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Exploring the Disassociation between Corporations, Humans, and Nature

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EXPLORING THE DISASSOCIATION BETWEEN CORPORATIONS, HUMANS, AND NATURE

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ABSTRACT

The aim of this thesis is to investigate and analyze the disassociation between corporations, humans, and nature using the Eco-Marxist and Posthumanism literary theories.

In the first chapter, coal politics of the Appalachian region of the United States are explored using the Eco-Marxist literary theory. This theory allows one to examine how corporations undermine communities and nature for financial gain. Because current research was lacking in regards to local and national coal politics, the author decided to examine an area that was familiar with corporate hegemony.

In the second chapter, the issue of bioethics in factory farms is investigated using the Posthumanism literary theory, specifically focusing on how corporations use technology to exploit both human and nonhuman entities. Here, the author introduces the idea of the corporate posthuman by examining the Supreme Court's rulings to humanize corporations. Laying the framework this concept ultimately allows future researchers to examine ethics beyond the material world.

In conclusion, the thesis argues that using literary theory provides the capability to contribute to conversations of ethics, exploitation, and awareness in cultural discourse. This thesis hopes to contribute to the literary theory field and thus make a small contribution to its canon by introducing two concepts and future areas to explore.

INTRODUCTION

The research presented within this collection has spawned from my personal interests in environmental studies and critical literary theory. Initially, I pursued this research in hopes to further understand the relationship between corporatism and ecology, as well as examine the effects that humans have on nature. Its inspiration is largely in due part of my studies on obtaining *environmental justice*, and who, or what, that pertains to. As this project escalated, I found two particular issues of utmost interest: coal politics and bioethics. My exposure to various literary theories (specifically what I focus on henceforth is Eco-Marxism and Posthumanism) provided me with the capabilities to examine several issues within these two topics and formulate my own theories within their respective discourses.

"Marx's Ecology" written by John Bellamy Foster focuses on Karl Marx's "Marxism" theory and ecology, which provided the initial framework for this project. The premise of Foster's text traces the origins of Karl Marx's studies on Epicurus, Francis Bacon, Charles Darwin, Thomas Malthus, and many other thinkers and the "historical meaning of the idea of the domination of nature" (para. 7). Although the general consensus has claimed Marx to be uninterested in the ecological effects of capitalism on society, Foster delves into his most notable work, *Capital: A Critique of Political Economy* and the *metabolic rift*, or the relationship "between town and country, human begins and the earth, [which] allowed him (Marx) to penetrate the roots of what historians have sometimes called the "second agricultural revolution" (Location 3189). Ultimately, Marx's analysis of the second agricultural revolution "compelled Marx to analyze the conditions underlying a sustainable relation to the earth" (Location 3194).

The idea behind “Eco-Marxism” is that ecologically, nature cannot keep up with the demands capitalism desires, and that it (capitalism) contributes to the separation of man and nature.

Building off the theoretical concept of “Eco-Marxism” and working to apply it socially, Foster’s “The Ecological Rift” continued his work on Marxism, providing a scientific explanation for just *how* capitalism exploits and squanders nature. Justification for this theory is explained through biodiversity loss, or “the rate of extinction (the number of species lost per million species per year)” by comparing today’s “planetary boundaries” (climate change, ocean acidification, ozone depletion, to name a few) with the planetary boundaries found before industrial capitalism (Foster, Clark, and York 15). The problem, in short, arises from our society’s need to “amass capital” and how we fail to recognize the physical boundaries that inhibit nature; “nature, if it is considered at all, is seen as a problem, an obstacle to overcome” (Foster et al. 251).

The alienation between man and nature emanates “from the conflicts and contradictions of modern capitalistic society” (Foster et al.14); this theory parallels classical Marxism in which alienation occurs between the *bourgeoisie* and *proletariat*. As such, Eco-Marxism provided me with a strong starting point in exploring the relationship between coal companies, their employees, and the environment – a topic that is explored in the first chapter of this document, titled “The American-Marxist Perspective on Coal Politics.”

What I soon came to notice about the application of Eco-Marxism (or Marxism, for that matter) to American coal politics was that it was virtually nonexistent; that is, the American-Marxist perspective had largely focused on global oil politics while missing the

opportunity to critique local (and national) issues brought forth by coal; thus, I felt compelled to explore this area that had largely been missed. As this research escalated further, my studies began to circulate around the Appalachian region, mainly due to its dependence on natural resources for economic stimulation. The region's rich history in coal politics (such as the Battle of Blair Mountain and the Matewan Massacre, in which coal miners went on strike for better working conditions and wages) also played a role in why I chose this specific area over another.

