deepwater Horizon disaster whereby environmental activists and animal protectionists depict pelicans as hetero-reproductive to emphasize the disastrous effects of the spill.

The construction of these birds as a symbol is informed by the spaces and places in which they have been imagined, and my experiences in Grand Isle have suggested not only that queerness is unwelcome but that heterosexuality is central to the social and physical landscape of Louisiana. Though the reproductive abilities of birds are worthy of protection along with many

[29] Here I signify individuality and singularity in the way that Kathryn Gillespie has invoked it, to signify a means of resisting the abstraction of animals as a species.

other traits of these birds, The Pelican as an affective device centers this reproduction in ways that obscure non-normative intimacies and many modes of wellbeing. It functions to reify the quintessential normative American home comprised of a male and female parent and biological offspring. In so doing, this rhetorical device erases non-normative intimacies between pelicans and other species and the lived realities of the pelicans who act as a mere stand-in, a metaphor, an indicator species for humans. Pelicans, similar to the frogs of the last chapter, are paradoxically both inside and outside the bounds of the nuclear human family, but the Pelican has a decidedly different history in bolstering this family in the first place, particularly in Louisiana as a white maternal and quasi-religious figure. These discourses frame violence as harming these white families when they focus on pelicans.

In this chapter, I examine how environmentalists, wildlife enthusiasts, blue-collar oil workers, and even an oil industry CEO engage with the Pelican, a symbol of reproduction, motherhood, and family (signified with the capitalized iteration of The Pelican rather than that a single pelican bird). The Pelican becomes an interface of metaphorical and literal toxic touches after the oil spill. Some mobilize the figure for the sake of protecting wildlife from the ongoing environmental disaster, and thereby reify the broader *discipline* of biological reproduction in the U.S. as well as its always-entangled formations of heterosexuality, family, and home.

I first trace a brief history of how pelicans have come to represent virtuous motherhood for the state of Louisiana through close analysis of the state's flag. This image, I argue, acts as a central frame to narrate this spill the conversation about which lives are worth grieving. The pelicans themselves are *frames* (mostly metaphorically, but not entirely) to understand and articulate the value of life in the wake of disaster.

Of all the flotsam and jetsam of the spill, I loosely focus this chapter around several

related moments connected to the spill and interrogate the multitemporal ripples each makes. Through a semiotic analysis of the history of the Louisiana state flag, I explicate just how pelicans have come to function as The Pelican, a singular figure. With this history in mind, I turn to trace the figure and function of The Pelican in the 2016 family-oriented biopic *Deepwater Horizon* (Berg et al.) and ex-CEO of BP, Lord Browne's, *The Glass Closet: Why Coming Out is Good Business* (2014). Though I provisionally isolate each moment to identify the rhetoric of their intentions to be worker-oriented, environmentally-oriented, and extraction business-oriented, it becomes clear these conversations are rhizomatic structures that converge.

The Spill

Around 9:45 PM on April 20th, 2010, high-pressure methane shot up from the Macondo Oil Prospect into a rig above that was owned in large part by the company BP (then called Beyond Petroleum). The gas ignited, exploded, and created a bright orange blast that was visible via satellite. The massive explosion in the Gulf of Mexico killed 11 workers and injured dozens working on the rig, who were rescued via lifeboats and helicopters. 2.5 million gallons of oil gushed from the rig per day and though the rig was 41 miles from land, it was not long before the thick black oil slunk to the Louisiana coast.

It quickly became clear that the oil was a stubborn force to be reckoned with; petroleum was lively matter with its own directionality. After all, multiple attempts to halt the oil failed including booms to contain the oil spilling, skimming oil off the ocean's surface, and efforts to cap the well. Finally, the well was successfully closed on September 19th of 2010 and dispersants were used to break apart the residual oil. Unfortunately, much of that oil sank to the ocean floor where it still resides. Because BP had tight control over the optics, photographers and journalists were prohibited from flying over the spill. It was only once oil reached wildlife

preserves where birds were roosting that photographers were granted access with the help of public outcry: the wildlife had to be saved. Oiled pelicans in particular became the rallying cry of environmentalists in the area and across the nation.

Figure 1: Oiled pelican (Charlie Riedel 2010)

This photograph of an oiled brown pelican from June 2010 was circulated widely by Associated Press following the news of a massive explosion on the Deepwater Horizon oil rig. This pelican, covered in thick oil, flapping their wings and squawking, was a rude awakening to Louisiana that the pelicans' survival was in serious jeopardy. As others have noted, photography of the oiled pelicans is an important affective device to galvanize environmental support after the spill.[30] "Everyone remembers the pictures of that pelican, the famous picture of the pelican caught in that mat of tar, tar-like oil that came ashore," secretary for Louisiana Department of Wildlife and Fisheries noted in his interview with the "Creatures Great and Small Project." "As a matter of fact, that famous pelican was successfully rescued, and that bird is fine now and living right here in Louisiana and doing a hundred [times better], so that's a happy ending to what looked like a tragic end for him" (Barham qtd in Cave 2010-2011). But this was not the case for

[30] For instance, Ruth Salvaggio describes the pelicans in the Gulf as the "angels of history" that occupy the role of spectral hyperobject to renegotiate consumers' understandings of petroleum (in Barrett & Worden 2014).

so many pelicans, hinting at us that this bird here is a figure that is negotiated by the lived health of actual birds.

In perhaps the starkest example, then-governor Bobby Jindal expressed sadness about the pelicans not only because they were breeding but precisely because they were parents and kin:

> Here's what's really sad: For every one of those mother adult pelicans you're saving, there are many more back there that you can't get to. And for every mother pelican you're saving, there may be a nest, there may be eggs that can't be saved… And that's the tragedy in this: That for every animal we see, what's this oil doing to their young? What's this oil doing to their life cycles? (Jindal qtd. in Drash 2010)

What Governor Jindal's palpable anxiety conveys is that reproduction and biological longevity is what is at stake and, by extension, the symbol of the Pelican in her Piety. Given just how many pelicans likely died as a result of this spill – estimates suggest more than 9300 pelicans - it makes sense that the public would worry about pelican species, and certainly there were parent and kin birds lost in the spill. While pelicans' abilities to reproduce may indeed be central to their lives and wellbeing, yet it is unclear why this is necessarily the priority, except in as much as it reinforces a human norm. Saving the "mothers" — presuming that all the caretaking birds are female — is only significant in that their kin are saved, too.

The Pelican Mascot of Louisiana: A Maternal Figure

Pelicans are central to the identity of the state of Louisiana; not only is the pelican the state bird, but Louisiana itself is known as the "Pelican State," the bird is featured on the state seal and state quarter, Louisiana's prized basketball team is called "The New Orleans Pelicans," and one of the major multi-state energy consulting firms of the area bears the bird's name: Pelican Energy. Images of pelicans can be found on some of the most mundane things in Louisiana

including ice machines, logos of garbage companies plastered onto dumpsters, marketing of Louisiana tourism companies, the names of prisons, as well as in the form of figurines and [faux] stuffed animals lining the tourist shops of the New Orleans French Quarter.

In my time in Louisiana, alligators came in at a close second in terms of popularity. But the respect for pelicans was different than that of gators. Though there were faux stuffed alligators and alligator-themed tourist trinkets in the same stores that boasted pelican paraphernalia, there were actual taxidermy alligator bodies lingering around these shops as decoration. Alligator meat was being sold along the main stretch of the Outdoor Marché, functioning as a direct foil to the pelicans here. While alligators were a source of regional pride, too, they were consumable in a physical sense, unlike pelicans, whose meat people do not eat. Perhaps this is because pelicans have also spent much of their time on the endangered species list, however, making them a forbidden meal to humans.

Pelicans as a state icon are grounded in their hardiness and will to survive. Much like the national mascot of the bald eagles, pelicans were also threatened by the widespread use of DDT-based pesticides in the 1950s and 1960s. This pesticide, which the J.R. Geigy company was instrumental in developing, reduced incidences of malaria and other insect-borne viruses (Müller 2008). Unfortunately for pelicans, however, this pesticide weakened their eggshells to and prevented full embryo development. The threatened longevity of the pelican signified a threat to the pride of the region: How could Louisiana's residents cherish the pelican as their mascot if there were no more actual pelicans? The pelican populations of the Gulf coast dwindled during this time to such a degree that the Louisiana state wildlife operations transplanted some pelicans from Florida to repopulate Louisiana's coast, where DDT had been banned earlier (Cave 2010-2011). The figure of the Pelican was thus always negotiated by the actual pelicans; the *figure*

requires the population of birds to flourish. Much to the relief of the local residents the year before the spill, the brown pelican was finally removed from the endangered species list, signifying its reinstatement as a cultural icon. The Pelican has therefore been deemed the "long symbol of survival" for its ability to endure the use of pesticides five decades ago (Tangley 2010).

One of the most ubiquitous representations of the bird that informs its social perception as hardy is in the state flag. However, here the pelican is more than a mere symbol of hardiness, she is referred to as a good mother. The 2010 version of the flag depicts white pelican standing over a nest of 3 hatchlings with three red drops on her breast. The accompanying story is that in a time

Figure 1: Louisiana State Flag, 2010

of great famine, she injures herself to feed her young with her own blood, a process known as "vulning." This tale of the self-sacrificing pelican mother originates in Catholic tradition and functions as a dual symbol of the pious madonna sacrificing for her holy newborn as well as Christ sacrificing his blood for his people, depending on the interpretation. Many religious texts even refer to Christ explicitly as "The Pelican" to represent his charity and for giving his blood

as the Eucharist (Saunders 2003). The image of the "pelican in her piety" can be found in the architecture and stained-glass windows of churches across Europe, especially England, and even a portrait of Queen Elizabeth I, who calls it the Pelican Portrait [of herself] not only because she sports a pendant of the symbol but also as a suggestion that she embodies the pelican in sacrificing for her country (National Portrait Gallery).

The maternal tale of the figure of this bird has reflected and informed the social perception of birds as maternal in Louisiana, too. A journalist and wildlife specialist captures this sentiment in the Louisiana Historical Quarterly of 1919 when he writes: "I bespeak a word of praise and admiration for our State Bird from everyone. The pelican's devotion to its little one is not exceeded by the devotion of any other bird" (Arthur 1919, 257). When featured as the emblem of the flag, this unnamed mother pelican who refuses to let her children perish becomes a symbol for Louisiana's unflinching commitment to survival, a sentiment which is crucial given the ongoing environmental struggles the state faces, including hurricanes and flooding.

Interrogating the Flag

Despite the clear allegorical origins, recent flagmakers were pleased with how scientifically "accurate" the 2010 pelican flag was compared to the pelican originally represented in the state seal in the 19th century, emphasizing just how much the *image* of the birds had to be in sync with the *actual birds.* The former seal featured 10 hatchlings, which was far more than pelicans would usually have, according to ornithologists. The 2010 flag was not only more realistic in the number of hatchlings but also in the detail in the plumage of its feathers. Yet this mother is feeding her young with the blood of her breast, something that ornithologists have assured that pelicans simply do not do (Tangley 2010).

The interest with accuracy and realism, despite the blatant inaccuracy of vulning, made me

interrogate the image as a whole and how "science" was being deployed to reinscribe the myth. The flag and its surrounding stories describe this bird as a "mother" using "she" and "her" pronouns. Since the image is a not that of a single actual pelican, we presume it to be true. Would the Pelican flag still "work" if it was an image of a male parent caring for his young? Another pelican nearby who was not biologically related? Is it simply because there is a parent in a nest with young that the presumption is that it is a mother bird? I make this suggestion not haphazardly; on the contrary, I invert the widespread assumption that pelicans are mothers. What if we were to assume that pelicans are *not* mothers?

Borrowing from ornithologists' engagement with pelicans I discovered that on sight alone, the bird cannot be phenotypically confirmed as female. Though many assume that birds have clear differentiation of plumage based on sex, this is not true for pelicans, whose male, female (and intersex) depict the same color plumage. Ornithologists and bird watchers have noted that the sexes look the same except, on average, the males have slightly longer beaks. Despite the inability to assess the sex of birds easily, ornithologists presume pelicans to be heterosexual (Cornell Lab of Ornithology; U.S. Fish and Wildlife Service 2009). This is evidence of how pelicans' sexualities reflect human expectations for animals to be naturally heterosexual, as queerness is often described as "unnatural."

Regardless of their sexualities, observations of pelicans have shown that their breeding and nesting is not usually a single-parent endeavor. Of dually-paired brown and white pelicans, both incubate and feed their young. Pelicans often take turns with care, allowing the bird who laid the eggs to leave the nest and eat first (U.S. Fish and Wildlife Service 2009). It is difficult to determine if any pelican feeding young is a mother or father. By describing the pelican on the flag as a mother singularly sacrificing for her young, the narrative bolsters the idea that the

pelican is a figure of ideal parenting. The symbol of the pelican on the flag is a container for human norms about reproduction and family.

The pelican's piety and motherly martyrdom operate specifically through her whiteness. Though racism is a human formation, the pelican acts as a powerful symbol and device for white supremacy among humans.[31] There is an eerie slippage between, on the one hand, the image of the white pelican on the state flag (often still referred to as a brown pelican or even just a "pelican" as it appears on the flag) and, on the other hand, the legal status of the brown pelican as a state bird.

The differences between the two species – white pelicans and brown pelicans -- are quite significant. White pelicans, on the one hand, are interlopers of the Gulf coast whereas brown pelicans roost off the Louisiana coast year-round. It is hard to conflate the two birds in person; white pelicans are 3-4 times larger than brown pelicans and, as their name suggests, are covered in white plumage with a bright orange beak. Brown pelicans, on the other hand, have a mixture of brown, grey, and white feathers across their body with a fainter orange and brown beak. White pelicans do not dive for their food, whereas brown pelicans are known for their spectacular diving skills, plummeting from up to fifty feet to catch their food. It would be ironic to imply that there are firm biological differences between two species, since this is counter to the goals of feminist science studies as a whole. There is a wide range of trait expression than ornithology textbooks can capture. The legal mandate that the brown pelican of the state flag should be "depicted in white" signifies a lack of awareness of the embodied realities of these birds and an odd preference for its whiteness.

[31] It would be remiss to imply that pelicans' social lives are devoid of hierarchy and violence, but clearly the formation of racism is a human one.

Some have said that the reason for this slippage is quite simple: the flag featuring the white-looking pelican was introduced long before the state bird was chosen in 1966 (Pontchartrain 2015). But context is important. When the white pelican first appeared on the Louisiana state flag, it was in the process of the seceding from the Union, a gesture intended not only to demonstrate independence but also to maintain the enslavement of African people. It was flown adjacent to the red and white St. Andrew confederate flag which continues to haunt the U.S. as ongoing support for the Confederacy.

In addition to the odd whitewashing of the brown pelican in the state flag, there is an eerie resemblance between the pelican mother's body and her nest and young together and another important shape in New Orleans culture – the fleur de lis (French for "flower of lily). The "mother's" broad wings and her head loosely take the shape of the three larger points of the fleur de lis, the spade and the larger halves of the arches. Her 3 hatchlings roughly approximate the three points of the base of the fleur de lis. This shape, second perhaps to the pelican, is quite common in Louisiana, adorning New Orleans street signs and football helmets. The shape is so ubiquitous that Jindal legally recognized the fleur de lis as an official symbol of the state in 2008.

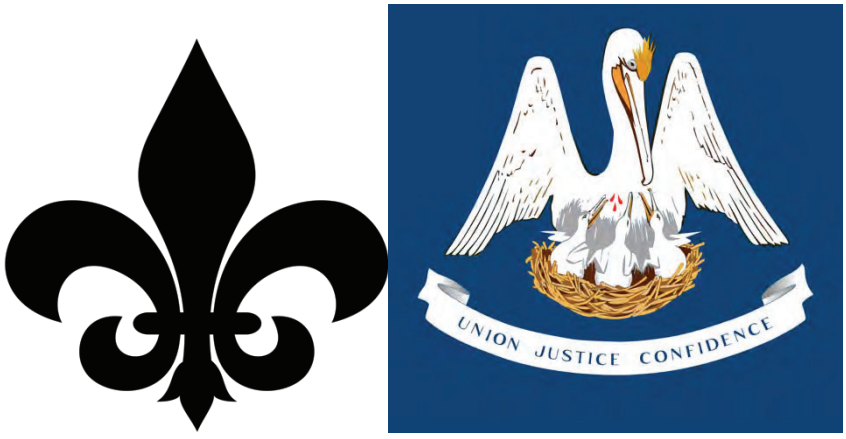

Figure 2: Juxtaposition of fleur de lis and Louisiana State Flag

Even while it is a symbol of pride of the region, this shape, however, has a troubling

history. On a flag or coat of arms, the shape acts an emblem of the genocide of Native peoples of North America by French colonizers. But the fleur de lis is not only a haunting symbol in this way, as a reminder of the colonial founding of the nation-state. As historian and Louisiana resident Dr. Ibrahima Seck notes, the fleur de lis is a symbol that white men literally branded onto their slaves as a punishment for attempting to run away (qtd. in Yates 2015). As a part of the French colonial law *Code Noir* that was introduced in Louisiana in 1685 by Louis XIV and adopted by Louis XIV in 1724, slaves of different masters were prohibited from congregating for any reason. Article 16 of the Code Noir even warned slave owners that they might use the pretext of a wedding to justify their congregation:

> Défendons pareillement aux esclaves appartenans à différens maîtres de s'attrouper le jour ou la nuit, *sous prétexte de noces ou autrement*… qui ne pourra être moins que du fouet et de la fleur-de-lys" [We also forbid slaves who belong to different masters from gathering day or night, *under the pretext of wedding or other excuse*… on pain of corporal punishment that shall be no less than the whip and the fleur de lys] (Louis XIV 1685, emphasis added).

The fleur de lis as physical brand demonstrates that marriage and kinship *outside of the control of the master* were unacceptable under this legislation. The fact that the state flag takes the same shape emphasizes to what degree the symbol of the pelican is a racially charged image, whether or not Louisianans recognize it as such. The pelican as a pious and virtuous mother is created through the same mechanism that not only devalues the reproduction of Black bodies but commodifies it, as New Orleans operated as a major slave market at the time of the state's secession from the Union (Roberts 1997).

Although the first Confederate Louisiana flag featuring the pelican was quickly replaced

by a plainer flag, the white pelican returned to Louisiana's flag in 1912 (Bonham 1919). Its first introduction signifies the central role of the pelican as a racialized animal figure, where the pure motherhood of the white pelican serves as both a foil and an erasure of the bodies of color whose reproduction and intimacy is impermissible unless controlled by white masters. The white pelican as a pious and virtuous mother is created precisely through the same mechanism that not only devalues the reproduction of Black bodies but commodifies it, as New Orleans operated as a major slavery market at the time of the state's secession from the Union (Roberts 1997).

The figure of white Pelican mother conveyed through the trace of slavery here is significant. The projection of human norms of motherhood onto a bird seems believable and even powerful as a codification of Louisiana State mentality. Yet the attribution of motherhood, kinship, and family was not used for all humans in the first place. As Hortense Spillers has written, building upon Seck's contributions, kinlessness was a requirement of being a nonhuman property and thus any existing kinship relations were deemed invalid, an enslaved woman's child became the property of the master (1987). Moreover, enslaved women were de-gendered through their failure to be legible in the domestic; Spillers notes this informed by their position outside of the plantation family home, as much as they bolster it: "'Gendering' takes place within the confines of the domestic, an essential metaphor that then spreads its tentacles for male and female subject over a wider ground of human and social purposes" (1987, 72). While this might seem like an irony in the sense that it is an incongruity, these are entangled for a reason. The valorization of white settler human families and the nonhumans they fold in has happened through the gendered and reproductive violence against people of color. The reproduction of certain allegiant bodies, after all, was necessary for the thriving of the nation-state.

Spillers importantly asserts that “family” is a formation that works to enforce the white master’s power and the supremacy of race, and, as such, is only rarely afforded to Black women and their kin. In fact, the rape of female slaves by white masters or other slaves and their children has historically worked to increase the labor on any given plantation (1987, 74). This is a process of racialization via dehumanization and animalization, which Spillers alludes to when she quotes Brent: “Women are considered of no value, unless they continually increase their owner's stock. They were put on par with animals" (1987, 77). Hortense Spillers and Lisa Lowe together posit that enslaved women were degendered since they did not reside in a proper “domestic” sphere, they could never be deemed proper women (Lowe 2006). But here we see something odd: animality is fluid in the figure of The Pelican, where the nonhuman has become a Humanized figure.