The issues of the Appalachian region (which, I believe, mirrors other coal-reliant communities) I encountered were extensive. Because of the United States' role in global politics, their response to climate change has been exceptionally progressive in recent years, aiming to reduce their carbon footprint in hopes that other countries will follow the same model; in order to achieve this, the United States has slowly began phasing out coal to pursue other, more efficient means of energy (namely natural gas). Naturally, this decision appeals to those concerned with the effects of human action on the environment, but poses a serious threat to a community's (for example, the Appalachian region) way of life.

Still not quite part of the conversation pertaining to the phasing out of coal, I found, is the implementation of other sources of energy (for example, solar, wind, nuclear, or even the up-and-coming fusion) which could help offset the economic loss by mitigating coal. While lack of conversation could be attributed to various reasons, my assumption is that it is due to the role that coal plays in political campaigns and its contribution to economics (better known as pork barrel politics). This is, however, not the only problem that is explored in "The American-Marxist Perspective on Coal

Politics"; how corporations work hegemonically against an area's best interests for financial gain is also explored extensively. To analyze how hegemony is achieved, I take particular notice of America's infatuation with *clean coal* (that is, the act of making coal combustion emissions-free) and critique marketing strategies that employ its usage.

Other areas of analysis in this chapter include visual rhetoric, ingrained cultural patterns, and the separation of classes and the environment. "The American-Marxist Perspective on Coal Politics" ends by examining how the relevance of coal is slowly declining for various reasons yet is still considered a part of the Appalachian community's way of life. While my particular focus does not call for action against coal companies, it does implore the Marxist community to take note of local issues brought forth through coal.

Chapter two, titled "Animal Agribusiness and the Pre/Posthuman Condition," seeks to further examine the relationship between humans and nature, but instead focuses on animals, bioethics, and technology's role in this equation using the "posthuman" literary theory. While notable theorists (Donna Haraway, Cary Wolfe, and Karen Barad) have explored bioethics in a posthuman light, I found that research was lacking (although not flat-out missing) in regards to technology's role in undermining animal rights and affecting our moral species.

This research begins by providing a brief history of factory farming starting with the early 1900s. During this time, technology has gained relevance with the farming community by providing them with the means to increase production, which increased profits. Farmers were spending large sums on the technology that would allow them to

increase production, and subsequently went into debt. With the end of World War I (when farmer's profits were at an all-time-high), the overproduction of farm goods eventually led to economic disparity for farmers, as too much had been produced. Competition became fierce, production increased even more (to make up for lost funds), and farmers drove the market prices extremely low throughout the 1920s.

The 1930s saw a decrease in rain, resulting in arid soil which caused severe dustbowls throughout the Midwest; additionally, the Great Depression surfaced, leaving families without excess funds to purchase products from farmers. Farms were lost and families migrated further west, partially because of the effects that technology played in the Dust Bowl's intensity. Thus, while technology advanced exponentially during this era, its usage had severe consequences.

I then explore the effects of technology in the latter half of the 19th century. During this time, technology became prevalent within livestock through selective breeding and the use of transgenics. As animal production has increased during this era, and continues to do so today, so too have concerns regarding the ramifications of factory farming, including (but not limited to) animal welfare, public health, and environmental devastation. Although factory farming has seen *some* notable advances (such as egg production), I argue that technology has ultimately undermined animal ethics, and subsequently had a negative effect on our society's moral species.

Recontextualizing Sarah Chan and John Harris's definition of posthuman ("the intersection of biology and technology on the present human race" [75]), I instead argue that the present human condition is pre-posthuman. For purposes of this discussion, then, I define the pre-posthuman (as it applies to humans) as material beings grounded

in conscious embodiment who rely on, and are influenced through, modern technology; modern technology is an important aspect to this definition because it implies that not all cultures are pre-posthuman. As pre-posthumans, I believe that we exist in a state that seeks to obtain the posthuman status (that is sought by notable posthuman theorists such as Donna Haraway), or one that provides the possibility of disembodiment or physical and mental enhancements. This status, I believe, could help lead to greater self-fulfillment and longer lives, but, I argue, is led astray through hierarchical structures that facilitate the possibility of other-species oppression.

Although we are pre-posthuman, I introduce the idea that we currently inhabit, or exist within, a posthuman society. I introduce this theory by examining the evolution of the pre-posthuman's moral species (or ethics) in regards to agricultural advancements of the 20th century, in which (I believe) humans were negatively influenced through technology. I then compare this brief history to the evolution of the corporation-becoming-man and label this *being* as the indefinite *posthuman*. Justification for existing within the posthuman society comes from the pivotal role that corporate entities play in our lives.

My research then briefly discusses a history of bioethics, beginning with the Cartesian belief that humans are superior to animals. Perhaps, I argue in this section, that even technology is more subverting than Descartes in regards to animal ethics, because it has worsened the conditions of livestock animals; this also raises concerns of who ethics pertains to in the established posthuman society. By creating a hierarchical arrangement in which the corporate posthuman exists at the top, I argue that through technology, they oppress beings that exist below (in the same

arrangement). Justification for this theory comes by analyzing various issues brought forth by corporations today.

To address the issues of our current society, I work with Michael Allen Fox and Lesley McLean's essay "Animals in Moral Space," in which they contest that ethics for animals be provided on a basis of what is best for *them*. Building off their argument, however, I call for the reevaluation of our moral species to encompass a broader spectrum of entities and the abolishment of our society's ternary (which will be explored further in the coming pages), whether it be through education or activism (or both). This would, however, be difficult to achieve, due to our society's current mode of production.

"Animal Agribusiness and the Pre/Posthuman Condition" concludes by calling for action in critiquing our current moral species. Because we currently view certain animals as commodities, our ethical future relies on establishing a moral sphere which includes entities not of our own species. Without this action, I suggest it is entirely possible that our future condition (if we are to become *posthuman*) might oppress entities in the same way that corporations oppress *us*; like issues of today, I argue that this oppression may be facilitated through technology.

Although my research examines and analyzes several issues within both coal politics and bioethics, it does not entail the entirety of their issues. In regards to "The American Marxist Perspective on Coal," I believe that more consideration needs to be given to the idea of ingrained cultural patterns, or the concept of several generations of families being placed in the same scenario (and being employed by the same company). I would also like to see this particular research be composed in tandem with an area's educational history, as I believe that it plays a role in this scenario. Other

topics of consideration might explore the viability of natural gas replacing coal within the Appalachian region, and whether or not it will work in the same fashion as coal (that is, hegemonically); this particular topic could even extend beyond natural gas and include the study of all fossil fuels as hegemonic. I also find the limited discourse of government officials given to the subject of renewable energy fascinating, and would like to see such a topic pursued in the future.

Pertaining to “Animal Agribusiness and the Pre/Posthuman Condition,” I believe that the *posthuman* research community needs to give more thoughts to the corporate entity. A possible scenario for this research could build off of Donna Haraway’s *Cyborg Manifesto,* which argues that technology is an extension of the human condition; thus, future research could examine human and nonhuman entities as extensions of the corporation. Such research could also help further justify the corporation as a posthuman entity. I also believe that more attention should be paid to the effects that technology has on our moral species. Possible topics for consideration include: computers, video games (which has, of course, been explored, but perhaps not in a posthuman light), vaccines, etc. I believe pursuing this research could be valuable to further understanding ethics within the posthuman discourse.

CHAPTER 1

THE AMERICAN-MARXIST PERSPECTIVE ON COAL POLITICS

It goes without saying that industrial capitalism owes its advancements to coal. Steam engines (most of which utilized coal) powered steamboats, factories, and trains created during the industrial revolution helped pave the way for a society built of machines, technology, science, and art. According to Gregory Clark and David Jacks, the work of E. A. Wrigley and Kenneth Pomeranz credits coal as the key factor to the industrial revolution; however, Clark and Jacks predict that “water power, wind power, and firewood would have alone served the energy needs of the Industrial Revolution” (25). While implementing sustainable methods during this era would have been achievable, there is speculation that it would have been more taxing on the economy, mostly due to the high transportation costs of timber.