The piety of The Reproductive Pelican functions in stark contrast to how gender and reproductive norms worked in support of slavery. As Dorothy Roberts has highlighted, Black women were often simultaneously seen as lascivious (a “Jezebel”) with respect to their own reproductive capabilities *and* perfectly maternal when caring for the children of their masters (a “Mammy,” according to Roberts), but always under the supervision of the white mistress. Because mothering was presumed to be an *essential* trait, freed slave women who did care work for wages were seen as immoral (Roberts 1997, 16). In this way, the reproductive control and emotional maternal labor were disproportionately placed on Black women in conjunction with the agricultural development of the United States, which is a state project as well (Davis 1983; Glenn 2002).

In contrast to The Pelican, post-slavery Black families continue to be marked as failures through their apparently bad parenting, a convenient scapegoat for structural economic racism

and generations of reproductive violence. For instance, under the logic of the infamous Moynihan Report, Black families are entrenched in poverty *because they are fatherless.* In other words, the matriarchal structure of Black families renders it 'backward,' and one of the "fatal by-products of slavery" (Roberts 1997, 3, 16). Yet the pelican figure here is always referred to as a mother sacrificing herself for her young, without any mention of a father figure. It seems that she, alone, is a worthy subject in her care for her offspring, as it is an aspirational figure for the state.

Reading The Pelican through Dorothy Roberts can highlight the strange racialized reproductive logics of The Pelican. Roberts has written that "[w]hite childbearing is generally thought to be a beneficial activity: it brings personal joy and allows the nation to flourish. Black reproduction, on the other hand, is treated as a form of *degeneracy*" (1997, 9). This is blatant in the fact that Black women have not equal access to fertility treatment but, in fact, have been disproportionately victim to involuntary sterilization and encouragement to continue using birth control implants (Roberts 1997; L. Ross 2016). This has undoubtedly been wrapped up in the image of the Black "welfare queen" who simply has children in order to obtain financial governmental assistance and the largely unfounded image of the [Black] crack baby of the 1980s and 1990s. White children are often perceived to be a boon, as Roberts notes. And The Pelican myth disturbingly reifies this valorization of white reproduction. Although pelicans are not racialized as humans, they carry strong racial overtones with their whiteness.

Some might claim that it is simply heritage or tradition that reproduces the figure of The Pelican flag in the present and it has nothing to do with slavery. However, that argument is weak at best. When it was discovered that there were multiple variations of the 1912 flag circulating - each with slight variations in the representation of blood on the pelican's breast - the state

codified a more detailed and "accurate" version of the white pelican drawing blood from her breast. This flag was minted as the official state flag for the first time in almost a century just months after the "worst environmental disaster in U.S. history" (Silverleib 2010). The timing here is no coincidence. The power of the pelican functions through a kind of "forgetting of race" which makes liberal modes of understanding even possible in the first place (Eng 2010).

Symbols thus hold power through what they do not reveal, or choosing what aspects to reveal (Derrida 1994). The *trace* is always that hollow echo which reminds us there is more to the image, that the image is always already constructed in opposition to another. And, as evident from the above historical analysis, these signs are always explicitly a means of regulating which lives are worth folding into the realm of the Human, and the realm of the Home, both of which are the spaces where articulating violence is even possible. The symbol of the reproductive pelican is affective capital with material effects, evident in media coverage and interviews conducted with cleanup workers after the BP spill.

In the Wake of the Spill: Making of "A Nation of Animal Lovers"

With the spill came a re-invigoration of the powerful reproductive figure of the Pelican. The image, which already had power since the founding of the state of Louisiana, was intensified with the physical threats to pelicans from the oil spill. This sentiment was evident among rehabilitation efforts on Grand Isle, demonstrating how dominant discourses inform material multispecies engagements. I noted this in the oral history records of nineteen open-ended interviews with environmental and wildlife workers in the year following the spill. These records remain only as physical recordings in the Historic New Orleans Collection. The project "All Creatures Great and Small" was a collaboration with the Historic New Orleans Collection and environmental agencies and sought to examine how workers experienced the wake of the spill. In

listening, I noted the disproportionate emphasis on saving the pelicans from their rookeries. The project leader of U.S. Fish and Wildlife Service in Louisiana, Ken Litzenberger, said "[t]he nesting grounds on Breton was our highest priority because of the time of the spill because there was a high concentration of birds there. We had 50-60,000 birds, plus some on various little pieces of islands. And that was our highest priority. And that's what we constantly addressed" (qtd. in Cave 2010-2011).

Coastal bird biologist Tim Keyes corroborated that reproduction is crucial to track for the birds he is working to clean: "There's a lot of uncertainty with these rehabilitated birds. It would be of great value to know if these birds are able to reproduce and raise young and do *more than just be able to survive*" (qtd. in Bynum 2010, emphasis added). Do more than just survive. The pious white mother pelican rings loud and clear here. After all it is the image of the reproductive pelican that is the icon of the state, not just an individual bird who is hardy. But it is unclear why the focus on motherhood and reproduction is relevant for wildlife rehabilitation work after the spill since they were largely triage-oriented, theoretically founded upon saving each life.

The interviews conducted with rehabilitationists were under the rubric of "All Creatures Great and Small," the title of the project, yet the majority of the workers discussed their engagement with pelicans when asked by the interviewers, demonstrating how important these creatures are to contemporary Louisiana culture. One interviewee, Michael Carloss pointed this out when he noted "I saw some of the turtles and handled them a bit when they came in to Grande Isle, and that was really neat, and I would have liked to have been more involved, but I would have been torn and thinking I should be catching birds" (qtd. in Cave 2010-2011). Turtles, even when endangered, were not the priority, even though their care would likely be easier and they would take up less space in the rehabilitation facilities than the pelicans did.

Pelicans continued to act as a powerful symbol of whiteness, embodied in efforts to literally wash brown off of the brown pelicans. At Fort Jackson in Louisiana, volunteers gathered in the sweltering summer heat to capture and clean oiled birds head to toe with the petroleum-based soap – *Dawn* – an irony that remains unexamined by mainstream news. Photographs of these baths of birds were widespread in the news. Though the pelicans were depicted indeed as brown, we can see from this image that "success" stories often depicted adult pelicans who had white heads, unlike the juveniles who are completely brown to start with. This focus demonstrates how the whiteness of the symbol carries into the spill cleanup. It was less aesthetically powerful to show a brown pelican changing from one shade of brown (oil) to another (its usual plumage). The cleanup efforts, though certainly in part altruistic were centered around the visual – videotaping the process of cleaning oil.

Just as The Pelican became a unique figure of the U.S., caring for pelicans was described as being distinctly American: As Biology Director for Coastal and Nongame Resources with the Louisiana Department of Wildlife and Fisheries at the time said:

> Everybody wanted to volunteer, you know? My sister from Connecticut called me and wanted to volunteer her four children to come out and catch pelicans, and I was like, it's not realistic. With everybody, that's the instinct of people that love animals. . . At least in this country, I mean, we're a country of animal lovers, I think, and as resource biologists and technicians and others, I mean, that's kind of what we do, and it would be against, I think, our core beliefs to not try and do something for these birds (qtd in Cave 2010-2011).

Though my studies of the commodification and killing of nonhuman animals have not indicated that the U.S. is a nation of animal lovers, it is certainly true that certain animals are loved in the

U.S., particularly those deemed mascots. The cleaning of the actual birds thus gave people of the region an opportunity to connect and save the state bird as not just a gesture of goodwill but as one of national citizenry. Another volunteer at the bird rescue center made a similar statement in a separate interview and scoffed that "Germans didn't want to save pelicans!" (Cave 2010-2011). Here she alludes to the controversial research by German biologist Gaus who argued with other biologists that the more ethical decision is to euthanize the birds. Gaus noted from previous research with oil spill cleanups that most birds would likely die from liver and kidney failure related to having ingested petroleum (Dell'Amore 2010).

But euthanizing the birds en masse would not be aesthetically acceptable given the function of The Pelican as a frame of nationalism and citizen-making; it would mean accepting that humans were the cause of the inevitable deaths of these birds. Little research was done on what the cleaning of oil on the outside of their bodies would accomplish given how much the birds had likely consumed. The process of cleaning was, indeed, very traumatic, and some died during the process. Regardless of one's political affiliation with killing life, it is clear that the rehabilitation of actual pelicans was negotiated by their cultural function as Pelican.

The Pelican's revival in the wake of the spill had effects on humans as well. After all, the ubiquity of the focus on pelican mothers and their reproduction reinforces a human expectation that the "natural world" is "naturally heterosexual". Governor Jindal's mobilization of the motherly pelican suspiciously mirrors his own conservative politics in favor of normative, heterosexual "family values," demonstrating just how these bio pelican families work to uphold certain human families. During his time in office, Jindal not only responded to the spill but also started the Louisiana Commission on Marriage and Family, voted against anti-LGBT discrimination legislation, and *vehemently* opposed legislation for same-sex marriage. Central to

Jindal's work, then, was the enactment of certain kinds of families through the figure of The Pelican.

The widespread anxieties about the longevity of pelicans often overshadowed the fact that people of color did the majority of cleanup labor after the spill, many of whom have been structurally denied legibility as "families." Most remarkably, BP hired inmate labor of the state and received a hefty tax break under the Work Opportunity Tax Credit, up to $2400 per inmate hired, for the inmates to scoop oil off the surface and move it to landfills. This was significant given that Louisiana has the highest incarceration rate of any other state in the U.S. at the time of this writing (2016), of which approximately seventy percent are Black men (Carson 2018). More than half of oil spill waste that was collected by these mostly folks of color has been stored in communities with a majority of residents of color (Michelle Chen 2010).

As the predominantly Black oystermen of Pointe à la Hache have noted, the spill is having lasting effects on the reproduction of oysters, leading the fishermen to simply not have any catch to bring in, and crushing the livelihoods of their multi-generational family businesses (Jefferson 2014). While BP has been fined per pelican killed, the payment to the majority Black fishermen of coastal Louisiana remains outstanding (Jefferson 2014). These fishermen, who have been materially entangled with oil are not deemed legible-enough as families. Their footage is sparse and rarely taken up. Unlike the oil workers who are seen as legible as families, these oyster fishing communities and their subjugation by BP and the broader nation, who was indeed ready to jump at saving the pelicans, demonstrates how the frame of the family is a racialized frame.

In this way, we see that the figure of The Pelican is a biopolitical one that has renewed currency and urgency after the spill. The reproductive longevity of pelicans is often centered by

the same institutions that marginalize families of color. In the rest of this chapter, I'll examine those who felt ambivalent, averse, or completely ignored pelicans after the spill. These, I argue, are toxic touches that actually show the wide reach and the biopolitical impacts of The Pelican.

Oil Families of *Deepwater Horizon*: Evading the Cryptic Pelican

The racialized myth of the good mother Pelican is one that is conceptually entwined with another regulatory myth: the nuclear American family, which also requires a mother. Family here is a *discipline* in a Foucauldian sense, not necessarily attached to an institution or apparatus who regulates and checks its members, but rather a self-governing modality. It is no surprise, Foucault has noted, that many formal regulatory institutions such as education, military, medical, psychiatry, psychology have "the family the privileged locus of emergence for the disciplinary question of the normal and the abnormal" (Foucault 1979, 215-216).

The Pelican in this spill breathes life into this discipline by interpellating others to see themselves within or without this narrative. In a Butlerian sense, one's legitimacy as a member of equality is only through certain "frames," pious motherhood and reproduction marking the first section of this chapter (Butler 2009). In a time where resources are framed as scarce, one must be a legible citizen-subject in order to obtain rights or resources. What is revealing is that those who are not interested in using The Pelican as a symbol to support wildlife rehabilitation after the spill are nonetheless infused by its domestic attachments: they clearly and loudly presenting themselves through the same "frames" of being families.

Many of the worker-centered narratives of the spill not only recognize the power of The Pelican but may even *resent* it, particularly when they perceive the figure attends to the lives of the birds themselves instead of their own human lives. This sentiment is captured well in Arlie Hochschild's interviews with conservative white men from Louisiana in her recent book entitled

Strangers in Their Own Land: Anger and Mourning on the American Right (2016). Hochschild leaves behind her own liberal life in Berkeley, California to speak with men from bayou country in Louisiana to understand how and why they hold deeply conservative political beliefs. At the heart of it, her interviewees are grappling with a sense of loss of what the American Dream might have been for them. In particular, her interviewees bemoan that not only are women, people of color, immigrants, and refugees "cutting in line" for the American Dream, but brown pelicans are getting an unfair advantage, too, thanks to the 2010 oil spill. Hochschild paraphrases her interviewees' disdain in a section in her book:

> Unbelievably, standing ahead of you in line is a brown pelican, fluttering its long, oil-drenched wings…To keep surviving, it now needs clean fish to eat, clean water to dive in, oil-free marshes, and protection from coastal erosion. That's why it's in line ahead of you. But really, it's just an animal and you're a human being. Blacks, women, immigrants, refugees, brown pelicans— all have cut ahead of you in line. But it's people like you who have made this country great. You feel uneasy. It has to be said: the line cutters irritate you. They are violating rules of fairness. You resent them, and you feel it's right that you do (2016, 103).

And although it seems that these white men have nothing to be proud of (in their own words), they are staunchly proud of being heterosexual, family men (Hochschild, 2016). Though Hochschild's method here of melding of her interviewees' anxieties and speaking it back to them is an unconventional one and problematic in flattening complexity across the Right in Louisiana, it nonetheless provides insight: brown pelicans *are* in fact seen as a threat after the spill particularly to those who have historically benefitted from U.S. society.

In line with Hochschild's interviews, oil workers in coastal Louisiana express

ambivalence or even disdain for pelicans. In so doing, they often counter the gesture that renders the white pelican as more important than their lives. Yet they echo the frame through which normative family is a means of rendering subjects legible as victims. For instance, advocates for the oil workers following the BP oil spill center their own valor through their sacrifices for their families. A powerful and public text of this is the 2016 disaster-thriller film, *Deepwater Horizon.* This film conveys a narrative of environmental violence that reroutes away from pelicans and towards white, heterosexual, nuclear families.

Children and spouses of employees on the Deepwater Horizon rig mobilize the language of family, too, genuinely and/or out of recognition that compensation was better for those who could claim they were "family" through dependent status. One daughter, for instance, grieves her father's death specifically as a rupture of the heterosexual, nuclear family model and marriage norms: "My father won't be here to walk me down the aisle when I get married," she said. "He won't be there to see his grandchildren be born or grow up" (Manuel qtd. in Schleifstein 2013). While this is a valid and genuine response to the loss of a parent, the fact that it is chosen as the only interview quotation to include in the New Orleans Times-Picayune signifies precisely to what extent heterosexual family is the prerequisite tone of the conversation. And this frame is particularly potent in *Deepwater Horizon,* a text that is crucial to understand the symbolic economy surrounding The Pelican.

The 2016 IMAX-available film chronicles the heroic tale of workers on the oil rig 12 hours prior to the explosion, 11 of whom died in the disaster working to save the rest of the 126-person crew. Directed by Peter Berg, the film was created in order to shed light on the 'lesser-told story' of the "brave workers [who] became real life heroes in the hopes of getting back to families and lives ashore" (2016). This film is thus the creation of the American oil family

simultaneously through and against the spill. Though it sounds like a film that might be written by an underdog and a small budget, this is by no means a small film. It features a cast of prominent U.S.-based actors, including Kate Hudson and Mark Wahlberg, who play the central family in the film, as well as John Malkovich, Kurt Russell, and Gina Rodriguez as other employees on the rig. The film grossed $121 million worldwide and was nominated for two Oscars for special effects.

As indicated by its IMAX marker, the film is intended to be an experience, and a markedly haunting one. It is a quasi-nonfictional text, based on legal proceedings and interviews with workers (which play over the opening credits of the film) animated and accelerated by artistic liberties and dramatization. This film allows viewers to process the atrocity of this spill, but in a much more convenient and consumable format: two hours at any major theater in the U.S. (Silverleib 2010). In a Benjaminian sense, this film facilitates public processing of the environmental disaster in a guided way. As we live in an era of ongoing environmental violence, disaster, death, the film chooses one of the more spectral events in recent history not only for Louisiana but for the United States as a whole. Though not a formally state-created text, *Deepwater Horizon* is a technology of its own in how it frames legible victims, perpetrators, and *heroes* of the spill.

Rerouting the heroism of the martyr Pelican, this film frames the mostly male oil rig workers as American heroes. It allows viewers to approach messy, complex systems of violence in a contained manner, to experience the complex emotions and unregisterable affects that many have had about the spill: fear, sadness, anger, and even vindication. Under the ruse of nonfiction – after all, we *know* these are not real oil rig workers, just actors who are being paid for their time – we participate in a collective quasi-mourning and a sense of vindication at seeing the BP

and TransOcean executive employees dumbfounded and covered in oil, scrambling to board the same lifeboats that the hundreds of rig employees were taking. All of this, however, is conveniently squeezed into two hours. The film demonstrates how the Pelican acts as a kind of *crypt,* a holder of both individual and social unconsciousness oriented around trauma that hasn't quite been able to be incorporated into the people who witnessed it (Abraham & Torok 1986). For instance, many of us remember the spill vaguely but simply do not know how to make sense of the massive scale, the widespread wildlife death, and the total loss of control that humans had over their environment for the six months that the oil projected forth from the rig.

Pelicans become a reference against which to center the *human* families of these oil workers. This is quite intentional on the part of the director. Berg explains his motives in an interview when he says:

> To this day, when people think of Deepwater Horizon, they only think of an oil spill – they think of an oil spill and dead pelicans…Obviously that oil spill was horrific…But the reality is 11 men died on that rig and these men were just doing their jobs and many of them worked hard trying to prevent that oil from blowing out and it was certainly not their fault. As it pertains to the families of those men who lost their lives, I want them to feel as though another side of that story was presented, so that whenever someone talks about the Deepwater Horizon or offshore oil drilling, people don't automatically go to 'oil spills.' (Berg qtd. in Rottenberg 2016)

Pelicans, in Berg's mind, have the possibility of ignoring the struggles of the oil industry workers who were killed by this act of corporate greed. By emphasizing how crucial oil production is to maintain the white heterosexual nuclear family, Berg decenters The Pelican as the ultimate tale of parenting and sheds light on the "lesser told story" of human parents, kin, and

families being simultaneously produced and threatened through oil production.

Most crucially, Summit Entertainment uses the human family as a means to narrate the violence and heroism at hand. It would be remiss to imply that this film is merely a facilitator of emotions through its quasi-nonfictional content. This is a political text from the start. The film legibilizes oil workers who might otherwise be critiqued by environmentalists. *Deepwater Horizon* narrates their deaths and psychic trauma not as tragic acts only affecting individual workers but as violent to the *families* of these workers.

In one fell swoop, though, they reify the formation of reproduction and family-making as the means of legitimizing their struggles, or rather the filmmaker intervenes in this interface to facilitate the re-humanizing of the family. In fact, the story of the film is told through the framing of a single, white family comprised of Mike Williams (Mark Wahlberg), an oil worker, and his wife, Felicia (Kate Hudson) and their 10-year-old daughter. The first scene showing humans begins in the conjugal bed: Felicia is barely clothed, pouting that her husband is already getting ready for work: "That's it? That's how you're gonna leave me for 21 days?" alluding to his shift on the oil rig that would begin later that day. After stretching his quads and shoulders, he jokes: "OK, do you want the 30-, the 60-, or the whole 90-second love package?" The first scene here demonstrates the strain that oil families bear: their sex lives are interrupted for weeks at a time.

In the next scene, Felicia kisses Mike as he fixes a broken cabinet door in their kitchen. Their daughter quietly enters and, when discovered, explains "I only did not knock because I want a brother." Felicia responds with "ok, well that's disturbing" and Mike laughs. The film is quite heavy-handed in juxtaposing the white heterosexual American family with the oil disaster, and this scene makes it clear that this is a family that continues to be a reproductive one. This frame is crucial to understanding the sheer magnitude of violence of the spill, according to the

director.

Even the explosion itself is narrated through the relationship Mike has with his daughter, Sydney. Before Mike leaves for his 3-week shift, Sydney practices a class presentation in front of him. Explaining that everyone is coming to talk about what their daddy does for a living, she shakes a soda can and turns it upside down. She forcefully pierces a metal straw into it, covers the opening with her thumb, and fills the straw with honey to keep the soda from bubbling out. She explains that this is just like what her dad does when he drills for oil and temporarily blocks the oil pipe until extraction crews can siphon off the oil, which is naturally already trying rush out of the surface. "[The] oil is a monster," she says, "like the mean old dinosaurs all that oil used to be… they're trapped, ornery…" and then with a smile, proclaims "but it was my daddy who tamed the dinosaurs." Mike claps and cheers, valuing her praise of his valiant work as father and the breadwinner of the family.