The uses of coal today have changed very little; contrarily, they have expanded exponentially. Today, coal is used in powering electricity (approximately 40% of the world’s electricity), producing steel, cement manufacturing, and providing heat. Seventy-six percent of the global use of coal comes from China, United States, India, Russia, and Japan, and approximately 67% of that usage comes from Asia alone (“Uses of Coal,” para. 5). As the primary source of electrical power in the United States, coal plays a part in both the nation’s economy and as a source of energy. Coal combustion, however, “adds a significant amount of carbon dioxide to the atmosphere per unit of heat energy” (Hong and Slatick, para. 1); this is significantly higher than other fossil fuels (natural gas, petroleum gas, propane, fuel, or wood). Hong and Slatick’s study from 1994 estimates that for every one ton of coal burned, 2.86 tons of carbon

dioxide are released into the atmosphere (para. 8). Scientifically speaking, when coal is burned, carbon atoms are combined with oxygen atoms in the air, and the result is that the gas actually weighs *heavier* than the solid lump of coal (hence why one ton becomes 2.86 tons). On average, the United States burns nearly *one billion tons* of coal per year, and the world produces about 18 billion tons of CO2 (Chu, para. 2).

Economically, coal plays a pivotal role in the United States through exportation (in 2015, the U.S. shipped 97 short tons of coal) (U.S. EIA). The Appalachian region of the United States (Kentucky, West Virginia, and Pennsylvania) is particularly dependent on coal, and West Virginia mines employ nearly 30,000 individuals; put into perspective, roughly 1:60 people are employed by the coal mines. According to the Bureau of Business and Economic Research of West Virginia University, and the Center for Business and Economic Research of Marshall University, “since 2001, the coal mining industry has paid $7.1 billion in wages in West Virginia, and the average weekly wages equaled $1,313” (WVU 23). For West Virginia, the economic impact is exponential; selling coal is the quickest way for the state to stimulate its income.

Growing concerns of global warming and advancements in natural gas and sustainable energy have impacted coal’s viability, however, which has had a profound effect on the economics of the Appalachian region. The industry has become subject to numerous regulations, and the “proposed policies have the potential to dramatically affect the future of the coal mining industry” (WVU 49); these regulations include drastically reducing the area’s carbon footprint from 158.0 million tons to 130.2 million tons by 2030. The EPA has since drafted ways to meet these regulations, one of which includes the renovation of all major West Virginia power plants; these renovations

include the implementation of Carbon Capture and Sequestration technology (CCS) (otherwise known as “clean coal”), or the process in which carbon dioxide emissions are captured and safely stored in underground containment sites.

In addition to promising CO2 emissions reduction, clean coal also promises less sulphur dioxide emissions and the complete removal of mercury emissions (Schnaiberg, para. 1). One study conducted by the American Coalition for Clean Coal Electricity suggests “that building some 124 new power plants with clean coal technology could create 150,000 jobs while producing less pollution,” although the career outlook has yet to be thoroughly addressed (Bedard, para. 2).

The information above certainly sounds promising on both an economical and environmental level. The fact of the matter is, however, that the pursuit of CCS technology has proven to be nothing more than a poor investment and an attempt to keep a collapsing energy source alive for corporate interests. As CCS technology is largely supported by big corporations (the FutureGen Alliance is currently composed of five members, including Peabody Energy whom I will critique later), I contest that coal (and the corporation) works hegemonically against the Appalachian region’s best interests. Additionally, I believe it undermines the pursuit of alternative energies while sustaining a fatal relationship with the environment.

Similar research has, of course, been proposed (notably regarding global oil politics), but what makes the Appalachian region’s current issue so interesting is that the American-Marxist perspective has largely missed its opportunity for analysis. The lengths that coal companies have gone to maintain dominance over the Appalachian region (which I believe reflects other coal-reliant communities) include the integration of

CCS technology on local, national, and global scale, pork barrel politics, and faulty rhetoric**.** As such, I believe the issues of today were escalated through the birth of the Bush Administration's Carbon Capture and Sequestration Initiative, which was first proposed in 2001 to combat rising concerns over global warming.

The United States' Political Response to Global Warming

High usage of coal simply does not come without environmental taxation. The release of carbon dioxide in the atmosphere plays a significant role in global warming. Climatologists have predicted a rise in sea levels, coastal flooding, land loss, temperature stratification, and several other detrimental effects, each of which is caused by global warming. A recent study proposed that those living along Asia's coasts will suffer these effects the most, however "a growing impact can be seen in the UK and around the world" (McKie, para. 10).

Counteracting global warming begins with the reduction of fossil fuel usage, which calls for the implantation of "greener" technologies. While the forefront of these technologies *should* exist in solar and wind energy (for various reasons, including environmental benefits and energy security), with natural gas helping pave the way for its implementation, the Department of Energy's (DOE) Research and Development (R&D) team is enamored by the development of carbon capture and sequestration (CCS) technology. This technology is designed to capture carbon dioxide emissions, safely store those emissions in various storage sites, and ultimately reuse the captured energy. The International Energy Agency (IEA) reports that CCS technology *could* reduce "emissions by 85 to 95% compared to the same processes without [CCS]," but it is relatively costly emission reduction strategy (18). The IEA also considers the

possibility of continued use of fossil fuels, all while reducing CO2 emissions, and reusing the captured energy in order to produce “39% of all electricity” by 2050 (18); while success with CCS technology has been far and few between, perhaps the Sleipner site in Norway (which has stored an estimated one million tons of CO2 per year since 1996 in sub-sea storage by injecting CO2 into underwater storage facilities) provided a model for the Bush Administration’s Clean Coal Power Initiative (CCPI).

In 2001, the CCPI was proposed as part of the Bush Administration’s “Energy Policy Act.” The act, in summary, proposed a

> cost-shared collaboration between the Government and industry to increase investment in low-emission coal technology by demonstrating advanced coal-based, power generation technologies, consistent with the Energy Policy Act. The CCPI goal is to accelerate the readiness of advanced coal technologies for commercial deployment, thus ensuring that the United States has clean, reliable, and affordable electricity and power. (Usher and Cerimele 3)

Although taking a large amount of criticism from both republican and democratic affiliations (*The Washington Post* and the National Republicans for Environmental Protection Association to name a few) for various reasons, the CCPI promised an approach to mitigate carbon dioxide emissions (as well as other greenhouse gases) and attempt to put those emissions to beneficial use, such as providing electricity or making plastics.

Following the introduction of the CCPI, in 2003 President George W. Bush introduced plans “for the world’s first zero-emission coal plant, a project that would serve as a global showcase of America’s ability to reduce carbon emissions from fossil fuels” titled FutureGen (Bernton). FutureGen boasted “carbon capture and storage” (CCS) technology (simply put, the process of capturing carbon dioxide before it enters

the atmosphere), which would reduce “approximately 1.3 million tonnes of CO2 each year – more than 90 percent of the plant’s carbon emissions” *and* provide electricity (Clark, para. 6). The original plan for FutureGen was to build the plant in Coles County, Illinois, and subsequently store captured carbon dioxide in the area’s geographical formations (in other words, underground facilities), in compliance with the Department of Energy’s (DOE) regulations.

Funding for FutureGen was originally a cost-share agreement between the federal government (who would provide 76% of the cost) and the private sector (24%). Between the years of 2004 and 2008, “Congress appropriated $174 million to the original FutureGen project. The DOE obligated $44 million” for a combined total of $218 million USD; however, this amount is miniscule compared to the total estimate that FutureGen projected – nearly $1 billion USD (Folger 1). Due to the rising costs of steel, concrete, and other various building materials, however, “the cost of the project nearly doubled”– proper funding for the Clean Coal Initiative and FutureGen would have cost approximately $2 billion USD (Kindy). To no surprise, on January 30, 2008, Energy Secretary Samuel W. Bodmon cancelled the FutureGen project due to cost overruns.

Two years later, in 2010, “the Obama administration announced the introduction of FutureGen 2.0, which would retrofit an existing fossil fuel power plant in Illinois with CCS technology” (Folger 1). FutureGen 2.0 shares similar goals with its predecessor, aiming to “test and develop affordable technology, on a commercial scale, that can remove 90% of emissions produced by coal plants” (Kindy). Funding also mirrored the original FutureGen, with an estimated cost of $1.63 billion USD. Nearly 50% of funding was to go towards “retrofitting and repowering Ameren Corporation’s power plant in

Meredosia, Illinois, and the remaining $550 million USD used for the construction of a CO2 pipeline, storage site, and training and research center" (Folger 1). In 2013, The University of Illinois estimated 620 permanent jobs for the area, and approximately $12 billion of business volume by 2037 (University of Illinois V).