Suddenly, though, Sydney's honey-barrier fails and the experiment explodes, spraying soda all across the kitchen table. Both mother and daughter shriek and run from the table. This school project gone wrong is more than an eerie foreshadowing and a perfect metaphor for the spill: it disrupts both the narrative of and the material intimacy of the heterosexual nuclear family. After all, Sydney and Felicia run from the kitchen table, leaving Mike alone and covered in soda. "There's only so much in the can!" he shouts, oddly comforted by the finite amount that can spill. The dramatic irony of the scene, however, reminds the audience that the Macondo Oil Prospect would not have such a contained spill.

When the actual explosion happens on the rig, the viewer has already understood Mike as a family man and, as such, how he is a valuable subject precisely through his position as a father and husband. The film director sends this message home when the explosion literally breaks the

couple's digital connection; when the oil floor explodes and fills with mud, Mike hears a faint noise from his office while video chatting with his wife. Hearing the noise, too, she asks "Mike what is that? Is everything ok?" and the camera pans back to the workers on the oil floor, fighting to get out of the oil floor room and shut the annular system down. The connection becomes pixelated, freezes, and then shuts down.

Cue the Pelicans

The demise of pelicans acts as a warning to the nuclear human family in the film, but in this film, pelicans have less than 30 seconds of screen time. Their near invisibility in the film is remarkable, particularly given that *Deepwater Horizon* was filmed in Louisiana, which abounds with images of pelicans as I noted.

While Mike is en route to the oil rig, something loudly strikes the helicopter, causing the crew to panic, and the pilot to temporarily lose control of the steering. The pilot calms the crew by saying "just a bird strike, folks. We're only a mile away, we should still be good to land." The unnamed bird, only given a half second footage on the screen is clearly a pelican, evidenced by its large white wingspan, large body, and large feet. The specter of the pelican as the ultimate image of piety and purity is distorted in the film as a means to warn the crew of the rupture to the families that will occur, and because this film is very much about *remembering* the spill, given its production five years after the event.

Figure 3: Still from *Deepwater Horizon* (Berg 2016)

The pelicans as reproductive symbols do not function in the same way for the oil workers depicted in the film. When the figures are present, they are a menacing figure, getting in the way of the workers. We see this later in the film when Offshore Installation Manager (played by Kurt Russell) sees through his binoculars that the rig is on fire, his view is suddenly obstructed by a lone squawking pelican covered in oil who has burst through the open door and splattered oil against the hallway wall. Presumably in shock and disoriented, the oiled pelican flaps into the control room, spastically running into the walls and flopping on the control panel itself, after collapsing on the floor and presumably dying. Without discussing the role of pelicans at all, the film draws upon long-standing sentiments about pelicans as reproductive subjects. This lonely pelican here without her young here acts as a warning sign that the crew, too, may lose its reproductive, family-making potential through the oil explosion.

Pelicans in this film are spectral and surface only as shock value. Pelicans in the film are never verbally described named as such, perhaps recognizing the power of the name itself as a Christian allegory, a state symbol of pride, and the image mobilizing environmental activists following the disaster. As a mere unnamed “bird” early in the film and a mere “it” later when the oiled pelican enters the control room, it is barely lit up, blending into the darkness,

distinguishable only by its flapping and squawking (which is significant since adult pelicans are usually silent except when in distress). When crew members shout "Get that! Get it! Get it!" they demonstrate to what extent the filmmaker views these birds as a disturbance; the birds function only as a foreboding symbol rather than as valuable lives. As reporter John Wills notes: this oiled bird is "[t]he only obvious reference to an unfolding environmental disaster."

Which Human Families?

The pelican as specter does more than just fire a warning shot for the impending doom for the nuclear heterosexual family, but as an always-racialized figure, the oiling and isolation of the pelican mirrors a threat to the white nuclear family. Andrea Fleytas (played by Gina Rodriguez) is the only woman of color working on the rig and is depicted as masculine in demeanor, always talking about fixing up her Mustang and is mocked by her co-workers for having a male partner who "drives an itty-bitty motorcycle."[32] She is shown as an independent woman, knowledgeable about the mechanics and the operation of the rig, and at the end of the film is the only one who brings the head of the rig back to the control room to make a final Mayday call.

Berg quickly deflates her power, however, when he takes the artistic liberty to position the white family-man protagonist as the ultimate person to save her at the end of the film. When she has a panic attack after seeing the last available lifeboat catch fire, she freezes up. Mike commands her to jump off the rig, knowing that staying on the rig will certainly lead to their death. When she refuses he says that he will do exactly what she does, then tries to goad her into jumping by telling her about his family: "My wife's name is Felicia and my daughter's name is

[32] Rodriguez first became famous through her lead role in the TV Series "Jane the Virgin," a woman who gets pregnant despite being a virgin due to a medical mix-up.

Sydney" to which she rebuffs "Don't put that on me!" He then distracts her by asking a question about her prized Mustang, and when she answers, he grabs her by the life vest and throws her overboard.

This valiant heroic Hollywood scene inspired by real-life events is a microcosm of the rhetoric of the spill. By framing Andrea's choice to jump as necessary for Mike to return to his white family, the [filmic representation of] Mike infantilizes Andrea, denying her autonomy. When he first grabs her, she tries to establish her bodily autonomy, screaming "Don't touch me!" Don't touch me!" His ultimate act, then, while seen as a brave act to save the then-hysterical sole female employee of the 126-person crew, is reinstating the power of the white male family man above all. Eerily, however, this scene never happened. Fleytas notes in an interview that she jumped off the rig herself after Williams jumped (Jackson 2016). But the truth-y tone of the film from the start keeps the viewer from questioning it. (The opening credits play the recording of a worker testifying to tell the truth, the whole truth, and nothing but the truth).

This scene emphasizes how oil production as a capitalist venture thrives on the othering of non-white folks. Though Rodriguez is a compensated cast member, the mainstream Hollywood image of the heroic white man provides a convenient story arc to push this film into a hit. Centering the normative white, heterosexual family of oil workers also does violence by omission. By centering the white family-oriented workers as the "other side of the story" of oiled pelicans, the director and the film as a whole obscure how BP and the oil industry more broadly extracts labor and capital from people of color. Berg fails to examine just how these white normative families are maintained through the current and historical extraction of capital from people of color. By centering their unique subjectivity – as white, heterosexual, family, man – as the means of being legibly understood as victims (and heroes), they reinforce the logic that

permits inequality in the first place by sweeping subjectivity into the private sphere (Brown 1995; Marx 1964). They interpellate the viewer, too, to recognize their own unique and private traits to determine how they have experienced violence from greedy managers and CEOs. In so doing, however, they reify the what Carole Pateman and others have described as the very violence of the social contract of liberalism (Pateman 1988).

Just as this film engages ambivalently with the figure of The Pelican and even avoids it, so, too, does the film eschew discussion of the racialized violence of both the figure it eschews but also the racialized violence of the spill, a story that is *also* lesser-told. After all, BP worked tirelessly to aesthetically conceal the spill, even while it continued to flow, and ultimately keeping the Louisiana marsh clean-up site on Grand Isle under security from camera crews, as many news and documentary crews noted (Tickell 2012). BP hired workers to spray oil dispersants which gave the illusion of cleaning up but in fact bound with the oil to simply break it into smaller droplets, sink it to the ocean floor, and ironically increase toxicity to marine life. After hiring the majority Black inmate labor (for which the company received a hefty tax break), BP dealt with backlash from local fishermen who were out of work by replacing the workers' prison uniforms with plain white clothes. In an effort to maintain the facade of cleanliness, safety, and control, BP failed to provide adequate safety guards for the cleanup workers, many of whom reported being pressured not to use respirators or masks despite health effects connected to both the oil and the dispersant (Manning 2016).

Even more unsettling is how oil has a long-term effect on families of color that cannot be captured by a film that focuses only on the hours leading up to the spill. As the predominantly Black oystermen of Pointe à la Hache noted, the spill had lasting effects on the reproduction of oysters, leading the men to simply not have any catch to bring in. These are communities of

multi-generational family businesses, in their words (Jefferson 2014). Family is the figure these people use to demonstrate the power and importance of their lives, but their livelihoods continue to be postponed (Jefferson 2014). Biological family in and of itself is not a problematic formation, but rather the way it is mobilized to biopolitical ends. More powerful is that a full-length documentary on their struggles and resistance, *Vanishing Pearls,* has been removed from Netflix without notice and is no longer available anywhere (as of October 2017). The voices of these self-identified families have vanished or avoided the big screens, unlike the blockbuster hits that focus on the oil workers' families. This is not to say these voices are not speaking, but rather that the media entities who have largely narrated the spill have not been listening (news outlets and large budget films).

BP in the Wake of the Spill: Mum's the Word on Pelicans

Though pelicans were a central figure in the spill, it seemed that BP had not addressed the wildlife effects of the disaster. At congressional hearings in Washington, D.C. in June 2010, State representative Scalise made an earnest appeal to the CEO of BP at the time, Tony Hayward, in order to testify in front of the House Oversight and Investigations subcommittee:

> This is a picture of an oiled pelican. This is our state bird in Louisiana. I'm going to keep this on my desk as long as we're battling this [spill] as a constant reminder of what's at stake. But I want you to keep this in *your* mind as well to recognize [that] we're not just talking about the loss of life, which is tragic. We're not just talking about the oil that is still spewing out of that well. We're talking about our way of life, not just in Louisiana, but all along the Gulf Coast that is at stake. I would hope you would keep this image in your mind as a constant reminder of what's at stake… (Scalise, C-SPAN, July 17, 2010)

Figure 4: Louisiana Representative Scalise asking CEO Tony Hayward to remember the stakes (House Energy & Commerce Subcommittee on Oversight and Investigations 2010)

Figure 5: Scalise with pelican frame interfacing with Tony Hayward (House Energy & Commerce Subcommittee on Oversight and Investigations, 17 July 2010)

Scalise beckons the nonplussed Hayward to think of the pelicans to recognize the stakes here via the same photograph of an oiled pelican pictured earlier in this chapter (Associated Press 2010).

Scalise powerfully demonstrates that The Pelican is not just the physical lives of pelicans themselves but "our way of life" in the region. The Pelican Frame here is a *literal* frame that Scalise says he will keep it with him as long as they are fighting the spill. Despite the earnest and direct appeals to the then CEO to remember the image, BP company executives have never explicitly mentioned pelicans. Perhaps they recognize that naming a figure can give it more power.

Recognizing that the disaster could only be spun so much and apparently lacking interest in recognizing the loss of life that accompanied the long-term negligence of the company, BP shifted the conversation to future prospects rather than dwelling on the past. This was a part of a long plan to market itself as an ethical company through greenwashing, a common practice by which companies center their ecologically-minded intentions in advertising without necessarily substantiating them. For instance, ten years prior, the company, under the stewardship of then chief executive John Browne, changed its name from British Petroleum to Beyond Petroleum in 2000 and changing its logo to a sun, harkening to the company's intentions to move towards solar and wind power, both of which it gave up shares to in 2011.

Recognizing how hard it is to greenwash an energy company after a huge environmental disaster, however, it scrapped the campaign and turned to sexuality as a workaround, as a strange moral absolution of its environmental violence. As an image-control campaign to counter the haunting images of the seeping black oil in the gulf, BP brought in rainbows to as a part of a broader LGBTwashing campaign that was decidedly family-oriented.[33] With that, it completely eschewed the topic of pelicans or even The Pelican. But in evoking the frame of family, BP

[33] I do not call this pinkwashing given its geographic location outside of Israel, though they are undoubtedly overlapping.

sought to humanize the corporation as just a group of people, rather than just a massive corporation out of touch with human beings.

Fall of BP's Sun King: Gayspiration from the Debris

Though not explicitly endorsed by BP, an important narrative that was ongoing during the spill and after was that of the sex scandal of Lord John Browne, the man who had served as chief executive of BP from 1995 to 2007. Browne's scandal came to a head in May of 2007, when Associated Newspapers published details of Browne's three-year relationship with Jeff Chevalier, a paid male escort who may or may not have been blackmailing him for money after they split up (Browne 2010; Rice 2007). In an effort to prevent tarnishing the company's image Browne resigned, giving up a forty-one-year career in BP and a self-described family tradition of working in oil, as he was the son of the previous chief executive of BP. It quickly became clear that the scandal was not about Browne's homosexuality, but about his shame about his deviant sexuality. In his mind, Browne let the company down and may have let the environment down as a result of his shame and loneliness.

At its crux, the scandal was about Browne's failure to be a good and virtuous gay. By siding with his ex as the victim, Browne's critics implied that sex work is inherently nonconsensual and, as such, sex workers cannot form meaningful, consensual relationships with people who have 'reduced' their sex to a transaction. The widely-cited DailyMail article which led to Browne's resignation sides with escort Jeff Chevalier, who in an interview expressed his anxiety and frustration about being expected to attend and entertain Browne's business parties and networking events, and dismay when Browne ended the relationship with a lack of understanding of Chevalier's anxiety: Browne "virtually cu[t] Chevalier off without a penny," as reporter Dennis Rice notes.

Sex-workers-become-partners are nothing new, especially in Western pop culture. For instance, *Pretty Woman* (from nearly two decades prior) featuring Julia Roberts and Richard Gere is a classic but unconventional U.S. love story about a sex worker who agrees to stay with her client for a week, and their sexual relations soon turn romantic. Chevalier's tale, on the other hand, describes him as an 'ex-rent-a-boy' and implies that he lacked agency (he had "tried to put his foot down") and being unfairly treated by being left 'virtually penniless.' Browne's homosexuality is exactly what tips the scales of this relationship from a 'juicy secret' to an unethical scandal. It draws upon social fears about gay men who prey on young men. It is this inability to be a good gay that leads to his demise, and the public eye provided the scrutiny to deem that indeed this was not an acceptable kind of romance.

His scandal allowed him and the company to stay "mums the word on pelicans" in two senses. On the one, it avoided pelicans entirely, signified by the expression 'mums the word' to mean 'keep quiet on something.' The environmental harms of his work were hardly the interest of his project. Instead, Browne humanizes himself by talking about his own Mum and how her trauma passed down to him to affect his work in the company.

Browne's scandal was not simply a blip. He turned it into an opportunity not only for public confession and redemption but also to fold himself back into the oil industry after his shameful demise. He makes this explicit in his book *The Glass Closet: The Risks and Rewards of Coming Out in Business* as well as in his related book tour (2014). Browne used his belated confession of his homosexuality as the reason for his failures: "I was too frightened to go out to a club or to find a date because of the risk of being discovered. Instead, I chose a secretive and far riskier approach" (2014, 14). He was, as he suggests, interested in a normative, long-term partnership, but was simply too afraid to do so. Even when he had found his partner, he was

"[t]oo ashamed to tell most of [his] closest friends how we had met" and "concocted a story that we had bumped into each other while running in Battersea Park" (14).

But Browne's shame about his sexuality as grounded specifically in a *familial* violence; his mother had survived Auschwitz and her own trauma inflected the repeated warnings she gave him as a child: "Don't trust people with your secrets" (22). He thus became secretive from a young age about his desires. In situating his gay shame in this way, he mobilizes the historical violence against Jewish and gay people and eclipses the environmental violence that his sexual struggles animated. He is unable to process a series of traumas: the violence of the Holocaust and his own loss of living as a 'normal' and 'easy' life as a white heterosexual man.' He spent years in denial of his sexuality, what Abraham and Torok would frame as a kind of *introjection* of his sexuality, an inability to swallow his own same-sex desires (Abraham & Torok 1994). Out of fear of enacting gay relationships in public and being outed at work, his mother became a "surrogate partner" for him, as he says, and he committed more to caring for her than developing his own romantic partnership. He frames this as a somehow regressive turn: "I now realise that I did not only want to look after my mother. I needed her to look after me and to protect me from my own desires" (26). His intergenerational trauma is apparently what prevents Browne from moving outside of that nuclear family and seeking out romantic relationships.

Browne uses this book to finally properly process his mother's trauma, finally turning the introjected traumas into incorporated ones by taking them and accepting them. In order to turn it into fuel for his future success, he shifts it from psychic unrest of a kind of melancholia to a productive and concise mourning. Implicit here is that as an adult, being stuck in certain bio-family ties is actually a hindrance; a successful sexual subject is one who can move past their own biological family and create their chosen family. This is, of course, a particularly Western

construction that devalues having multigenerational families living under the same roof. Indeed, the biological family of one's youth need not be counter to one's adult success.

His text, as suggested by the title, is not just a private-made-public confessional. It is didactic. Browne makes clear that disclosing one's sexuality is crucial, and if you don't come out, "you're not accepting your full self" (70). Citing a former colleague at BP, Paul Reed, he espouses this idea: "I don't want people saving a quarter of their brain to hide who they are. I want them to apply their whole brain to their job" (98). This places emphasis on having a stable sexuality in order to narrate oneself as a legible and productive subject. It enacts the kind of queer liberalism logics that scholars such as David Eng have critiqued whereby "sexual, romantic, and conjugal relations defin[e] the liberal individual, serving to consolidate and separate the private domain of the bourgeois home from the public realm of work, society, and politics" (2010, 11). He reifies the private and the public to be crucial to the formation of justice and equality; one must be legible as a non-normative subject (for instance, a homosexual) in order to gain access to these rights.

Much to the advantage of BP, however, his fall from power is a helpful distraction for the company's environmental failures. Through Browne's teleological arc of becoming a healthy gay, he implies the violence of both the major 2005 accident at BP's oil refinery in Texas and the 2010 Gulf oil spill were an individual personal failing of a self-described lonely and fearful gay man afraid to come out, who had to stoop so low as to *purchase* sex.[34] Sexuality is most successful when professed because, again in a confessional sense, this prevents it from eating away at one's self. It moves the queerly abject subject away from shame into a normative

[34] Brown notes in his book that he routinely went to strip bars with his male colleagues, which he found "appalling."

(re)productive laboring subject. Though Browne never takes responsibility for how his work could have led to the spill, the disaster echoes every time he talks about how he was CEO of BP. Even though Tony Hayward had taken over as CEO for Browne in 2007 before the Deepwater Horizon disaster, the Sun King had set the lax safety protocols in motion during his 17-year reign as CEO and his 41 total years working for the company. His departure from BP in 2007 nonetheless makes him quite culpable for the events at the Macondo Oil Prospect.

BP Awash in Gayness

As others have written, BP continues to thrive from the Browne scandal through its ongoing LGBTwashing campaigns, which provided a helpful pivot away from the defunct greenwashing campaign (Monk 2015). Though the company had had some diversity efforts in the early 2000's, according to Browne, overall there was radio silence on queerness according to a gay employee at the company (Browne 2010). BP has cleaned up its post-spill image by backing LGBT non-discrimination policies and acting as a founding member of OUTstanding & Financial Times Leading LGBT & Ally Executives, an executive-level network for LGBT business people and allies, with a mission to create an environment where LGBT executives can succeed. BP is on Stonewall's Top 100 Employers list, boasts LGBT recruitment events, and is "proud to be a business where you can be yourself" (qtd. in LG*BP*; BP 2015). Consequently, BP has had a perfect score on Human Rights Campaign's "Buying for Workplace Equality Guide" for several years (Human Rights Campaign).

What is crucial about BP's LGBTwashing and the implicit link of Browne's own gay subjectivity to the spill of 2010 is that it fold gays and lesbians into normatively laboring subjects who feel validated and safe in their workplace. Following David Eng, BP and Browne mobilize the "liberal inclusion of particular gay and lesbian U.S. citizen-subjects petitioning for rights and

recognition before the law" precisely as laboring subjects (Eng 2010, 3). Many of BP's LGBT promotional materials feature smiling, well-groomed gay men of color, juxtaposing the company's discussion about "conservative sexual politics" in countries "over there… in the Middle East" (BP 2015; Browne 2010). In mobilizing gay men of color as on the side of BP, the company thrives on queer liberalist ideals of forgetting race, a gesture akin to the very Pelican analyzed earlier. Central to this queer liberalism is not just a forgetting of race as Eng would say but a forgetting of the intermingling of multispecies violence that *facilitates* this confession.

BP's emphasis on its ostensible LGBT-friendliness is a means to revitalize the company following the haunting disaster, which it does not name, but whereby anyone who simply hears the company name thinks of the 2010 environmental disaster. While Browne never so much as mentions pelicans, he doesn't have to. They have been etched into the regional and international psyche since the spill, marking protest signs and entering archival records of the spill (Cave 2010-2011). As an anchor from Bloomberg News notes, "pictures [of the oiled pelicans] are indelibly entered into people's memory, and so while BP works to rebuild its reputation, these pictures are going to live on for years" (O'Leary 2012). On the other hand, it is quite significant, then, that Browne *doesn't* mention the birds, or even The Pelican, nor does his successor Tony Hayward. Ironically, by never naming them, they become a Cryptic figure, an inadmissible secret that must be buried and unspoken rather than processed (Abraham and Torok 1986). The figure of The Pelican thus becomes a haunting figure throughout the Gulf and the U.S. every time there is an oil spill, and they are, indeed, ongoing. And with the [silent] figure of The Pelican comes the Human, reminding humans how central white, pious motherhood is and discursively erasing the ongoing subjugation and villainization of Black mothers and how Native genocide even brought The Pelican into favor.

IV: Squawking Back

Adult pelicans are silent creatures, only using squawks as juveniles to communicate to their caretakers. However, many in the wildlife rehabilitation facilities noted that pelicans of all ages were squawking, suggesting that this vocalization is also a powerful sign of distress. Squawking, unlike other forms of communication, is a warning sign, a step-back, a veritable fuck-off. In embracing squawking, I wonder then, how might the figure of The Pelican be strategically mobilized for intersectional and insurrectionary modes resistance that attend to the lives of actual humans and nonhumans? How can it be shifting beyond an unspoken Crypt that shows up in haunting gestures, fleeting images of oiled birds across the screen, or unnamed birds in photographs who we are trying to grapple with, who we must frame and place on our desks just to remember them, to try to process the immense violence of humans' environmental extraction of oil.

The symbol of the bird, I'd wager, is not stuck in the icky politics of its past. Just as the fleur-de-lis has been taken up as a symbol of Cajun pride in Louisiana, so too, can the image of the oiled white/brown pelican be a means to think about multispecies anti-racist justice. Here the work of performance troupe called "BP or not BP" can help us think through an alternative use of the iconic Pelican. The UK-based BP or not BP, began as the Reclaim Shakespeare Company and turned into a full-time environmental protest group, organizing most of their actions in the British Museum to protest BP's sponsorship, most egregiously of a Sunken Cities exhibit that features Indigenous art which several tribes have demanded be returned.

Early on in their campaign, the organization collaborated with the New York theatre protest group known as Reverend Billy and the Show Stopping Choir to recreate the death of a white pelican and a small dolphin being swallowed by the BP oil spill. Fifty black umbrellas

slowly slunk into the museum lobby, carried by obscured performers dressed in black. The white pelican puppet, animated by a performer dressed in white, squawked as it was swept into the oil. After the pelican and dolphin are finally subsumed by the oil, one of the actors hidden under the umbrellas let out a blood-curdling shriek. Immediately the mass of spill umbrellas quickly turned into mourning human funeral attendees, dressed in all black holding their umbrellas above themselves, as if under the cover of rain (May 2, 2015). Here the performance artists used their own voices to lends voice to two creatures whose deaths were not mourned.

They make it clear that pelicans are indeed a powerful image (as they use the oily figure of the bird in their own logo) and that this affective response can move us to think *across* species to more deeply interrogate our complicity with oil cultures. In another protest where they used the figure of the pelican, they honored the 11 workers who died with 11 minutes of silence in the museum lobby. A turtle joined the pelican and oil workers, too. It is certainly not an easy task, given how central oil is to the American psyche, but recognizing the multiple participants and affected populations is a means to recognize how pernicious oil can be.

Figure 6: BP or not BP Protest, May 2nd, 2015

What BP or not BP offers us is an affective pivot to think through trauma. In a different tone, the group later enacted a "splashmob" protest featuring gender-bending mermaids with facial hair, wigs, and bikinis covered in glitter protesting BP's same exhibit. Mermaids such as "Cruella de Spill" effusively thanked BP for single-handedly helping to flood the earth, giving mermaids more area to swim. The piece dripped with sarcasm and the joke was heavy-handed but fun. In conjunction with their tongue-in-cheek content, the performance group created an interactive map for passerby to write down which cities they have visited and how the rising waters will affect their homes. A passerby from New Orleans took the time to speak about his experience with the 2010 spill and his response was posted on the internet. The humor offered a different opportunity to crack open the Crypt of The Pelican and think through environmental justice.

BP or not BP forwards a dynamic and intersectional critique that can be helpful as a first step. It mobilizes the tragic image of the oiled white-ish pelican to think decolonially about environmental violence. They bridge their ongoing collaboration with environmental critiques from Native activists such as William "Hawk" Birdshead, a leading Indigenous water protector from Standing Rock and various Indigenous Australian campaigners including Rodney Kelly. In incorporating the experiences of Native people spatially positioned away from the BP spill, they encourage viewers to think intersectionally and multitemporally about how environmental racism and colonialism shaped this individual oil spill. BP or Not BP's performances also reroute the melancholia of the tragic image by giving queer frivolity a place to perform. The next step, as BP or not BP points out, is moving out of the allegory of the pious mother pelican into the interconnected systems of environmental racism and gendered violence. While it is certainly only one interpretation of a next step, and one that doesn't actually bring in living pelicans, it is a

step beyond the discomfort that we, as scholars, might feel about the circulation of these toxic figures. Rather than just dwell in the discomfort, it behooves us to begin to think otherwise. And to the hooves we now turn.

THREE: The Pig Bomb: Feral Hogs and the Bolstering of U.S. Homes

On August 21st of 2008, a captivating story plastered the front page of the New Jersey Star-Ledger: "One day a little pink pig escapes from a New Jersey farm and in a short while it grows into a large aggressive and destructive feral hog," journalist Frank Cecela writes. The pig had "GONE HOG WILD!" as the title shouted with thick black capital-case letters. The article mapped a growing community of roughly 100 feral hogs in Gloucester County in New Jersey. In a near magical tone, the newspaper describes the shifting shape of what was once a little pink pig: The hair and bristles grow longer, the skin and hair grow darker, they become more lean and muscular. They become more opportunistic eaters including eating small bugs, roadkill, and even fawns or young goats.

Figure 1: *New Jersey Star Ledger*, 2008

When this pig reproduces, the article reports, the next generation mates at an earlier age, develops tusks, and has more offspring per year than before. Though there are many kinds of domestic pig breeds, "they can all devolve into a wilder form" (2008). With this and the title "GONE HOG WILD," the author invokes the *Girls Gone Wild* franchise, which featured intoxicated college-aged women who would flash their breasts in public or engage in sex acts on camera in exchange for food, clothing, or money.[35] The salacious title draws in the viewer to draw upon a different kind of wildness, which, too, has become a spectacle.

The article creates a stark contrast between the simple caricature of a light pink piglet and a crude drawing of a dark hog with wiry brown and black bristles. Both are shown in an identical posture, with head lowered yet looking directly at the viewer. As a piglet, this posture might be interpreted as curious or even scared but certainly not a threat. After all, the pink pig is small, lanky, and hairless, probably still a juvenile. So, too, does the simplicity of the image suggest it is merely a cartoon figure, hardly capable of being menacing. The wild hog, on the other hand, is shown in gritty detail. This hog takes a posture hunters have interpreted to mean it is "standing its ground and ready to fight" (Suwannee River Ranch).[36] The unnamed artist emphasizes the menacing nature of the hog through shading its eyes to suggest a furrowed brow and making the creature. The detail and size of the image on the page seems to make the creature jump out at the reader, mirroring how the animal takes up more space than it should, all with a glint in its eyes.

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[35] The Girls Gone Wild franchise has been in existence from 1997-2011, ending after a series of charges were filed against the founder.

[36] Though not a strict taxonomy, the names people give different pigs say a great deal about the systems: the domestication or lack thereof is what determines the class of the name. A "pig" generally refers to a smaller variant of the same species as a hog (known broadly as "swine"). Pigs are usually less than 100 pounds whereas hogs are more. A "boar" refers to an uncastrated male and a sow refers to a female. But when these animals exist outside domestication new words are necessary: "feral" indicates an animal that was formerly domestic whereas "wild" suggests a lack of domestication. These terms, as we shall see, are slippery.

The *going* wild indicated in the title of this news article is an apt turn of phrase, since the pigs enact both a spatial journey outside of the farm and a temporal backsliding, a grotesque physical transformation away from the pink little piggies that have become part of Americana (See: *Babe,* Wilbur from *Charlotte's Web,* Miss Piggy from *The Muppet Show*). Pigs who make the temporal slide of "going wild" wreak havoc on farmers' lands and spread a variety of illnesses, including 30 types of viruses and over 40 types of parasites, and can destroy crops with their foraging and nesting (U.S. Department of Agriculture 2014). They can spread these not only to other wildlife but also to domesticated animals and even humans. The most prominent include including pseudorabies, porcine diarrhea, *e. coli, brucella suis,* and the infamous swine flu (H1N1).

Some of these illnesses can cause spontaneous abortions and fatalities in domesticated animals and flu-like symptoms in humans. These can have staggering effects for farmers. An outbreak of porcine epidemic diarrhea virus, for instance, was estimated to have killed more than 100,000 piglets and young hogs in Iowa in May 2013 (Ross 2014). Feral hogs are deemed pests precisely through their toxic gnawing at animal agriculture and the rate at which they reproduce. They cause an estimated 1.5 billion dollars of damage annually in the U.S., where an entire department has been founded to eradicate them: The Feral Swine Damage Management Program (USDA 2014). The creation of this federal program suggests that these wild hogs do not simply eat away at animal agriculture, but are folded into it. In other words, feral and wild hogs are *toxic animal figures* that are economically and discursively productive.

Feral and wild hogs have symbolic power differently than the other cases in this dissertation. While oiled pelicans remind of the importance of saving birds along with the white, hetero-nuclear families they stand for, wild and feral hogs are positioned as invaders of

American farmer's homes, who are almost always described as white. The physical reproduction of these hogs and their intimate encounters with one another as sows, boars, and piglets are constantly framed as pestilent and toxic in contrast to the white family farmer's families. Unlike the previous cases where nonhuman animals are victims of toxins spilled by humans (for instance, pesticides and petroleum), hogs here are described as villainous zoonotic vectors in their own right, with the capacity to spread illness across species lines.

Interrogating the stories that humans tell about the "epidemic" of feral and wild hogs is important precisely because these conversations are widespread. Many who are invested in animal ethics agree that feral and wild hogs are a problem requiring a concerted response, even if that means killing them. In this way, feral hogs are biopolitical figures that justify and even encourage the taking of life in the name of protecting humankind, human progress, and the stability of the current ecosystem (Shukin 2009). Though some in critical animal studies and feminist science and technology studies have attended to the discourses surrounding wild and feral hogs, little attention has come to this question from an intersectional analysis that attends to the racialization of population politics here (Cummings & Cummings 2017; Rowan and Timmins 2016; Stanescu 2017).

In this chapter, I examine how anxieties about wild and feral hogs are negotiated through human desires to maintain boundaries of not just human/nonhuman but wild/domestic through controlling populations. These publicly expressed anxieties enact ontological borders through the familiar frame of the white American family as the site of physical attack, but here it is the farming family in particular whose fences are breached. Human anxieties about the high rates of wild hog reproduction lead to fears of not only multi-species viral epidemics but threats on the white American family farmer's home and on its livestock. These anxieties take shape in a story

that many residents, farmers, wildlife workers, and concerned citizens tell in common about how wild hogs came to be an invasive species in the U.S. In so doing, these storytellers frame the wildness of these hogs as temporally situated in the past and seek to enact their containment through tracking their cross-breeding with domestic pigs, pinpointing the DNA melding of the multiple types of wild and domesticated species. Anxieties about cross-breeding and overpopulation of pigs are, as I will demonstrate, co-constituted with eugenic ideologies about humans. The hyper-reproductive figure of the feral hog is a shorthand for broader multispecies anxieties.

Despite efforts to keep domesticated and wild pigs separated from one another (or rather to keep domesticated pigs from escaping, as it seems that feral hogs do not usually return to their spaces of confinement), toxins can spread across different species of pigs that are divided by a physical barrier. (Over)population anxieties, fears of toxicity, and constructions of wildness are enmeshed in this case. I argue this ontological divide has important discursive and material effects on the economic and cultural conditions in North Carolina specifically, the 2nd largest pork producing state in the U.S., where the threat of toxic wild and feral hogs is directly against the domestic pork production of the state.

In so doing, I interrogate the ghosts that haunt these formations and the racialized and colonial histories and presents that have shaped American domesticity. To do this, I analyze popular discourses surrounding wild and feral hogs, paying special attention to news articles and agriculture workers' statements online and on television. Among these texts, I devote particular attention to a Discovery Channel show entitled *Pig Bomb* (2012) and a BBC special called *The War on Hogs: Fight Against 500k Feral Pigs in Louisiana* (2015). I recognize the historical and ongoing discursive violence of "ferality" and conclude by sitting with ferality as a mode of

potential.

Wildness, Ferality, and Pig Tales Across the U.S.

Devolution and Transmogrification

Brian Flatter of the Idaho Fish and Game Department was asked to describe the process of hunting wild and feral hogs: "… it's a little frustrating because we're basically chasing ghosts," he said (qtd. in Darr 2011). Flatter refers to the fact that hogs are difficult to track in real-time since they can migrate large distances and become exclusively nocturnal in areas of high human activity. Hunting hogs down thus often requires specialized night-vision and heat-sensing equipment. This means they are essentially invisible during the traditional day-time work hours, except for the remnants they leave: rooting in the soil of fields, debris gathered for nests, and the tracks of their hooves. But Flatter's statement is apt in another sense: the hunting of feral and wild hogs is also about chasing ever-present ghosts of colonization and settlement of North America.[37]

The article mentioned in the introduction depicts a single domesticated pig (*Sus scrofa domesticus*) transmogrifying into a feral hog (*Sus scrofa)* after freeing itself from confinement. The charged suggestion that these pigs have "regressed" and "devolved" into their wilder states demonstrates the power of evolutionary thinking here, where the farmer is the ostensible facilitator of evolutionary progress. After all, there are dozens of domestic pig breeds, each developed for specific traits, such as the hogs that are often bred in the U.S. to have light skin to match the pork industry's advertisement that pork was "the other white meat" alongside chicken, and lean, unlike red meat. Hogs are described according to their species and breed in order to

[37] With this, I use "ghost" not to imply that colonization of North America is a thing of the past. On the contrary, I use ghost here to demonstrate that feral hog anxieties are entangled with the *myths* of colonialism as a thing of the past.

understand their evolutionary complexity. “Hog Gone Wild” demonstrates that the careful breeding progress can slip backward if unattended to and implies that the control by humans that is what prevents this backward slide.

The notion that domestication must be maintained lest *individual* pigs actually revert to different species is ubiquitous in online hunting forums (Bach 2017; boomership 2015). Some hunting enthusiasts post their speculations about how fast a pig can devolve while others write in pseudo-scientific terms about epigenetics, ostensibly supporting their arguments with questionable sources. Despite the lack of scientific rigor, the possibility that these theories might actually reflect reality is enough for them to take hold in the American hunters’ psyche. They are “alternative facts” with a specific purpose, to mirror the language of Donald Trump’s press secretary Kellyanne Conway (qtd. in NBC News 2017). It matters less whether the “facts” are actually factual but rather whether they have meaning or appeal to those who accept them as *truth-y* enough.[38] Across the range of types of engagement online about wild and feral pigs, there seems to be agreement that something about pigs being out of confinement turns them wild. Some speculate that it is mating with the already-wild boars or the increased exercise pigs get in the wild in order to survive that is the cause, increasing the testosterone that they did not produce when they were being fed in confinement.

Yet the *feral hog figure* contains contradictions: on the one hand the domesticated pig who escapes “goes wild” and “devolves” because it is away from human civilization, as indicated by the article at the start of this chapter. Individual pigs’ ostensibly increased testosterone production thus makes them hairier and hardier to survive in the wild. Yet, others argue that hogs

[38] This is a reference to Stephen Colbert’s coining of the phrase “truthiness” during the Bush administration (Colbert 2005).

have actually devolved in confinement and domestication by humans. These pigs have been fed, protected from predators, and therefore somehow pampered to the point of inability to fend for themselves. This sentiment is powerfully conveyed in an inflammatory post on a forum about feral hog devolution: "[t]here is a good amount of survival skills they lack once being release [sic] from Section-8 housing. No more free rent and blocks of cheese" (Anonymous in boomership 2015). The commenter is writing on a thread about *feral hogs* yet the reference of "Section 8" he makes is a distinctively human one, indicating that the figure of feral hogs is enmeshed in toxic tropes about humans in poverty.

As this single comment demonstrates, the anxiety of the "welfare" pig gone feral draws on a series of disturbing sentiments that require unpacking. The most salient is the disgruntlement among conservatives with the existence of social welfare structures in the U.S., in this case with Section-8 Housing, which grants rental housing subsidies to specific public housing complexes or to very low-income families to use directly with private landlords. This allows them to pay only 30% of their income to housing rent (U.S. Department of Housing and Urban Development). Only families who earn a combined income of less than 50% of the median income in the area or individuals who are elderly and/or have disabilities are able to qualify for Section 8 Vouchers. Most who apply are not accepted as there is simply not enough available funding.

Contrary to popular belief, therefore, those who benefit from Section 8 do not have free rent and are scrutinized to ensure their ongoing eligibility. Yet Section 8 continues to be seen as a charitable institution for very low-income people in the U.S., first initiated during the massive unemployment of the Great Depression in the U.S. in the 1930s. Despite its introduction as a part of widespread social welfare, the structural causes of poverty are obscured when Section 8 is

framed as a program to make life livable for only certain individuals rather than redress structural inequality. The single online comment villainizing Section 8 tenants refuses to recognize that earning income that is insufficient to cover housing does not reflect individual failure (suggested by the survival skills that they ostensibly lack) but rather an economic structure in the U.S. that functions precisely through social inequality. Implicitly critiquing Section-8 as a gesture of charity refuses to recognize that the U.S. economy has thrived on subjugation, specifically through settler colonialism, including the ongoing extraction of capital and labor from Native lands, and chattel slavery in the literal building up of the American economy. Viewing Section-8 as a handout fails to unpack the violence inherent to the very structure that Section-8 seeks to place a band-aid on.

Furthermore, the "blocks of cheese" here alludes to the Special Supplemental Nutritional Program for Women, Infants, and Children Program (commonly known as WIC) for low-income mothers and their children up to the age of five who are specifically determined to be at nutritional risk. WIC is especially racialized and white Americans often presume that WIC participants are the same unmarried, divorced, or widowed Black mothers who are "welfare queens" collecting unfair unemployment earnings from the government. This is evident in the very organization who runs the WIC program, the U.S. Department of Agriculture, in their 2015 report on the program. Despite reporting that over 50% of women enrolled in WIC in 2014 were white, the USDA included pictures of only Black and mixed-race women with their children on the report cover (Thorn et al. 2015).[39] The "blocks of cheese" in this comment is an immediate

[39] There is rich and important scholarship on the racial politics and perceptions of social welfare programs in the U.S., including Neubeck 2001; Roberts 1997; Ward 2005 and others. A multispecies analysis of these structures is unfortunately outside of the scope of this project, but certainly worthy of further study. Gillespie and Lawson's 2017 analysis of homeless people's

invocation of WIC and always already a racialized image that is reinforced by the very institution that oversees it. When the original commenter describes this cheese as preventing pigs' survival skills, they highlight how transmogrification and devolution discourses have multispecies implications.

A single comment online carries a great deal of weight. Using the metaphor of Section 8 housing, a farmer can convey anxieties about feral pigs in a way that is legible to other conservatives who carry similar disdain for social welfare systems. This comment as a single speech act is further solidified when no one refutes it but rather six people explicit support the comment through giving it a "thumbs up." The *toxic feral pig* thus carries with it the racialized figures of the unnamed welfare enrollees in the U.S.

The myth of devolution, too, is central to the fantastic power of *feral pig figure*, though it is not always explicitly framed as a side effect of social welfare programs. The notion that a single pig can devolve into a hog in the absence of human civilization has been recently popularized by Joe Rogan, a conservative American podcast host and comedian. His tales have been phantasmal but believable enough for hunters to latch onto. Following his logic, domesticated pigs indeed do "revert" back to the wild in just a few weeks after escaping. This theory is so ubiquitous that an entire Reddit thread was started by an irritated poster seeking to disrupt the myth that Rogan continues to animate on Reddit boards (Reddit threads 2015 & 2017).