In 2014, state regulators of Illinois permitted a "30-mile underground pipeline that would carry carbon dioxide to an experimental, deep-earth storage site in northeast Morgan County," once again with the promise of capturing 90% of carbon emissions (Landis, para. 1). In early September, the U.S. Environmental Protection Agency approved permits for the FutureGen clean coal project to store carbon dioxide underground (Mercer, para. 2). A 2013 lawsuit filed by Sierra Club, however, claimed that "coal boilers [being used at the Meredosia Power Plant] would emit thousands of tons of carbon dioxide, nitrous oxides, nitrogen oxides, sulfur oxides, particulate matter and carbon monoxide each year" (Bauer, para. 3). Thus, an issue regarding air pollution lingered over FutureGen Corporation, as well as CCS technology as a whole.

Fortunately (or unfortunately, given the economic waste), FutureGen 2.0 was cancelled in early 2015, once again due to projected cost overruns; the decision by the Department of Energy is estimated to save taxpayers approximately $1 billion USD. To date, no coal plant is exclusive to the carbon capture and sequestration strategy, with most participating minimally (Casey, para. 5).

Pork Barrel Politics and the Myth of Clean Coal

What I find most interesting about the Bush Administration's continued pursuit of clean coal in 2004 was the distribution of alternative energy grants provided by the Clean Coal Power Initiative and the Power Plant Improvement Initiative. While some

non-swing states benefited from these grants, “many states critical to Bush’s reelection campaign were targeted with multimillion dollar grants, large public announcement ceremonies, and visits from the president or his energy secretary in the weeks leading up to Election Day” (Hudak 33). Ohio, New Mexico, and Florida (swing states) each received federal grants to pursue alternative energies and ultimately voted for George W. Bush in the election. Additionally, blue-turned-red state West Virginia also received energy grants and subsequently voted republican as well; simply put, federal grants played a crucial role in deciding the 2004 election.

Interestingly enough, the federal grants that were issued to those states listed above voted democratic (barring West Virginia) in both the 2008 and 2012 presidential campaigns. While this may simply be a coincidence, this outcome *could* be explained by the Democratic Party’s push to continue the pursuit of cleaner energies that were implemented four (and eight) years prior (specifically clean coal). As coal plays such a vital role to various areas (West Virginia, Wyoming, Illinois [FutureGen’s location], New Mexico, Ohio, and Florida [while not particularly crucial to the state’s economy, they were allotted a $235 million grant to support clean coal during the 2004 election]) and swing states, satisfying the needs of these states plays a crucial role in solidifying a certain party’s political victory. This does, however, pose a serious problem – promises to keep coal relevant made to coal-oriented states does not address the issue that coal is a high-emissions producing fossil fuel that leads to environmental degradation. Additionally, the cost of implementing CCS and the technology required to capture the emissions are oftentimes ignored, and promises of job growth have yet to be proven.

James B. Meigs, amongst several other environmentalist researchers, mocks clean coal as “the high-tech, low emissions fuel of the future” and believes that “coal will never be clean” —a belief shared by many (para. 4). His article presents statistics of cleaner emissions produced by coal, but claims that the practice of burying those emissions in storage sites is extremely difficult. In order to capture the emissions produced from burning coal, Meigs estimates that “a coal-fired power plant would have to burn roughly 25% more coal to handle carbon sequestration while producing the same amount of electricity” (para. 7). Burning 25% *more* coal would require more mining, higher transportation costs, and increase byproducts (fly ash).

In addition to burning more coal, the transportation and burying of the sequestered emissions would prove extremely difficult, argues Meigs. American Electric Power of West Virginia produces around 10,000 tons of CO2 a day, and sequesters a few hundred tons of those emissions. Total emissions generated by America alone are approximately 1.5 billion tons annually, and Meigs claims that “capturing that would mean filling 30 million barrels with liquid CO2 every single day” (para. 8). The technology required (pumps, pipelines, and wells) are extremely vast projects that have yet to be taken into consideration. In addition to the technological advancements required for proper sequestration, there are doubts as to whether the storage sites will successfully hold the gasses, and for how long.

The career outlook also has yet to be thoroughly addressed. One study conducted by the American Coalition for Clean Coal Electricity suggests “that building some 124 new power plants with clean coal technology could create 150,000 jobs while producing less pollution” (Bedard, para 2.). This projection could be contested, however,

as the Appalachian region (West Virginia in particular) has yet to see a plethora of additional jobs as a result of CCS technology; the chart below created by the West Virginia Center on Budget and Policy Blog shows coal mining employment in West Virginia from 1880-2012, confirming little-to-no additional job growth as a result of CCS technology.