Conceiving of *devolution* (backward evolution) as a physical phenomenon rather than just a value-laden turn of phrase is scientifically questionable at best. Most evolutionary scientists have agreed outright that it does not exist. Moreover, those who did propose devolution did not

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understanding of home within their companion animals in LA (and how these companion animals shape their access to social welfare) may provide an opening here.

assert, as these hunters do, that a single individual was capable of devolving (Bowler 2003; Desai 2009). On the contrary, those who espoused devolution argued that an individual of a single species could display the genotypes and phenotypes of a "less advanced" version of itself if affected by parasites or an environmental condition that would prevent usual development. Other sympathizers have argued that although populations maintain a kind of genetic "evolutionary memory" of how the species has evolved, the further the species moves from an evolutionary shift means the less likely it is to have individuals that show the genotypes of their ancestors (Desai 2009).

The teleological model of evolution that subtends these devolution fears continues to position humans not only as stewards of the evolutionary process but as the ideal end product of evolution. The premise that humans have made it to the top of the evolutionary chain and are therefore the most advanced fails to recognize the limitations of evolutionary theory; different traits are necessary for surviving and thriving in many different environments. As such, the overlapping theories of de-evolution and teleological evolution have important effects on how humans conceptualize the natural world: that which is not human is less-evolved. And as the article and hunter forums demonstrate, it also requires understanding what that backward slide might look like in order to understand the risk; it requires a fabrication of the *wildness* of boars. It places value on the concept of species in order to validate human progress.

Origin Stories of Pig Speciation: Waves of Hooves

The anxieties about backward sliding pigs also reveal human conceptions of not just wild and tame but the power of thinking through sub-species. When describing the problem of feral and wild pigs, journalists often describe them as a commodity gone wrong long ago and became three kinds of hogs, a species that has *speciated,* or branched into several types of species: (1) the

"Old World" Eurasian boar, *Sus scrofa*; (2) the more recently domesticated pigs, *Sus scrofa domesticus,* who have escaped and become "feral;" and (3) hybrids thereof that seem to straddle time (both "New" and "Old" World) and space (American and Eurasian). The temporal and geographic vectors of these species do important cultural work.

Sources as varied as *Scientific American,* the *Smithsonian Magazine,* federal and state wildlife programs, and hunting websites tell a similar origin story of how hogs first came to North America in three waves (Bates 2017; Morthland 2011; Nordrum 2014; USDA n.d; Vess 2017; Washington Invasive Species Council 2009). Their similarities suggest that they are, indeed, co-creators of this story and that these stories matter*,* figuratively and literally. Most of the story-tellers describe Hernando de Soto as having brought "an Old-World species of wild hogs" as an emergency food supply in the 16th century (Boylan 2016). (Others mention Christopher Columbus, but his name comes up less frequently than de Soto's). Boars were helpful to explorers such as de Soto because they were an emergency food source for explorers who were uncertain of what the terrain of the New World would hold for them (Darr 2011). But, as the narrative explains, some of these boars escaped and reproduced, establishing the populations of wild boars across the Southern U.S. (Noble Research Institute 2015).

The second wave occurred when English settlers came to North America, with domesticated pigs on board (*Sus scrofa domesticus*). These settlers rarely used fences to contain their pigs, in part because they knew that they would still lay claim to these pigs when they were rounded up. Colonial laws here maintained that livestock who roamed remained the property of the original herder. But since European animals wandered away from the settlers' villages, "indigenous peoples over a broad and ever-moving front would feel the effects of the advent of four-legged invaders even before the two-legged variety became a settled presence (Greer 2012, 383).

Later, many would describe this as one of the tragedies of farmers' failures to use livestock enclosures, akin to Hardin's *tragedy of the commons,* so some of them migrated away from the settlers' communities (Hardin 1968). Though these pigs were much smaller in size than the Eurasian boars that were already proliferating, the two species co-mingled, co-habitated, and mated. In this way, we see how domesticity – embodied by the sense of species progress and development is entangled with the proper domestication of nonhuman animals; these farmers' stories imply that fences and property boundaries were indeed necessary for progress.

The supposed third wave of pigs-gone-wild occurred in the 1930s when the Eurasian wild boar (also known as the "pure Russian boar") began to be imported to the U.S. for sport hunting purposes. Since this species was perceived to be more hardy and agile than the other pigs and hogs on the continent, it promised to be an exciting hunting prospect for American hunters (Noble Research Institute 2015). However, again poor fencing meant that these wild boar escaped and began to wreak havoc on lands outside the hunting grounds. Though the first two waves of pig introduction are described as the primary reason that feral and wild hogs are such a widespread problem, it is likely that Eurasian boar hunting enterprises' import of boar colonies coincided with the spike in awareness and concern about wild and feral hogs in the 1990s. All three waves are told of tales of accidental introduction to the environment, errors that now plague humans several centuries later. This three-wave story does important work because it re-centers the white American family (here as a farming family) as the victim of this invasive species, both through how it casts light and how it throws shadows (and shade).

Framing the release of hogs as a colonial accident is misleading, however.[40] After all, hogs'

[40] Here I extend Banu Subramaniam's call to re-think the linguistic politics of invasive species rhetoric (2014).

introduction and proliferation were important to the European colonization and settlement of North America (Essig 2015). As historian Mark Essig asserts, the reproduction of hogs in the New World was not just intentional but crucial to the success of explorers and colonizers. Despite the wide array of animals that explorers took with them, including horses and cattle, pigs thrived in the thick forests of the Northeast far better, reproduced more rapidly, and became fuel for the military might of explorers and settlers of North America. Journals of Hernando De Soto show that he encouraged future settlers to consume only the hogs that they needed and to be certain that a male and female hog were always left in an area to repopulate (Essig 2015). He even encouraged depositing pairs of pigs on islands as resources for future explorers, since the contained space of the islands functioned as a kind of helpful land containment, again hinting at the valuation of fences. (Little did he know that pigs can swim.) As Essig explains succinctly: "Livestock served as the vanguard of the empire" (142). The free-ranging pigs ended up destroying the lands of those Native folks who had not been killed by the swath of diseases European explorers brought with them, and sometimes being a vector of illness in the process (Essig 2015).

Many contemporary wildlife workers and journalists mention Hernando De Soto when describing hogs as "invasive," yet rarely do they make the connection that hogs were invasive only in as much as they were carried alongside the real invaders: European explorers and settlers. By telling this story in this way, it becomes clear that the wild and feral pigs are a problem because 21st century Americans are no longer benefiting from them in the same way their 16th-century predecessors did. These pigs are the work of the long-gone Spanish and British explorers, specters of another time, pests that cannot seem to be expunged. While also positioning people of the U.S. as the rightful victims of this "invasive" species, these stories also

render the wild boar more monstrous by framing it as temporally and evolutionarily backward. After all, a popular pig hunting television show describes it as emerging from an "old time" and from "a distant land: Russia" (Leckey 2012).

In addition to wildlife workers' reports and farmers' forums, hunting shows are crucial to the life of feral hog discourses. Hunting shows are wildly popular because they transform the popular physical pastime of "going for a hunt," which is limited by one's finite amount of energy and ammunition, into a conceptual one; one cannot *go* for an actual hunt every day and thus these shows perform a kind of substitute as well as a supplement. These shows are also what keep the feral hog alive as a figure. Though one may kill individual feral hogs or watch individual hogs be killed on television, it is the *feral hog figure* that continues to beckon with its nocturnal invasion. Hogs are the focus of many hunting shows on The Hunt Channel and A&E precisely because they are invasive. They have been taken up in dozens of television shows, from the masculinist iterations of shows called *Hog Hunters, Hog Wranglers, Boar Busters, Southern Hog Hunters, Hog Wild* as well as those that play with the femininity of lady hog hunters who are also vicious in their hunt of feral and wild hogs: *Hogs, Dogs, and Lace; Wild Women Hog Hunters;* and *Hog Dawgs* feature women with tight-fitting clothes who compete with one another in hunting down hogs.

The popularity of these hunting shows is reliant not only on the power that hunting has for conservative Americana but also on the figure of the feral hog as the rambunctious contender. These ancient pigs described as "boars" are especially wild and destructive with their larger tusks. They are described as gathering in "rowdy groups" and "boast[ing] razor-like tusks sharpened by constantly gnashing their teeth" (Boylan 2016). Another journalist humorously writes that "these little piggies are hardly harmless" (Darr 2011). The joking references to the

innocence of domestic pigs reveal another source of the fearmongering power of ferality and wildness: these hogs are monstrous *because* they have a harmless and hairless foil.

Wild Pigs: Reification of the Domestic Home

In mentioning "little piggies," this journalist alludes to another cultural function of domesticated pigs: contributing to the formation of the domestic American home. Another journalist of NBC News calls forth the image of the domesticated piggy to juxtapose it with feral pigs, who he calls "Not-So-Little-Piggies" (Kalthoff 2010). The idea of describing pigs as "piggies" is akin to adding the Spanish suffix *-ita* or *-ito* to emphasize someone or something's cuteness or small size is a rendering cute of the domesticated species whose bodies often end up on the dinner table. "Piggy" and "piggies" have been taken up in many ways by military efforts in the U.S. to fight the feral hog. Some hunters have described feral pigs as "piggies" to try to defuse their power, for instance beckoning them with a "here piggy piggy." But piggies are not just useful as a contrast or foil to feral pigs; they are a bolster for American domesticity. For instance, the "Three Little Pigs" nursery rhyme with which readers may be familiar is another potent story that puts pigs to work in the construction of the American home. They are rendered culturally to become didactic figures.[41] The "epidemic" of feral hogs who are decidedly *not* little piggies makes re-reading this story significant.

The "Three Little Pigs," a tale of English origin made popular as early as 1889, has had wide appeal in the U.S. for over a century thanks in large part to the marketing of the Walt Disney Company, who developed it into a short film. It features three light-skinned anthropomorphized pigs who wear human clothes, walk on two feet, and speak English. They

[41] Here I use the word "rendering" as Nicole Shukin has used it, to trace the way that animal waste tissue is transformed into useable byproducts (2009).

have been told by their mother to set out and find their fortune, which each pig interprets differently. Though the Practical Pig warns them about the wild and fearsome Big Bad Wolf, the first two pigs are unfazed. They are more interested in making music and playing, so they hastily create their houses out of straw and sticks to allow for more leisure time. When the Wolf comes around, however, they quickly realize the error of their ways. A home capable of deterring wild intruders is of more importance than they had anticipated and their flimsy houses cannot withstand the Wolf's efforts. The two seek shelter with their sibling who was prudent enough to build a house of bricks. (It is at this point that the stories diverge in endings, but in each the pigs are successful).

The Three Little Pigs is a multigenerational story that not only continues to be entertaining but teaches a division of wild/domestic even as it uses nonhuman animals to do so. The tale instills the idea that development and success is an individual endeavor, signified by the fact that these three brothers choose to live in isolated homes, only brought together in crisis. Actual adult pigs, on the other hand, often live with their young in communal nests through adulthood. Construction of a sturdy house against wildness is important to these humanoid pigs' survival. It seems to be little matter, however, that adult pigs are statistically less likely to be killed by wolves than another creature: humans (USDA 2018). This fable thus functions as an instruction to many children about the function of hard work and domesticity through the playful, light-skinned humanoid porcine figures.

Anxieties about feral hogs are, at the crux, anxieties about wildness infringing upon the American home similar to the threat posed in "The Three Little Pigs." Just as the physical creation of a human(oid) home is necessary to keep the external invader out, *against* wilderness, feral hogs become the wild intruder and must be kept at bay. This is evident in news reports

about feral pigs: as ABC news anchor Vanessa Coria notes "[i]f they're not stopped, they could move into *your* neighborhood" (Walsh 2014). Despite the lack of evidence that feral and wild pigs are invaders per se, they are described as a threat because they wreak havoc on families' homes and neighborhoods. The language of encroachment is ubiquitous in hunting and wildlife discourses echoing the deep-seated anxieties humans have about keeping Nature at bay. This is admittedly an ongoing battle for homeowners, who must contend with vines overgrowing their property; mice, rats, insects seeking refuge; snakes nesting in their foliage; and termites feasting on the very structure of their houses. In a surprising turn, feral hogs here have become the discursive Wolf of the "Three Little Pigs" and the humanoid piggies are the Home, which now includes humans and domesticated pigs.

These anxieties are vivid in one particular television series called *Pig Bomb,* a provocatively-titled show that interviewed farmers and homeowners across the Southern United States to track the destruction that feral and wild hogs have caused. *Pig Bomb* showed on The Discovery Channel, a station that has historically been known for its documentary programming on science, technology, and history, but its standards became markedly lax since 2010. The filmographers of the show also interviewed hunters and wildlife control experts to brainstorm how these hogs can be wrangled, slowed, and stopped. These conversations reify hog hunting as a discipline – a skill, a show of skill and prowess.

Many of the stories in this show hinge upon a normative home, where a house is rightfully taking up space to create a particular kind of farming family defined against animals. This is apparent in *Pig Bomb* in an episode entitled "Sinister Swine:" The narrator uses a deep, booming voice to describe the critters as "feral fiends" who "have been coming right into town and getting to know their neighbors" (2012). In a contradictory manner, feral pigs are frightening because

they have moved away from domestication yet they also are re-entering it. Contradictions seem not to weaken the *feral hog figure.* On the contrary, they demonstrate how the anxieties about home and safety need not have logic to be compelling and widespread.

The word "feral" comes from the Latin word for "wild," but has been taken up broadly to refer to those animals that have moved away from domesticity or captivity, making them even more uncanny because they *were once* domesticated and may still look like a "little piggy." The word "feral" here takes up not only the valence of that which has moved outside the domestic but explicitly encroaching those who are justifiably domestic, as indicated through the juxtaposition of the word "fiend" against "neighbors" in the aforementioned episode. One homeowner in Abbeville was outraged that wild pigs "invaded her yard," as the narrator said. "Cause some of them do get aggressive and they'll come and chase you if you let 'em" (2012). Shown overlooking her sprawling residence with a shotgun in hand, Janice Brown explains how she took desperate measures when she saw the pigs on her property. "I don't want hogs in my front yard," she said laughing. So, she explained, she got out her husband's shotgun and killed them. She says they've been gone for a while but she recently found evidence they might be living on her property "yet again," she said laughing as if this is merely another one of the challenges that homeowners face (2012). Owning and maintaining a home is thus always a site of contestation, and feral hogs provide a veritable, yet also comical, threat.

In transitioning to the next story of the episode, the narrator of *Pig Bomb* lays the story on thick: "If being assaulted in your own yard isn't bad enough, how would you like to find a wild pig where you least expect one: in the living room." The metaphor of encroachment on the home takes literal form here in sharing one Louisianan man's experience of being interrupted while "minding his own business" and being attacked by a wild hog who "burst through the front door"

and bit him. The narration of the incident in the show is played over a crude video re-enactment of the story created with a shaky camera for added effect. A similar sentiment comes up in the BBC special *War on Hogs,* where wild and feral hogs are described by Louisiana farmers as "the four-legged enemy." Mike Taylor, a biological consultant, explains the animals again using the metaphor of the attack on the actual home: "They don't just stick to their little corner of the world and stay there and don't bother anybody. They will come up in your house, sit in your recliner, play with the remote" (2015). The ultimate threat, apparently, is trying to change the TV channel, the crux of that stereotypical American home and, oddly enough, the very reason the viewer is watching the show in the first place.

Given the family-oriented tone of the stories of threat, risk, and attack, the hunting wild and feral hogs is a valued family pastime across the South (Boyle 2015). One branch of the National Rifle Association (NRA) is particularly keen on taking down feral hogs: NRA Family.[42] This sub-branch of the NRA positions itself as being "for families and beginning shooters of all ages," but without a target, the family has no hunting pastime. The ostensible threat of feral hogs on the family is precisely that which strengthens it, tautologically framing the family as constantly against the other: the wild creature who is both an environmental burden, a viral threat, and a tasty prospect. The stranger, to borrow Georg Simmel's thinking, is the force that bands the community together (Simmel 1908). Because these pigs are widespread and pestilent, their extermination is decidedly not just pro-family but pro-America. After all, their destruction is widespread: they are "ruining *our* wetlands!" (Leckey 2012). Engaging with wild and feral hogs is thus a strange encounter in an Ahmedian sense*,* where "the detection of an alien form is a

[42] The NRA Family logo depicts an eerie silhouette of what looks like a man, woman, and child wielding firearms and a guard dog at their heels (Vess 2017).

mechanism for the reassertion of a most human 'we'" (2000, 2). The ferality is an opportunity for reinvigorating patriotism, evident in families who can support gun ownership through the threat of dangerous feral boar encroaching on their homes.

Hogs are often described as aggressive and violent in the stories hunters and homeowners tell about them, yet it seems unclear how much this is actually in their disposition. The wildlife workers and researchers of Noble Research Institute nonprofit in Oklahoma, for instance, seek to allay farmers' fears in seeking to provide long-term agricultural solutions to farmers' struggles. They assert that while hogs can cause land damage in rooting for things to eat, the widespread conception of hogs as territorial is largely unfounded. They reassure farmers that wild pigs are likely more scared of humans than humans are of them. If a wild pig sees a dog or a human, they will most likely try to escape unless caught in a trap or cornered (Noble Research Institute 2015). As one of the members of the Noble Research Institute put it: "an unprovoked attack by a feral hog on a human is probably about the same odds as being struck by lightning" (2015). But the perceived threat of these violent pigs does important work across NRA Family articles, television shows on the Discovery Channel, and government wildlife websites: it bolsters the figure of the American family through physical violence against the invasive, violent, aggressive pig. Explicitly linking the hunting TV shows with firearm advertising, we see how the realm of the private – the home – is precisely what reifies violence as a legitimate intervention.

The Pig Bomb and Multispecies Populationist Rhetoric

But wild and feral pigs' disposition and encroachment is not just what makes them threatening, and this is what makes *feral hogs* such a crucial site for feminist studies to interrogate: Central to the worries about feral and wild hogs' destructive nature is how prolific they are. Their fast and frequent reproduction is what makes them a wide-reaching "epidemic."

This sentiment has a long history as the Latin name for wild pigs (*Sus scrofa*) means "breeding sow" and continues to be in use. The discursive reduction of these animals to their reproduction continues in the domesticated variant species name: *Sus scrofa domesticus*.

Through their reproductive prowess, wild hogs become more than just individual threats on family homes but a concerted takeover when outside of the farmyard. Journalists, bloggers, and hunters describe their reproduction as central to what makes wild hogs a problem (Bennett 2016; Boylan 2016; Darr 2011; Essig 2012; Leckey 2012). Deanna Darr of *Boise Weekly* notes in her article "Unwelcome Invaders" that pigs are "very, very prolific breeders" (2011). Jokingly, she adds: [r]abbits don't have anything on these guys" (Darr 2011). Mobilizing the trope of rabbits as constantly mating, Darr explains the reproductive lives of pigs: they can reach reproductive maturity at six months and can have between four and eight piglets per litter, and multiple litters a year. In *Pig Bomb,* too, one of the interviewed workers noted that "there is no known animal this size or larger that is better at reproducing" (2012). Another running joke about feral and wild hogs, according to a worker from the U.S. Department of Agriculture, is that eight out of five piglets survive from a single litter (USDA 2014). NRA Family describes feral hogs by saying "Their Reproduction is Out of Control" (McKibben 2017). What makes feral hogs pernicious today, however, is what made them such an integral resource to colonizers: they breed quickly (Essig 2015). What was once a saving grace is apparently now a ticking bomb.

Hunters have used the term "pig bomb" to describe what they perceive as the hyper-reproduction of wild pigs, evidenced in the TV show title *Pig Bomb* (Jeffries 2013). Their status as an invasive species and as "the four-legged enemy" is in large part due to their ostensible overpopulation, their "crowding out other wildlife" and "competing with other species" for resources (Leckey 2012). One episode of the television show, entitled "Pig Population Control,"

tracks farmers efforts to curb the pigs' reproduction. Others have used the "pig bomb" metaphor, too, indicating that it is not just a contained use of the phrase (Bennett 2016; Boyle 2015; Gagnon 2013). For instance, Chris Bennett of the AgWeb blog relied on this metaphor in an article entitled "Wild Pig Bomb Still Rocking Agriculture:"

> The wild pig bomb has detonated, ripping and rooting billion-dollar scars across U.S. farmland every year. The search for a silver bullet has come up empty, and the past 30 years have seen an established wild pig presence balloon from 19 states in 1985 to 39 states in 2016. High-end estimates of 11 million wild pigs make warnings over impending wild pig invasions mostly moot: The porcine beasts have already set up shop… With no effective predators other than humans, wild pigs are permanently on the cusp of a population explosion (Bennett 2016).

The violent and explosive metaphor reflects the fact that anxieties about feral and wild pigs as an "invasive" species stem from anxiety about population growth leading to scarcity, famine, illness, and crisis *across* species. The pigs are seemingly unnatural in that they don't have anything in the environment to regulate their growth, except for humans that is.

Here the power of the *toxic animal figure* comes from reducing the pig to its species numbers and, seemingly contradictorily, refusing to recognize the species as having unique members. The feral hog as *toxic animal figure* thus become a biopolitical technology in a Foucauldian sense, where "population [is] a political problem, as a problem that is at once scientific and political, as a biological problem and as power's problem" (Foucault 2003b, 245). The populations of feral and wild hogs pose a threat to the health of human populations *as a whole.* It is not merely about individual farmers' homes but rather about the health of humans as a whole. The mobilization of the biological sciences to trace the genetic makeup of pig species in

order to address the problem that these animals pose to the ongoing lives and livelihoods of the Human. As such, the anxieties of pig populations only accelerate the figure of the feral hog.

The feral pig population bomb is entangled with long-lasting anxieties about overpopulation in humans. And when I use the word "entangled" to describe the two, I do not mean the two are analogous or parallel. On the contrary, they are co-constituted in messy, complex, and uncomfortable ways. We witnessed earlier how an anonymous commenter online poked fun at how ill-prepared domesticated pigs are for surviving the wild in their "Section 8 housing" and "free blocks of cheese." Just beneath the surface of the racialized critique of U.S. social welfare recipients is embedded anxiety about how much poor people of color on welfare are reproducing, particularly since WIC is only a program offered to mothers with children at risk. Critiquing "free blocks of cheese" thus is an explicit devaluation of not only poor people living in Section-8 housing but also poor mothers in Section-8 housing and their children. While one might be quick to dismiss this as a single person commenting online, the anxieties about *pig population bombs* are not far off. In fact, many elements of the anxieties that wildlife workers and farmers express about the "ballooning" pig populations use language that is uncomfortably similar to anxieties about growing human populations. This similarity is no coincidence.

Similar language was at the core of Paul Ehrlich's infamous 1968 text, *The Population Bomb: Population Control or Race to Oblivion*. In this inflammatory text, which was funded by the Sierra Club, Paul and Anne Ehrlich re-iterated Malthusian anxieties in a U.S. context. The steadily growing population of humans would necessarily mean declined standards of living, insufficient access to resources, famine, disease, and death. Based on Paul Ehrlich's studies on butterfly populations, his readings of Malthus' *Essay on Population* (1798), and a single trip to India, the Ehrlichs emphasized the serious effects that would occur if human reproduction was

not curbed. But they also clarify that "overpopulation does not normally mean too many people for the area of a country, but too many people in relation to the necessities and amenities of life. *Overpopulation occurs when numbers threaten values"* (1968, 9, emphasis added). They assert that the only way to counter the effects of the rapidly increasing birth rates is to close the gap between the birth rate and the death rate. Although reproduction limits would ideally be voluntary (and perhaps encouraged via prizes, they proposed), the Ehrlichs would support forced measures to limit people's reproduction if necessary (1968). Though in their mind this was a problem for what they describe as the "underdeveloped" and the "overdeveloped" countries, the Ehrlichs' more extreme suggestions of involuntary sterilization came up when discussing the birth rate in "underdeveloped" countries.

Many have since debunked Ehrlich's work as racist and shoddy scientific work, but the work remains a success in its cultural uptake: populationism has proliferated. Here I use the term *populationism* here as shorthand alongside Ian Angus and Simon Butler to describe Ehrlichs' belief that social ills can be attributed to a growing population (2011). The Ehrlichs' text mobilizes the literal figure of *The Child* which Edelman has so vociferously critiqued (mentioned in the Introduction) on their book cover, but with a twist: the image of a white, smiling baby is transposed onto the image of a bomb. Despite the rhetorical invocation of the image of a bomb, Ehrlichs' arguments have substantial logical shortcomings, despite the widespread and ongoing uptake of this text in environmental conservation and government policies. The Ehrlichs rely on two faulty premises: (1) that growing human populations will certainly cause increased social ills and require government intervention to slow and (2) that human technology to produce food will remain at a constant. As others have noted, population growth rates rise and fall regularly within countries, and the world population growth rate has slowed dramatically since the time of *The*

Population Bomb (Angus and Butler 2011; U.S. Census 2011). Secondly, the Ehrlichs assume that a booming human population inherently means that available resources per person will decrease, as humans reproduce exponentially while food production only grows arithmetically. On the contrary, however, food production much increased faster than population growth since the time of *The Population Bomb,* thanks to agricultural innovations such as more efficient harvesting devices as well as fertilizers and pesticides (Angus and Butler 2011, 21).[43] This remains peripheral to general and unfounded sentiments that overpopulation is a major cause for social ills.

The television series *Pig Bomb* never mentions Paul and Anne Ehrlich's *Population Bomb,* yet the metaphors of the human population bomb and the *pig bomb* are connected in more than just figurative ways. Anxieties about overpopulation have always been a multispecies affair, which needs further excavation here. *The Population Bomb* was published ten years after the formal start of the so-called "invasion biology" sciences in the U.S., coined with Charles Elton's anxious post-World War Two text entitled *Ecology of Invasions* (1958). Elton, who had previously been instrumental in tracking animal population cycles, shifted his studies away from animal ecology and more to examining how certain populations were threatened by other non-native species. The temporal proximity of Elton's publications on invasive ecologies to the Ehrlichs' populationist anxieties suggests that anxiety about the longevity of *homo sapiens sapiens* was already co-constituted with fears about scarcity across species.

Populationism and invasive species rhetoric, as Malthus and Ehrlich make clear, are

[43] The fact that pesticides and fertilizers remain important agricultural mechanisms sheds light on the importance of thinking critically about ethics of this project as a whole. Though pesticides are certainly biopolitical technologies, particularly as they have been wielded and advertised by Syngenta in Chapter 1, it would be remiss to imply that we can or should return to a time before pesticides.

eugenic. They recognize a social and environmental ill and seek to remedy the problem through intervening in biological reproduction. Ehrlich's fears of scarcity have led proponents of populationism from the Global North to include birth control and sterilization in exchange for financial loans and economic aid to the Global South (Ehrlich 1968). As discussed earlier in this section, the critiques of overpopulation in humans have been sufficiently debunked, and for good reason. Notable critic Ronald Bailey explains in his critique of environmental doomsday thinkers: "Neo-Malthusians like the Ehrlichs… cannot let go of the simple but clearly wrong idea that humans are no different than a herd of deer when it comes to reproduction" (Bailey 2015, 9). Nonhuman animals continue to function as foils to humans, since humans are able to organize agriculture and economy to meet any growing needs.

Unlike the inflammatory populationist arguments about humans, the logic of animals' reproduction leading to mass starvation and social ills has not been investigated by feminist and Marxist scholars, perhaps because it appears irrelevant. However, critics of populationism continue to rely on nonhuman animals as the necessary foils to humans to debunk overpopulation logics, evident in Bailey's aforementioned statement. Though the Ehrlichian logics are absolutely different than populationist logic about nonhuman animals, they are entangled in crucial ways. The avoidance of the connections and discomfort with placing them in conversation is important because it is the widespread support of animal populationist logics that quietly bolsters the logic of human populationism. The logics of animal populationism, are thus, quite worthy of interrogation.

Animal populationism presumes that invasive plants and animals will wreak havoc on the nonhuman species that are more valuable to humans, rather than follow the logic of Charles Darwin that nonhuman animal communities will naturally reach an equilibrium based on

available resources. It behooves us yet again to ask, what makes a member of *Sus scrofa* invasive? And what are the presumptions of the hypothetical where feral hogs do crowd out all other valuable species? When the veracity of these claims is sidelined, the voracity of these wild beasts grows in public consciousness. the contrary, the same populationist logic has been used to justify the "culling" of large deer populations as a kind of "mercy kill," since these populations will almost certainly run out of resources to survive.

The anxieties about overpopulation leading to the demise of humans are uncomfortably connected to the devolution anxieties that were mentioned before. Just as North America was no longer an "open frontier," evolutionary theorists such as Lankester worried that civilization might weaken a species, oddly the exact opposite logic about feral pigs (1880). Lankester responded to Darwin with his theory of "evolutionary degeneration," citing the example of lizards who experienced limb loss over time. Lankester argued that these had evolved into more basic forms because food was readily available and, thus, evolution was not always an improvement. On the contrary, Lankester worried about social degeneration in humans and joined forces with his friend, H.G. Wells, to raise social awareness about the risks of social degeneracy (Lankester 1880; British Library).[44]

Cross-Breeding Fears

Close behind the worries about "ballooning" pig populations are the anxieties about pink domesticated pigs mating with bristly dark hogs. The narrator of *Pig Bomb* takes this issue head-on in their episodes "Pig Epidemic" and "Super Pigs" (Leckey 2012). Though different kinds of domesticated pigs are bred with one another constantly to develop ideal kinds of pigs for domestication, including larger and lighter pigs, it is the cross-breeding of pigs outside the scope

[44] Wells captures this sentiment can be captured in *The Time Machine* of 1895.

of agricultural science that makes it abject. In other words, when an untamed pig enters the fray, the research product and generations of progress of the domesticated pig is in danger. This tautologically relies upon and reinforces clear boundaries between domestic and wild species in order to emphasize the risk of muddying them.

Part of the problem of the "global epidemic" of wild hogs is that Russian boars are "breeding with their American cousins," as an interviewee explained in *Pig Bomb* (2012). While this doesn't necessarily increase in the *size* of these animals, they note, "it would cause an increase in the *wildness* of these animals… [they would] run further, run harder, and fight more when they're cornered," though we have no sense of the facticity of this statement (2012). Akin to Tyrone Hayes, who describes his toxin-exposed frogs as incestuous "brothers consummating their relationship," the trope of incest is useful here to describe feral hogs as monstrous, not only in their uncontrolled mating but also their indiscriminate breeding with "cousins" (Hayes 2010; *Pig Bomb* 2012). The idea that pigs might be cross-breeding has been so unsettling that geneticists have begun sampling DNA from wild pigs to trace their origins, keeping a monitor on the genetic migrations of this species. Are American wild pigs indeed cross-breeding with wild boars right under our noses? In so doing, wildlife workers, scientists, and farmers on the show demonstrate how *species* is a disciplinary technology that is regulated by not only cultural formations but also scientific institutions.

The connections to *human* miscegenation anxieties are subtext here but never mentioned by the almost-entirely white writers or interviewees of the show. But the anxieties are hinted at through the racial politics that these wild and feral hog discourses animate not just through the eerie eugenic explosion metaphor; the efforts to contain feral and wild hogs has evoked explicitly racist, xenophobic sentiments from hunters. One need not dig far to see how endemic the

xenophobia is to these discourses, evident in conceptions of the pigs not only as invasive but as "illegal."

One person made a charged comment on a video online from the Noble Research Institute on the ubiquity of wild and feral hogs in North America. The institute, for some context, describes itself as an independent non-profit organization committed to developing solutions to agricultural problems by bringing researchers, agriculture researchers, economists, biologists, and farmers together. Through forwarding their image as noble and independent community agriculture leaders, they nonetheless facilitate toxic political conversation about feral and wild pigs that have multispecies implications. In an online video about the ubiquity of wild and feral hogs in North America, a person responded with "We should deport them!" to which six people responded by liking the comment (Jaron Pope in November 2017). Though the institute has replied to comments on other of their videos, they remained silent here and thus complicit.

The pithy comment needs unpacking. First, Jaron Pope implies that the Old-World boars did indeed have an origin outside of the U.S. and should be "sent back," suggested by the use of "deport." Though deportation from the U.S. may technically occur for infractions of a serious crime (an exile), the most common use of "deportation" is for those deemed to be ineligible residents of the country through lack of documentation of citizenship or inability to produce said documentation in a timely fashion. Deportation from the U.S. is usually framed as a "sending back" to an implicit external point of origin, even though much deportation is a "sending back" of human beings who have never lived elsewhere. So, too, does this person use the rhetoric framing of us versus them, whereby the "we" discursively functions to deport all those who do not agree. When Jaron Pope posted this comment, he was writing about more than just feral hogs. He was lending credence to strengthening anti-immigration efforts growing at the same

time under the Trump administration.

But this comment is not the only one to bring racialized anti-immigrant rhetoric to the conversation about hogs. On a blog post from the Texas Farm Bureau poking fun at PETA's concerns about feral pigs, Trudy Back expressed xenophobia: "I have a solution for all the hog problems that would fit with PETA and solve some other problems. Ship those hogs that we catch to Mexico and build a fence that will keep them there. Hopefully it will also hold the illegals" (Trudy Back qtd. in Barnett 2011). These disturbing two-for-one suggestions, of "solving other problems" make clear that illegality, for instance, is a formation that is simultaneously racialized and dehumanized.

In the starkest example, Kansas legislator Virgil Peck was recorded *in session* comparing feral hogs to immigrants. Commenting on the success of recent efforts to gun down hogs from the air to reduce their populations, Peck made a disturbing suggestion: "Looks like to me, if shooting these immigrating feral hogs works, maybe we have found a (solution) to our illegal immigration problem" (Shahid 2011). Despite criticism from other state representatives after this inflammatory comment, Peck was initially unapologetic. "I was just speaking like a southeast Kansas person," he explained, saying he was reflecting the concerns of his constituents (qtd. in Shahid 2011). The othering of wild and feral hogs is thus disturbingly entwined with the villainizing of immigrants across the U.S. Though not explicitly marked as raced, the "immigrant problem" never seems to be about droves of blonde, blue-eyed European immigrants. It is usually about the white people who have so much to lose from porous borders. With his statement, Peck reifies white farmers as the rightful landowners from two kinds of ostensible invaders, each distinct but intertwined. The racist, white supremacist, and eugenic anxieties that surround feral hogs make quite clear how deep and widespread the logic of invasive species is

and how it entraps human and nonhuman animals through dehumanizing logic.

Feral Vectors of Illness: Feral Hogs as Biohazardous to Domesticity

Despite the already virulent xenophobia, racism, and fears of (over)population in discussions of feral and wild hogs, recent anxieties about their function as a vector of illness has intensified these entangled formations. Toxic viruses are what accelerate the *pig bomb,* changing it from a looming threat to a biohazard. The ontological distinctions between domestic and wild pigs have become especially stark in North Carolina, the 2nd largest pork-producing state in the U.S. where there are more hogs than people (over 10 million pigs at the time of this writing).

This accelerated anxiety became especially clear at a lecture NC State University professor Suzanne Kennedy-Stroskopf delivered in March of 2016 to a group of veterinary students. In her talk, she asked students to think about "what might go wrong when the wild and tame collide" (Clabby 2016). To do so, she told a story of what *might* happen in this interface based in part on an incident that happened in South Carolina, which I permit myself to include in full:

> Hungry wild pigs burst through a fence confining livestock on a small farm.... Once through, the intruders push domestic pigs aside to gorge on pasture grass or feed – anything edible they find, including young animals. Seeing the damage the next day, a farmer recognizes feral swine breached his land. That isn't a giant surprise because populations of the animals have exploded in the Southeast. But he never considers what the intruders might have carried in…. That remains true weeks later when a sow on his farm delivers a litter of stillbirth piglets, disappointing a 10-year-old boy assisting his uncle during a Thanksgiving visit. The farmer assumes bad luck was in play. As Christmas approaches, the nephew gets sick at his home on the outskirts of a city. At first, his family suspects flu. But after a punishing headache and pain in his neck flare, doctors fear lethal

> meningitis is in play and scramble to find a cause. No one, at least not right away, suspects the bacteria *Brucella suis*, which jumps from wild pigs and can kill piglets and cause a potentially serious illness called brucellosis in people (qtd. in Clabby 2016)

In this sobering tale, veterinarian Kennedy-Stroskopf echoes the animated language of farmers, homeowners, and wildlife workers in *Pig Bomb,* describing these pigs as hungry intruders with exploding populations. In explaining that they "crowd out" the domestic pigs, she not only communicates her disdain for their ostensibly extra-capitalist reproduction (as they cannot be sold for meat) but reifies the Malthusian logic of scarcity, which presumes a static amount of resources for living creatures requires a limited and controlled population growth.

This framework, as we have seen, refuses the possibility of increased efficiency of resource production and redistribution of said resources. She maintains the myth that wild and feral pigs are inherently aggressive through their bursting into farms, despite ethologists' description of the pigs as skittish and unlikely to enter areas of human activity (Noble Research Institute 2016). The legible victims from the invasion, in contrast, are the small-scale farmers who feel the effects as families, evidenced by the nephew's disappointment at the sow's stillbirth and his quiet contraction of *Brucella suis.* What makes this a decidedly American family threat is that this violence occurs between the colonial and Christian holidays in the U.S. of Thanksgiving and Christmas. These seemingly irrelevant details to the veterinarian's story — the relationship of the farmer to the visitor on his property and the temporal markers of the year — texture it as a U.S. phenomenon.

Kennedy-Stroskopf takes the feral hog anxieties from *Pig Bomb* a step further: using the frame of family farms to help explain the risk, like the others before her, she indicates that the exploding populations of boisterous pigs do not just wreak visible havoc on the land: these wild

pigs carry illnesses that bound across fences and species to domesticated pigs and even humans. The threat of feral and wild pigs is not just on the safety of human lives but on their economic livelihoods through the maintained domestication of pigs.

Kennedy-Stroskopf's story features a revealing paradox. The overpopulating wild and feral hogs are "crowding out" domesticated animals on the farm, yet the same farmer is breeding his pigs. If we momentarily inhabit a Malthusian logic that "crowding out" is a real issue due to the finite amount of resources, then the farmer should also be limiting the number of pigs his farm can sustain. The description of the *brucella*-induced stillbirth as disappointing suggests the piglets' birth was intended, and thus the resources to support the future population of domestic pigs existed. What makes the population of wild and feral hogs pernicious is that their reproduction does not provide financial returns for the pig farmer because their ferality makes them less marketable as food animals.

Pork and the U.S. Imaginary

The threat, in other words, is not just on the family farmer but on the pork industry as a national enterprise. This makes sense given that pork production is central to the (re)production of the U.S. Not only is the domestication of pigs a historical reminder of the process of colonization of the U.S., and thus feral swine as a backward slipping and sliding. The control and commodification of pig and boar bodies is important to the production of the nation-state of the U.S. As a predominantly Christian nation (nearly every U.S. President has been a Christian), pork is not only acceptable meat by an Americanizing meat. Bacon as a staple American breakfast food is a means of Christianizing the American people, since many Jewish and Muslim customs eschew pork entirely. Feral hogs do not just pose a threat to families and family farmers, but to the institution of pork. The threat to the pork industry of the feral hogs is thus a threat to

the nation itself which is founded upon the animal capital of pork, particularly relevant since the U.S. — North Carolina in particular — has become one of the world's largest pork exporter.[45]

Just as humanoid pig figures are helpful in the cultural construction of domesticity in the *Three Little Pigs*, so, too, are the slaughtered bodies of pigs crucial to the construction of American family. This is salient in Dr. Seuss' equally popular childhood story, *Green Eggs and Ham* (1960), which features the flesh of a pig. The protagonist, Sam, follows around another character, Joey, with a place of green eggs and ham, needling Joey to try them. Rather than the pig being an actor, here, their flesh is a method of discipline. After all, the moral of this story is that if one tries something new and unusual, like green eggs and ham, one may like it! The eggs and ham are central to the telling of the story, and this story continues to be helpful fodder for parents trying to reform picky children. More than a mere catalyst of children's compliance, pigs' flesh has been part of a continental American breakfast since the 1930s, in the form of the fatty flesh severed from the stomach of the pig known more appetizingly as "bacon" and continues to be a popular menu item across the country, sprinkled on everything from salads to donuts as a classic American accoutrement (Dewey 2017). It makes sense, then, that family would come up almost reflexively when people in North Carolina talk about pork, given the cultural work that pigs-as-symbols already do. This comes up not only in informal conversations or popular culture but also in the sciences: responding to the threat of zoonotic illness from *feral hogs,* one researcher commented on the safety of pork in the face of zoonotic illness and reassured readers of the quality of the meats: "The [North Carolina] swine industry provides a wholesome, safe product for you and your family to eat" (M. Ross 2014). But fears persist. Though pork is central

[45] Smithfield Corporation was recently purchased by the Chinese company Shuanghui International and the racial politics of the pushback from local residents in North Carolina is worthy of further analysis.

in other cuisines and cultures, fears about the safety of the pork industry is a deeply *American* concern, especially in the state of North Carolina that prides itself on being a pork-producing capital.