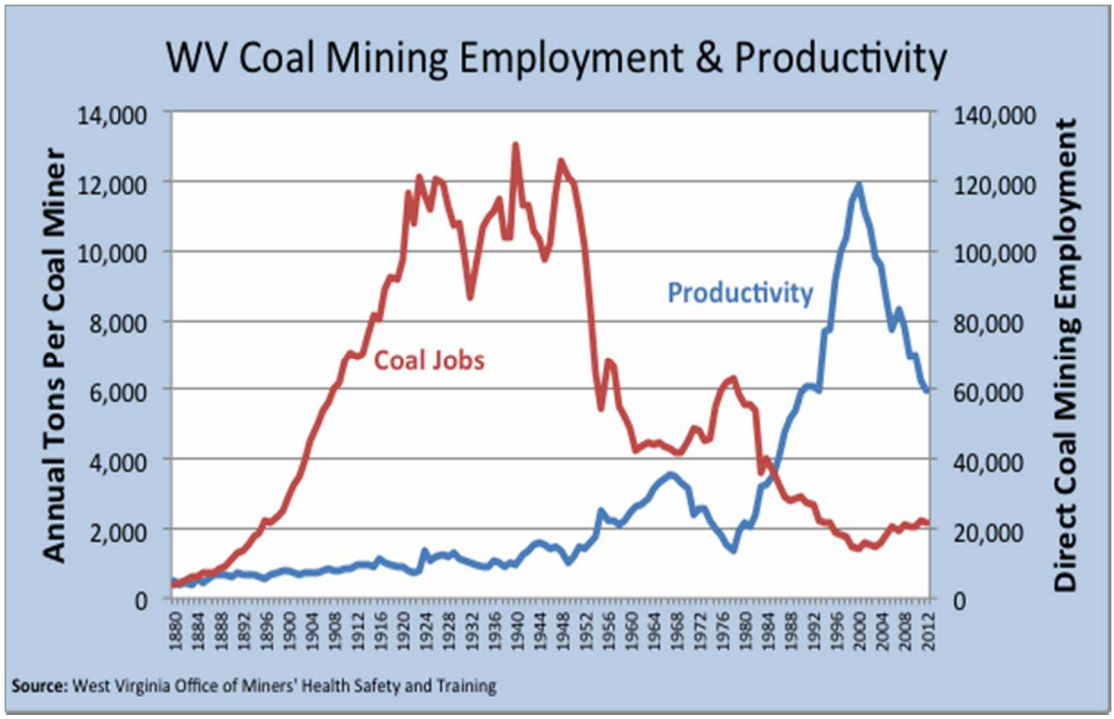


Figure 1: WV Coal Mining Employment and Productivity

Thus, it would seem that “clean coal” is far from a reality. Due to the vast amount of water it requires to produce the gas that will be sequestered and the approximate price of renovation required for each power plant ($4 billion per plant), the technology to sequester carbon is largely theoretical. While coal plays a vital part in the world’s economy (in the United States, the exportation of fossil fuels is the third biggest contributor to financial gain, and the Appalachian region alone earns approximately six billion per year), it is necessary that alternative energies be implemented in order to

lower global emissions of CO2. While these energies will undoubtedly have an impact on the economy, implementing natural gas, wind energy, solar power, or even nuclear power plants should begin to be further pursued (Berger, Thompson, Allen, and Roenker 14). Such possibilities have the opportunity to offset any economic impacts while producing a sustainable environment. Thus, if conclusive research has shown that clean coal is far from a reality, and sustainable energy can be provided through various means, why is the red herring of clean coal being funded?

Corporate Deception on Trending Issues

Perhaps the most perplexing trait concerning *clean coal* is government and corporate marketing strategies used to persuade the public that *coal* can be *clean*. Coined by Jay Westervelt (field biologist and activist) in 1986, *greenwashing* is a public relations strategy that uses environmental issues as a source of marketing to expand profit on products ranging from baby diapers to coal. The irony behind this type of marketing is that *greenwashing* is being used to support the industry which *most* contributes to climate change (the burning of fossil fuels). This trend began in 2006 with General Electric's (GE) attempt to make coal appear "attractive" in their "Ecomagination 'Model Miners'" advertisement, which proclaimed that "emissions reducing technology is making coal look more beautiful everyday" (General Electric). The advertisement is filled with unrealistic representations of miners, both men and women alike. Not only does this promote coal as "clean" (an oxymoron in itself), but also as *sexy* (see figure 2 below).