But what is odd is that the scenario of zoonotic feral hogs as described in the story above is unlikely to have a significant effect on the pork industry. After all, the majority of pork is produced from a few concentrated animal feeding operations in windowless buildings with little opportunity for wild or feral pigs to invade. This fearmongering story relies on the myth that small family farms are the origin of North Carolina's and the country's meat, and the individual farmer supporting his family is the figure at stake. Working as an employee at a Concentrated Animal Feeding Operation such as the one in Tar Heel, NC doesn't quite seem to match up with the picturesque American Dream: In 2000, it slaughtered and processed 23,000 pigs per day. This number has only increased. The urgency, then, of the ostensible attack of feral pigs on the lucrative livestock leaves little time to interrogate how true the picture is that "we" are seeing here.

So, too, is it tricky because viruses and bacteria cannot be easily seen until they have infected. They might find a way into the buildings in which domesticated pigs are fattened and bred. As environmental reporter Catherine Clabby writes: "No one wants a *Brucella* species disrupting North Carolina's hog industry" (2016). Angie Maier of the North Carolina Pork Council echoes this sentiment: "Feral swine are a major health risk to domestic herds… They carry nasty diseases. If that transmits into the barns, and a domestic herd is infected, it could shut down trade" (Boylan 2016). The swine flu (H1N1) scare of 2015 and the porcine epidemic diarrhea virus outbreak were devastating enough to make farmers anxious; both involved farmers having to kill thousands of potentially infected pigs and a huge decline in pork sales across the

country, an immense loss of capital and revenue. It thus makes sense that the USDA was appointed $20 million in 2014 to handle the feral swine problem because of the immense threat it posed to pork production (USDA). As a federal entity, the USDA Animal and Plant Health Inspection Service worked in conjunction with animal farms and facilities, providing veterinary and wildlife resources and expertise where facilities request it (USDA APHIS 2016)

But *Brucella's* status as a Class B bioterrorist agent threat by the Center for Disease Control adds to its dangerous potential. Though the effects on humans (the primary concern of the CDC) are usually limited to minor flu symptoms, the framing of the compound as potentially enacting possible bioterrorism mirrors the language that animal agriculture has used to quiet against animal activists engaging in "animal enterprise terrorism" through filming footage of farms (CDC 2012; Potter 2011). The strategic response to the feral and wild pig invaders as potential bioterrorists was increasing technologies of biosecurity, emphasizing in legal and scientific writing that viruses originate outside the hog confinement facility. The toxic figure of the wild hog takes up the racialized hatred in the formation of the terrorist, one which is often abjected through deviant sexuality (Puar 2007).

One legal effort to contain the viral terror threats of wild and feral swine is the 2011 Swine Identification Bill of North Carolina, which requires farmers to license each of the pigs they move onto public roads, usually a one-time process for each pig from farm to slaughter. Failure to comply with identification can be a hefty fine — $5,000 per uncertified pig. Each pig must be tagged (or, less commonly, branded) in a means that is approved by a veterinarian with identification. This law was put into effect out of fear that feral and wild pigs were being moved across public roads by those interested in capitalizing on their wildness for hunting enterprises. The unbounded wildness of these pigs, it was presumed, was the root of the spread of *brucella*

suis as well as a host of other zoonotic illness.

But several elements make it clear that the Swine ID Bill does little more than reify the toxic animal figure as a constant potential invader. After all, there is no effective vaccine against the illness meaning even those technically "tagged" by a veterinarian might be harboring illness. The sheer scale of the number of pigs in North Carolina (10 million) makes a thorough inspection difficult under even the best conditions. The USDA requirements to maintain brucella eradication protocol is thus a veterinarian broad assessment the overall health of the herd and randomly test a few pigs for brucella (USDA 1998; USDA 2018).

Depicting the threat of the feral and wild pigs as the vector of zoonotic illness does important cultural work. It reifies the ontology that wildness is unsanitary, unsafe, and threatening whereas domestication is progress. So, too, does it rely on a clear distinction of the species: *Sus scrofa* is apparently fundamentally different from *Sus scrofa domesticus*. The reification of "stranger danger" here obscures the incredibly toxic pork industry in the U.S., whose toxicity is lesser known for good reason. Toxins are an inevitable and constant byproduct of pork production, rather than a mere intermittent interloper. The toxicity is so mundane that it isn't a ticking bomb, it is a constant but muffled explosion. The muffling is in large part thanks to the North Carolina Pork Council and its lobbying power (Philpott 2017).

Despite efforts to silence concerned residents, many have noted that the environmental damages of pork production are pernicious (Clark; Jenkins 2015; Nicole 2013; Sainato and Skojec 2017). Living near a hog facility in North Carolina — each holding on average 7,000 pigs — usually entails living surrounded by noxious smells from the uncovered sewage pools usually adjacent to the hog facilities (Philpott 2017; Pierce 2017). Many of these feeding operations use hog waste as fertilizer, spraying it on large plots of grass on their property. These operations have

also been known to fail to contain the waste in this process, causing it to spray outside of the property, to enter the water supply, and to have detrimental health effects on the nearby residents, many of whom are low-income people of color (Keller 2014). The airborne toxins can cause nausea, respiratory problems, and increased stress for residents (Nicole 2013).

In 2014, Earthjustice, the North Carolina Environmental Justice Network, Rural Empowerment Association for Community Help, and Waterkeeper Alliance filed a civil rights complaint with the Environmental Protection Agency, asserting that the hog waste in North Carolina was egregiously harming people of color to the point that it infringed upon their civil rights (Wotus 2015). In this lawsuit, the communities explained how the hog facilities affected their experience of home *as families.* For one, it dramatically affects community members' ability to parent:

> Families keep their children inside because do not want them exposed to the smell and pollution from industrial swine facilities. Children complain that they would like to be outside, playing in their yards, but they simply can't bear the smell. Children who live near permitted swine facilities, or whose parents work in permitted swine facilities, have been forced to suffer the embarrassment and humiliation of attending school reeking of swine waste. The stench of swine waste can sink into a person's clothes and stay there for days. (Earthjustice 2014, 28)

Friends and families refuse to come and visit from other cities, as the smell is too strong. Many are unable to host outdoor engagements altogether: "If friends and family happen to visit on a day when the smell is particularly bad, their complaints or visible discomfort is humiliating, and the visits are short-lived" (Earthjustice 2014, 29)

In these cases, showing how the physical home enacts (or in this case detracts from) family

ties is necessary to convey the depth of the environmental injustice at hand. This makes perfect sense given the tone of feral hog hunters in the area. Home and family are, after all, not inherently violent formations. The home is the grounds of the conversation from farmers feeling threatened by wild pigs, and the same frame can be a strategic and legible means to trouble this narrative. Family and home are useful frameworks for many people to understand the events in their lives and they are also the site of many forms of violence. What is worth critiquing, however, is the colonial and white supremacist logic that makes white descendants of settlers feel *their* families are more important than others.

Although the Environmental Protection Agency sought to settle the lawsuit fueled by the North Carolina Environmental Justice Network, the organization also proceeded to allow representatives from the North Carolina Pork Council and the National Pork Council to be a part of the settlement conversation, intimidating and shutting down those residents and activists who had initially filed the complaint (Waterkeeper Alliance 2016). Despite intimidation, North Carolinians have continued to seek legal reparations from the hog farms at hand, as evidenced by the two dozen lawsuits launched against hog farms in the state in 2015 (Henderson 2015). Raising a stink about pigs, it has become quite clear is only acceptable when those pigs are *wild* and *feral.* Critiquing the pork industry means rupturing the careful foil of wild pigs: the plump white and pink pigs who produce clean, safe, and healthy meat to fuel our families.

(Un)Homely Habitats

The narrative surrounding feral and wild hogs that I've traced is that they are making American homes *unhomely,* making them the opposite of cozy, comfortable, or familiar places to reside. The emblems of the *un*homely, however, they do not *un*make the home. On the contrary, feral and wild hogs are often what bring families together, solidify the physical structure of the

house, increase the ammunition to keep the pigs at bay. They remake the home precisely through the uncanniness of the home, a process by which the inhabitants see strangeness and alterity mediated by a touch that has, indeed, already happened.[46] Domesticity is thus articulated through subjugation and extermination of pests. And the notion that toxins originate outside of human domesticity and domestication is not just useful for the formation of the family, but it is also a lucrative ontology for pork producers who thrive in North Carolina, many of whom maintain a façade as family farmers. Nationalist myths of domesticity run deep with idioms as common as "bringing home the bacon," describing the primary breadwinner of the household.

But there is a gnawing question that remains largely unaddressed until now. If one recognizes that *toxic feral hog figures* enact discursive, material violence on actual pigs and hogs, is there anything that can be done? Are there ways to even co-exist with feral and wild pigs? Contrary to popular representation, pigs already co-exist with other creatures in the wild. For instance, they have been known to live in symbiosis with crows who feast on their ectoparasites and peck at bugs between their wiry bristles (Wallach 2014). Although hunters describe feral hogs as hungry omnivores who will attack deer, feral and wild pigs are skittish creatures who will not generally hunt mammals as they can often find enough food from rooting with their highly perceptive snouts (Noble Research Institute 2015). Wild pigs do not simply wreak havoc, though they certainly can. They can help with dispersing seeds, increasing biodiversity, and improving nutrients for trees and other plants (Wallach 2014). The *toxic feral hog* is therefore simply a caricature.

Critical animal studies and feminist science studies can come together to understand these

[46] Here I adapt Freud's concept of the *unheimliche* with an Ahmedian bent (Ahmed 2000; Freud 1963).

figures as misrepresentations that have toxic implications. Yet the actual presence of feral hogs continues to be troublesome to even the most ethically-inclined humans, because they are unable to be contained. This demonstrates just how entrenched populationism is across the political spectrum. Rapidly-reproducing nonhuman species, regardless of their social value, are disconcerting if they are doing so outside of the control of human beings because the anxiety is that (1) the species will run out of resources for "its own good, though that good is not self-determined or (2) the species will use up human resources, make human homes *less homely,* or will use up the resources of species who are relatively more valuable to humans. Conservative environmentalists, invasion ecologists, and animal welfarists deploy populationist logic by advocating for the sterilization of nonhuman animals to cope with the growing numbers. For widely devalued species in the U.S., like mice or cockroaches, this can simply mean sterilization by death. The more humane responses to the “population problem” of wild animals involve sterilization that has minimal impact on the individual’s life. But even the “humane” responses to animal population growth have worrisome implications.

Populationism lite, as Angus and Butler have called it, is still populationism, merely with a different face. This *populationism* (and the critiques thereof) has rarely considered the implications *across species, and this is a site that is sorely lacking in critical animal studies, queer studies, and feminist science and technology studies.* Populationist logics are ubiquitous in human conversations about nonhumans. Animals who are permitted to take up residence in humans’ homes are required to be spayed and neutered in most communities, with particular strictness on humans who have nonhuman companions in public housing or government property. The process of sterilizing a pet limits the unwanted reproduction of animals who are not working animals for breeders.

This sentiment is evident in Spay and Neuter advocacy on behalf of animal welfare, rights, and justice organizations. For instance, the now-infamous People for the Ethical Treatment of Animals (PETA) has written on the issue of Animal Population in a populationist tone. In raising awareness about the disproportionate number of cats and dogs compared to human homes that might adopt them, PETA uses numbers as a scare tactic, much like the Ehrlichs: "1 unspayed female cat and her offspring can lead to 370,000 kittens in a year." Because confinement is costly and taxing on individual animals, PETA is infamous for euthanizing many animals. To address the problem, PETA writes: "The companion animal overpopulation crisis can be overwhelming, but solving it starts with a no-birth nation. We must all prevent more animals from being born by spaying and neutering." This is populationist language, clear and simple, galvanizing a "we" to enact a *zero-birth* nation. But because PETA is speaking about the wellbeing of cats and dogs, many presume that they are necessarily concerned with ethics and wellbeing of these nonhuman animals. Certainly, for cats and dogs who live outdoors and are permitted to roam freely, pregnancy can be a problem for humans particularly since cats and dogs usually give births in the form of a litter rather than a single offspring.

That said, sterilizing these animals is a negation of individual animals' reproductive agency in hopes of the overall wellbeing of the species.[47] Spaying and neutering domesticated and feral pet animals is an important way of recognizing that humans have taken control of land and are often unwilling to share it; the land is a "right" and a spoil of colonial theft. Since humans have

[47] It is worth noting that spaying or neutering is more than just sterilization, it is a de-sexing. This is clear from the degree of sterilization that is required by law: removal of testes is standard procedure for neutering (though a vasectomy would be less invasive and equally effective for preventing reproduction), and spaying involves complete removal of the ovaries, fallopian tubes, and uterus (though a tubal ligation is far less intense of a procedure). The sexed behaviors that "intact" dogs and cats enact is unwanted: mounting, masturbating, menstruating, aggression, etc.

already taken control of the land, there is no room for unexpected bursts of cats and dogs much less pigs who are not cute much less tame.

Unfortunately, populationist logic has found a home in feminist science and technology studies, which makes it such an important issue to address at this moment. Scholar and unspoken mother of human-animal studies, Donna Haraway espouses the idea that we should "Make Kin Not Babies!" in her 2016 book, *Staying with the Trouble: Making Kin in the Chthulucene* (2016). She is preoccupied with the same concerns of population growth and destruction that Paul Ehrlich did in 1968 but somehow through a warped justification from feminist studies. In short, the overwhelming reproduction of humans is what causes environmental harm and is a bad idea for the health of the world, humans and nonhumans. Haraway dismisses feminist critiques of populationism:

> For excellent reasons, the feminists I know have resisted the languages and policies of population control because they demonstrably often have the interests of biopolitical states more in view than the well-being of women and their people, old and young… But, in my experience, feminists, including science studies and anthropological feminists, have not been willing seriously to address the Great Acceleration of human numbers, fearing that to do so would be slide once again into the muck of racism, classism, nationalism, modernism and imperialism. But that fear is not enough (2016, 6)

Like Ehrlich, she is fixated with tracking the rising human birth rates and declining death rates, implying that shrinking the gap between the two is an indication of the righting of social ills, of "radically reduc[ing] the pressure of human numbers on earth, currently set on a course to climb to more than 11 billion by the end of the twenty-first century CE" (136-137). She writes speculative fiction about ways to respond. The darling so-called "Communities of Compost" are

committed to "maintaining their size or to growing through immigration, while keeping their own births at a level compatible with the earth's overall human numbers eventually declining" (147). Haraway makes a loose commitment to intersectional feminism by arguing that the wealthiest and "highest-consuming" human populations needed to reduce births the most, but her argument remains populationism, fair and square (159). She gives no actual attention to the origins of her Malthusian logic or feminist Marxist critiques of the framework.[48]

Why does Donna Haraway matter in the case of *toxic feral hogs?* I wish she did not. Toxic feral hog figures have power not only because they are unhomely and because they disrupt family but because they reproduce quickly, probably faster than humans could hunt down individually. Populationism is what turns the *toxic feral hog* into a "pig bomb" that has multispecies effects. Overpopulation as a human phenomenon is distinct from animal overpopulation, yet the two are muddied when hunters, farmers, and wildlife workers use the same logic and language of human populationism to describe the reproduction of pest animals. And when on the other side, PETA and Donna Haraway cling steadfastly to populationism as an ethical stance to enact multispecies justice*,* we are in a deep kind of trouble with which I have no desire to stay. "Make Kin Not Babies" is a phrase in conversation with others including Vinciane Despret and Fabrizio Terranova and creates posters and stickers with Annie Sprinkle, Beth Stephens, and Kern Toy. There is a great deal of work ahead in defusing the population fears that *toxic feral hogs* help to animate.

Perhaps ruminating on space can be a helpful workaround from thinking about birthing and numbers. After all, this is really what is at stake: resources. When fences have been built and land deeds have been written out, how can we rethink space? If we recognize that hogs are

[48] See Jennifer Hamilton's review "The Trouble with Babies" (2017) for more.

indeed a vestige of colonialism, can we not then think decolonially about multispecies justice? These pigs can act as a reminder that land is always one of contestation. While creators of the TV show *Pig Bomb* recenter the white family and the farmer's home as the site of invasion, we can also think about the fact that the white farmer's home is a colonial creation that requires constant reification and reconstruction to function.

Here Gloría Anzaldúa's thinking about fences is invaluable. In *Borderlands / La Frontera,* she famously wrote about how she experiences the physical borders on the earth as a division on her own body (1987). The U.S.-Mexican border is a "1,950 mile-long open wound / dividing a *pueblo,* a culture / running down the length of my body, staking fence rods in my flesh / splits me / splits me / *me raja / me raja"* (1987, 2). Embracing mestizaje for Anzaldúa is a means of feeling deep pain as well as resistance as a kind of multispecies embodiment. After all, she writes: "But the skin of the earth is seamless. The sea cannot be fenced, *el mar* does not stop at borders. To show the white man what she thought of his arrogance, *Yemaya* blew that wire fence down" (1987, 3).[49] By viewing the sea as sacred and agential, Anzaldúa recognizes the importance of the human/nature connection and sees the human-and-natural body as capable of resistance. According to the widespread stories that U.S. hunters tell, the wild and feral pigs have come to the U.S. in waves. Perhaps these waves, too, are capable of blowing the farmers' fences down, both the physical and the ontological.

After all, private property is indeed a kind of theft. The enactment and confinement of space for oneself is always an act of taking from another. We might also read feral pigs escape as escaping violent systems of confinement and creating kin outside of animal agriculture. Perhaps embracing ferality in the abstract can be what Ahmed describes as *alienness*: "a mechanism for

[49] Here *Yemaya,* in Yoruban religious thought, is the goddess of the ocean (Keating 2009).

allowing us to face that which we have already designated as the beyond" (2000, 3). Facing ferality head-on in this case, might lead to uncomfortable and coalitional feral futures, for the many different relationships readers all have to this question.

If activists and scholars of environmental justice, animal ethics, and reproductive justice seek to collaborate on the issue of environmental toxicity, we must first look to what kinds of toxins the ostensibly biosecure industries of domesticated hogs create every day. To do so disrupts the colonial logic that the white family farmer in the U.S. is indeed the worthy owner of land. Deeply engaged environmental justice means recognizing the many kinds of toxicity that circulate and interrogating the differential attention given to each. Otherwise toxins will continue to culturally accumulate on certain kinds of figures.

CONCLUSION

Rerouting Disaster Tourism towards Multitemporal Encounters

The different scandals and discursive conflagrations of this dissertation highlight how environmental toxins become captivating through the animal figures they animate. Rather than perceive this process of entrancement as an individual interaction between two magnetic forces, repelling or attracting depending on their relative position and polarity, environmental toxins might be better understood as entities creating a magnetic field with humans. After all, humans are already in magnetic conversation and confrontation with each other and with the nonhumans surrounding them.

This magnetic field of captivation and repulsion with/from toxins, however, is not experienced the same way for all those who are implicated. To some, experiencing environmental toxins and related environmental disaster can be an invigorating, thrilling, and can make one feel alive, especially for those who have lived sheltered lives with little toxic exposure. Queer ecologies and feminist new materialist scholarship, too, has seen potentiality in toxins and invited readers to *stay with the trouble* and *dwell in the dissolve* of our toxic present to see what may come from being open to obliteration (Alaimo 2016; Haraway 2016). This reflects the marked interest outside of academia, too, to seek out our global toxic presents. Disasters often become a consumptive experience, evident in the motion picture *Deepwater Horizon* examined in Chapter 2 or in the form of physical tourism. So-called "disaster tourism," as it is known in the travel industry, is a kind of excursion that allows travelers to see the remains of environmental disasters, such as Chernobyl after the 1986 nuclear explosion or Alaska after the 1989 Exxon Valdez oil spill (Kiniry 2013). These trips are motivated primarily by curiosity, a grim fascination with environmental destruction caused by humans, and they are sometimes even

framed as "family vacations" (Kiniry 2013). "Last-chance" travel programs are one temporal step behind, allowing tourists to experience some of the world's natural marvels before they have been erased completely by climate change (Weed 2018). According to Forbes Magazine, last-chance tourism is the top travel trend for 2018, the time of writing (Talty 2017). "Call it the climate change effect," Alexandra Talty described it in Forbes (2017). It seems that people want to be able to see the world in full in order to properly say goodbye. Last-chance tourism beckons visitors to sites such as the vanishing Great Barrier Reef, the melting ice sheets of Antarctica, the thawing Alaskan glaciers, or to visit endangered species whose demise has almost certainly been at the hands of humans, such as certain tigers, elephants, turtles, and birds (Weed 2018). Last-chance and disaster tourism allows viewers spatially outside of the environmental harm to physical approach it, letting themselves move with the pull of emotions

Many of the last-chance excursions seek out endangered species and connect tourists with conservation breeding programs in zoos to show that humans are working on the problem, too. In North America, most zoos are affiliated with the Species Survival Program as a part of the Association of Zoos and Aquarium (AZA), which have selected certain endangered species from around the world to raise in captivity with the ultimate goal of re-populating and re-introducing them to the wild (AZA Conservation and Science Program).[50] Rather than allowing the endangered animals to live out their lives, humans capture them with the hopes of increasing the likelihood of mating and repopulating their species. Last-chance tourism thus is tautologically constructed with animal confinement for the purpose of ensuring future populations. And in so

[50] Little time is spent on the fact that animals raised in captivity are very difficult and sometimes impossible to introduce back into the wild.

doing, reifies population stability and population respectability (not too much, not too little) as the indication of the species.

An underlying assumption of often well-intentioned Species Survival Programs and other endangered species breeding programs is that the animals might feel a loss at the larger-scale erasure of their species, or that their quality of life will be dramatically different with fewer others of their species around. This is evident in popular descriptions of giant pandas as the "loneliest" species because of their dwindling numbers, without a clear indication of how people have ascertained their loneliness (Scowen 2017). The reproduction of endangered species contributes to the *abstract* species as a population, rather than the small-scale encounters of the animals themselves. For instance, panda cubs who survive from giant panda parents in captivity are usually removed from their parents and sent to another zoo to breed (Smithsonian National Zoo & Conservation Biology Institute). In captivity in the U.S., endangered animals are a means to experience and advocate for the repopulation of an endangered and adorable or helpful species. Conservation breeding efforts of gregarious and lovable animals in the wild, such as amphibians and pelicans, are a means to counter the terrible effects that humans have on their environments, such as toxic spills of petroleum and pesticides that decimate the lives of seabirds or saturating frogs and other wildlife with pesticides.

Last-chance tourists who flock to the zoos to see pandas and other endangered species often see themselves as quiet observers of the demise, rather than active contributors to climate change and species extinctions. There is something quite tender in these macabre adventures of humans; embedded in these anxieties is the urge to act in some way to reverse the damage or at the very least to *witness* the destruction. But last-chance tourism in and of itself does not solve the environmental issues that made it seem compelling in the first place. In fact, it may only be

contributing to climate change through increasing carbon emissions from flights, trains, and car rides (O'Reilly 2016). Discursively, these last-chance and disaster travels have important effects: many make normative assumptions of what the future *should* look like without interrogating how anxieties about fertility and population respectability have come into being through multispecies histories of violence. The reflex to reach out to certain environmentally-threatened animals is not inherently problematic. On the contrary, it can and should be rerouted.

The feminist analytic of this project is necessary to enact this ontological and epistemological shift. After all, it requires first recognizing that framing species as mere populations in need of maintenance is a logic that is informed by multispecies histories of gendered, sexed, racialized violence. Because feminist studies often overlooks the function of species as a discursive violence, it misses how humans, animals, and other nonhumans have important entangled stakes.[51] Feminist studies often sees nonhuman animals as irrelevant distractions from the broader goals of feminism, but this is similar logic that sees animal figures as harmless rhetorical devices not in need of critical analysis. The co-constituted discursive and material violence across species is precisely enacted through this slippage. When feminist studies presumes studying nonhuman animals is not only low-priority but also precludes critical race analysis, they miss the quiet and pernicious power of nonhuman animals and their figures because they are easily dismissed. Feminist studies continues to appreciate the scholarship of Black feminist thinkers on the Human (for instance, Sylvia Wynter 1994 & 2003), but there has been little cross-pollination between this and critical animal studies to look at figures of those

[51] Those who *do* interrogate agencies of nonhumans in feminist new materialisms and object-oriented feminisms do not attend to the multispecies effects of the construction of species. Nor do most feminist scholars who interrogate human-animal interactions adequately unpack the multispecies effects of species as myth-making entities that animate discursive violence.

creatures that are almost universally to be understood to be not-human. Feminist studies is well-positioned to recognize the underpinnings of the multispecies population logic at hand.

Rather than simply understand animals as numbers of a species that is a human accoutrement, we can recognize the sentience of animals as creatures in their own right. It does not have to be just an instrumentalization of a single animal from one endangered species to encourage it to breed for the sake of population health without adequate attention to what endangerment or prolific reproduction might mean for these creatures. This recognition need not be just a mode whereby privileged peoples fulfill a quest for adventure or to perform their love for "the environment" in a profound and photographable way, akin to the last-chance travels. Nor does it have to rely on the same toxic overpopulation rhetoric that continues to be the subtext of welfare criticism and the justification of forced sterilization of women of color (Roberts 1997).

But hopefully the reader already knows this, or they would not likely have arrived at this late page; the purpose of this dissertation was not and is not to enact a kind of disaster tourism of how humans enact discursive violence on humans and nonhumans through animal figures they (re)animate in times of environmental crisis. Critique is useful in and of itself to disrupt the logics of the status quo but critique is often unsatisfying when it is not launched with the intention or hope of planting a germ of new potentialities. Rather than leave readers to extrapolate, I will elucidate what work interrogating toxic animal figures can do across disciplines beyond this project.

The toxic animal figures I have described in the aforementioned chapters have been tantalizing and disturbing in what they obfuscate. But without having recognized the power that these figures have, we continue to allow them to do their affective and emotional work. In order to disrupt the toxicity of their power, we must, after all, first articulate where and how they come

into being. Although feminist science studies and environmental studies have done important work to trace the effects of the power of the myths of nature, little work has been done to trace how animal figures matter, both in a sense of importance as well as a sense of creation. Feminist science studies, critical race theories, queer studies, environmental studies can help us recognize the failures of these figures to create anew. This will mean fleshing out these figures, or make further explicit how toxic animal figures are co-constituted with the material lives and livelihoods of humans and nonhumans; interrogating how toxic animal figures are created through toxic industries; and using these figures to think multitemporally about justice across species.

Critiquing Structures through Fleshing Out Figures

Footage of toxin-exposed animals, like the tragically oiled brown pelicans, are indeed powerfully magnetic. These animals are simultaneously helpless and resilient, and they animate emotions in people that can be disruptive to toxic industries as not just a cultural process but an economic environmental one. The affective power that certain species have over humans is not inherently problematic, as I've argued, as it can provide an opening; it can allow humans to engage more deeply with nonhuman modes of living and the extensive violence of *structures* of environmental violence, using emotion and affect as a method.

The appeal to emotion that toxic animal figures enact can be useful to think critically about the violent structures that have led us to this moment. How do these particular animals mobilize environmental concern and to value certain life over other? Toxic animal figures are powerful are in shaping who "we" are, who we stand for in moments of crisis. As such, these toxic animal figures only function because certain types of beings are permitted to be folded into

the category of the Human. Reframing who is on the precipice of environmental destruction can allow for more intersectional and ethical engagement with urgent disasters.

So, too, can concern for toxic animal figures be harnessed to think about the embodied realities of nonhuman animals implicated in environmental violence caused by humans. As I have noted in this project, the toxic animal figures are entangled with material, embodied toxin-exposed animals. Figures negotiate how these animals are legibilized, valued, or exterminated. In Chapter 2, for instance, we saw how the aesthetic value placed on the whiteness of pelicans may have precluded deeper modes of care for pelicans, since oil on the surface of their feathers may not have been the most pressing health issue. This project thus pushes us to interrogate the gap between the animal figures and the animals themselves. What might it accomplish to attend to pelicans' modes of communication, their silences, their squawks?

Thinking outside of the aesthetics and singularity of the figure may open up possibilities. After all, pelicans co-exist with many other species and assessing the health of a single species in isolation does not only provide an accurate representation of nature but also it may preclude broader-scale analysis of how the health of certain animals is important for many others, including humans. Rather than promote Last-chance Travels, which contribute carbon emissions from air travel and reify endangered species as objects of future loss from climate change, humans' widespread fascination with environmental destruction and toxicity can be harnessed for other means. These cultural phenomena can be a reminder that with our demise and that in alienating times many of us seek embodied experiences with our environments.

This was central to the feelings of one of the respondents in the Louisiana oral history project that I consulted in the Historic New Orleans Collection archives. In a grainy recording that I listened to through borrowed headphones, Bart Siegel wept audibly as he described his

time as captain of the de-greasing team at Grand Isle, the primary site of rehabilitating oiled birds. “You’ve never seen anything like it in your life,” he said. “Pelican after pelican. Hundreds after hundreds of pelicans coated in oil, suffering and dying. It’s something that changes your life…. after we had finally unloaded all of the pelicans and got them inside the building, I picked up the sheet [covering the pelicans] and looked inside and lost it. I’d never seen anything so horrible” he said, gulping and choking back tears. Siegel has become choked up in other interviews where he has been asked to reflect upon his care for the oiled pelicans, which is a radical act in and of itself, witnessing the violence that humans have enacted on these birds (Ziglar 2011).

Moreover, Siegel had experienced first-hand how toxic the cleaning process was for the birds in his time working on Grand Isle. He recounted the extensive process in his oral history with Mark Cave, giving ample detail:

> I applied a chemical called Methylsoyate to the birds in a squeegee bottle, and worked the oil through all the feathers, all over the bird’s body, from his beak all the way down to his feet, just drenching in oil… But there were bad fumes to it, and after a while… I started to develop a cough. And we started to call [it] ‘Black Lung,’” he said laughing. “Because… every time we’d swallow, we tasted oil. Whatever we ate tasted like oil. You know we smelled oil 24/7. It was in our systems and it was starting to get a little worrisome because, you know, we were getting dizzy... and working in 100-degree temperature and in a [Hazmat] suit (Siegel in Cave 2010-2011).

Cave’s work to rehabilitate these birds was, indeed, a sacrifice. Siegel threatened his health in hopes of rehabilitating the birds the Louisiana State Animal Rehabilitation Team captured along the coast.

Siegel's experiences at Grand Isle inspired his ongoing photography project and his vocal support for nonhuman animals: "You know, holding a pelican in your arms and feeling its heartbeat and looking in its eye, you know, it's like asking you to help it and you do…. that's what this planet's supposed to be for… And every time I go down to Grand Isle and see pelicans, I kind of feel like, you know, maybe those are mine," he said, gulping again. Though he doesn't explicate how he knows these birds are in fact asking for help – or whether they would simply prefer to be left to die in peace – he feels ethically moved to act. The *mine* here is not a *mine* of ownership, like the possessive pronoun that Hayes uses to describe the African clawed frogs he studies. Nor is the *mine* here the possessive pronoun that homeowners in North Carolina have used to defend their backyards against "feral fiends:" "I don't want hogs in my front yard," Janice Brown explained in an episode of *Pig Bomb* (2012). On the contrary, the *mine* that Siegel uses here reflects the fact that he has both touched and been touched by physical encounters oiled pelicans, and these continue to shape every time he sees another pelican.

Figure 1: Bart Siegel Cleaning a Pelican on Grand Isle (Photo: Bart Siegel)

Evident in recent questions of how helpful the cleaning birds actually was, it has become clear that further research is necessary to understand pelicans' needs in these kinds of disasters (Dell'Amore 2010). But even more should be done to prevent these kinds of toxic disasters the first place. And this is where Siegel stands in stark opposition to the others interviewed in the project, who are animated primarily by the figure of The Oiled Pelican in this singular encounter after the BP oil spill. Siegel's recording is the only one that recognizes that oiled pelicans are not just the figure of the Louisiana coast, but emblematic of the widespread effects of human environmental violence against nonhuman animals:

> We've got to take care of the animals on this planet. They enrich this planet, and, you know, we're encroaching on their habitats. We're wiping them out that way. We've killed them with pesticides and all kinds of pollutants. Mostly encroachment. You know we're taking down the rain forest and we're making subdivisions, and they have nowhere to go... They're coming into people's yards and they're getting trouble that way. So, you know, we have to take our animals seriously. We have to take the planet seriously, whether it be animal, water, vegetable.

Siegel powerfully notes the entangled violence of pesticides, petroleum, and humans' creations of borders, but the human/animal divide remains at the edge of the frame. By moving outside of the figure of The Pelican without interrogating how the figure moved so many to clean these birds, Siegel and other wildlife workers cannot think intersectionally about how environmentally toxic figures are biopolitical; they encourage the health of certain animal populations for the emotional well-being of the entire human population without thinking about the environmental effects of toxic spills on multiply marginalized human communities.

Multispecies Effects of these Figures

The lack of attention of multispecies effects of the spill was evident in the lack of discussion of the effects beyond pelicans, as I have explained, suggesting that the "we" Bart Siegel uses is a privileged white one. One worker at the stabilization site on Grand Isle, Eric Liffmann, alluded to the fact that efforts on the island were marked by xenophobia (Cave 2010-2011). As discussed in Chapter 2, the island is populated primarily by white residents whereas the workers recruited to do the unfavorable beach cleanup were prison inmates who were mostly Black, which animated hostility of the islanders not only to bringing in outsiders to fill the cleanup jobs but specifically bringing Black incarcerated men to do their jobs. The images of the oiled pelicans became the focal point since they are, indeed, "warm and fuzzy" as one interviewee explained, and the majority white volunteers became the subject of interviews, oral histories, and documentaries whereas the toxic and grueling labor that the Black inmates conducted was met with hostility. So, too, did it seem that the focus on aesthetics prevented wildlife rehabilitationists and environmentalists to think critically about the long-term effects of the oil on the communities of color in the area.

The oyster communities of Point a la Hache remained outside of public attention, as one interviewee of Nailah Jefferson's documentary *Vanishing Pearls* notes: "… the news media [is saying] 'oh we didn't know [Louisiana] had Black fishermen.' *Hello*! 90% of the fishermen down here are Black" (qtd. in Jefferson 2014). As Jefferson notes, there is a history is markedly being obscured. Ken Litzenberger conceded his lack of knowledge on the matter, even though he was a project leader for U.S. Fish and Wildlife Service Southeast Louisiana Refuges at the time. "I would say that, after Katrina and after this spill, the fishery production was probably better than it is in other years simply because the fishing fleet was destroyed after Katrina and the feds and the state closed fishing wasters for a long long time after this spill, so it gives all those fish a

chance to reproduce. *Oysters, I don't know"* (Quoted in Cave 2010-2011). The figure of the Pelican, again, seems to have prevented the American public from looking at the multispecies effects of toxic environmental violence as well as the disproportionate environmental burden that communities of color are encouraged and coerced to bear after these disasters.

The oiled pelicans that Bart Siegel rehabilitated were recruited into The Pelican: a complex figure of Christian piety that takes the shape of the pious Madonna caring for her three hatchlings and is featured on the Louisiana state flag. As a palimpsest, the figure of the oiled pelican in the wake of the BP oil spill carries with it the fleur-de-lis, a symbol of French colonialism of North America and a literal brand of punishment against slaves who sought to create kin and marriage on their own terms outside of the purview of their masters. The Pelican, and the focus on washing the brown and black oil off the birds is a slippage that is reflected in the white supremacy of the figure: saving the white pelican mother when in fact describing brown pelicans is co-constituted with the villainization of Black mothers in contemporary U.S. society. The discourses of The [white] Pelican as a good mother, despite the absence of a father, indicates how important this biopolitical figure is, especially in how it seems to have precluded attention to the lives and livelihoods of Black fishermen affected by the same oil spill.

Timely Strategies: Away from Urgency, Towards Multitemporality

Temporality is important to trace when unraveling toxic animal figures. As evident in this and the other chapters of this project, they are bio- and zoo-political discursively through their engagement and imbrication in time. Multiple histories have shaped how certain animals come to act as cultural stand-ins for the Human (or for foils thereof). We must understand toxic animal figures as already multitemporal in that they are palimpsests, figures building on top of others, recruiting other toxic animal figures into the fray. For instance, in the first chapter, we traced

how the *atrazine-exposed intersex frog* garners wildlife protection support through and against the multi-century figure of the *invasive pest* of North America*,* the intended target of Syngenta's pesticide "atrazine." Thinking multitemporally also allows us to see how the figures in the present are entities that are shaped by multiple other figures that are added, erased, transposed over time.

The power of the *atrazine-exposed intersex frog* has been so marked that the *invasive pest figure* has been re-invigorated by Syngenta in framing these weeds as not only invasive but "resistant." Calling for farmers to be Resistance Fighters through the image of a white-washed power fist, Syngenta makes an explicit appeal to the whiteness of resistance. Histories are necessary to understand the environmental harm in the present (for instance, Hayes' dissection of frog gonads, use of fuchsia dye to stain his specimens, and projecting them as part of his public lectures). After all, the onto-epistemologies of past violence haunt the present moment. Listening to the hauntings of the obscured histories through those who continue to live them is necessary. After all, haunting is "one of the ways in which abusive systems of power make themselves known and their impacts felt in daily life" (2008, xvi). We must listen to ghosts often hiding in plain sight.

The palimpsestic toxic animal figures reify American heterosexual gender, sex, and family norms through ontologies and technologies of historical and ongoing racialized violence. By being the focus of current and urgent crises, they seem to preclude historical analysis. These are animal figures that precede these individual encounters.[52] Multitemporality is a way to bridge queer studies' calls to use queer modes of possibility with environmental justice's understandings

[52] The radioactive boar of Chernobyl, for instance, are conceptualized in particular ways by the many U.S. travelers visiting the area, who have been immersed in discourses of Eurasian boar as particularly wild vestiges of colonialism.

of timescales: the environmental disaster to which these figures refer not only to urgent singular acts of environmental disaster but also a slow and steady violence, as Rob Nixon would say, that extends before and after these singular events (2013). This project has called for recognizing that environmental violence is often less spectacular than single toxic explosions, spills, or biohazard breaches. Yet urgency is very much a part of the language of these panics; the crisis is happening now, we have to act now, or we will lose what we have and the long rich history and civilization that humans have built [in the past]. What will our future look like if the earth is overrun with invasive animals like weeds and wild pigs and everyone is sterile, intersex, and gay? These anxieties about fertile human futures often fail to track how the toxic afterlives are disproportionately felt by people of color (Michelle Chen 2010; D. Taylor 2014).

So, too, is time an explicit politics in the making of these figures: Darnell, the intersex frog is outside of the Human precisely because he lacks the ancient structure that differentiates humans from amphibians: a placenta. This positions him as a perfect indicator species for the potential endocrine-disrupting effects of pesticides on human beings. Articulating this figure as a new phenomenon allows for the erasure of currently intersex humans. So, too, is time important in creating the whitewashing brown pelican figure in Louisiana, since its value is in how long the figure has been in existence. As an image of tradition, it bears great importance that risks overlooking the many others affected by the Deepwater Horizon disaster. Feral pigs are provocatively recruited as toxic figures when farmers and wildlife workers describe them as vestiges of colonial explorers of North America. Time is not only always passing but it is crucial to the rhetoric of environmental protection and justice.

In the third chapter, we saw how feral pigs are positioned as villains and multigenerational rabble-rousers through a specific iteration of the *invasive pest* figure: domestic pigs gone wild,

overpopulating, and invading farmers' homes. This image is defined through a key trope in conservative American culture, the welfare queen, and against the figure of the domesticated pig, such as of *The Three Little Pigs*. These are only some of the many animal figures that emerge out of humans' anxieties about gender, sex, sexuality, race, species and environmental destruction. But they remind us of the importance of thinking through multiple time-scales.

These figures are etched in history and will continue to shape human engagements with the nonhuman world. But perhaps, as Siegel suggests, we can think about humans' broader encroachment into the lives of nonhuman animals and how this leads animals to "get in trouble" when they have nowhere to go but "people's backyards" (Cave 2010-2011). In other words, tracking and cracking open the *toxic animal figures* can help humans to think postcolonially and decolonially about space as a contestation rather than one of rightful ownership. This, especially, is a means to interrogate the centrality of whiteness to these figures which are often explicitly created through histories of violence against Black people under chattel slavery and Indigenous people under European settler colonialism. White people in the U.S. must think critically about the unique violence they have enacted and continue to enact through the regulating of populations, wildness, and occupation of land that is not their own. Rather than discarding these toxic figures as inherently problematic, however, we may also be able to think with them as a jumping off point. Examining each multitemporally can help us to identify the discursive fences that are in need of tearing down in these continually toxic times.

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