Image 1: General Electric's "Model Miners"

General Electric's "Model Miners" advertisement is culturally relevant alongside George W. Bush's Clean Coal Power Initiative, which lasted from 2001-2008. GE's promotion of clean coal during this specific time also fueled the promise of sequestration technology ("thanks to emissions reducing technology from GE Energy, the power of coal is looking more beautiful"). It is unknown whether this advertisement was created to make people feel better about coal consumption or was intended to ease ill-feelings towards FutureGen, a nearly $1 billion USD investment; regardless, the advertisement falsely informed viewers of "emissions reducing technology" (carbon capture and sequestration) that were not in practice and largely theoretical (it *did* exist, but not prevalently in the United States). It was only the next year (2008) that the Bush Administration would cancel their FutureGen project, leaving any advancements made towards CCS technology irrelevant. Even today, proper CCS technology is still being developed.

In hindsight, GE manipulated viewers through trending environmental issues. Guy Pearse, author of *The Greenwash Effect*, writes that:

> GE is one of the biggest suppliers of turbines and other equipment essential to running conventional coal-fired power stations. And although the equipment is undoubtedly becoming more efficient, total emissions from power stations using GE's technology are going up. (71)

This is, in part, due to GE's global distribution strategy, wherein they provide technology to advancing countries (such as India and China) that have poor regulations on emissions. According to Pearse, GE is currently running advertisements promoting clean coal in those countries.

GE is not alone in their campaign in keeping coal relevant; other strategies employed include Peabody Energy's "cool" clean coal campaign, in which a piece of coal is decorated with sunglasses. In Mid-August of 2014, the same company released the "Advanced Energy for Life" campaign in an attempt to undermine the negative consequences of coal on the environment. To that end, Peabody Energy shifted the focus from the effect of coal on the environment to "energy poverty"; this, Peabody claims, is "the world's number one human and environmental crisis," implying that it is not coal's fault for current ecological issues, nor is it even the most serious threat (para. 1). The advertisement also states that "clean, modern energy is the solution for better, longer, and healthier lives" while showing various children from impoverished countries.

Image 2: Peabody Energy's "Clean Coal. Cool." mascot.

Peabody Energy's "Advanced Energy for Life" campaign was such an effective case of *greenwashing* that the United Kingdom's Advertising Standards Authority (ASA) stepped in, barring Peabody from using the term "clean coal." The original advertisement itself is also prohibited, with the ASA stating that "the ad must not appear again in its current form. We told Peabody Energy Inc. to ensure that future ads did not state or imply that their technologies were emission-free or similar unless they could demonstrate that was the case" (Fulton para. 5). Consequently, Peabody Energy has added a footnote to their advertisement which clarifies the definition of "clean" coal – this has allowed continued use.

The Separation of Corporations, Humans, and the Environment

Peabody Energy's case of *greenwashing* (that is, the utilization of *pathos* from third-world countries and faulty information regarding green practices) proposes a unique look on today's cultural and ecological issues and, more specifically, the

separation of classes and the environment. On its most simple level, Peabody Energy's "Advanced Energy for Life" advertisement works on viewers through the idea that coal consumption is *good* for impoverished countries; coal is thus our friend, and the real enemy is poverty. This particular advertisement also disregards the effects of coal on the environment. Without taking the consequences of coal into consideration, the advertisement is *free* to work in such a way that advocates coal usage – it is, after all, "the gateway to modern living, longer lives, and powerful economies" (Peabody Energy para. 2).

The problem, then, arises from Peabody Energy's (or companies employing similar strategies) *greenwashing* techniques and their desire to keep coal relevant, thus leading to wealth accumulation, environmental degradation, and the separation of upper/lower classes and the environment. This relationship can be established through their advertisement; by investing in Peabody Energy, one is investing not only in energy for impoverished areas, but also in capital increase for the company. A paradox then arises: through the accumulation of capital, there is a rise in fossil fuel combustion. This may be achieved through company expansion, or simply more output on the local level; i.e. people using more energy, or more people supporting Peabody Energy because of their global efforts. This paradox has been in effect since the Industrial Revolution, in which biogeochemical cycles, the atmosphere, the ocean, and the entire earth system have been affected by economic decisions (Foster 18). Today, however, "Human activities, primarily fossil fuel combustion and deforestation, are unequivocally responsible for the observed warming of the earth's atmosphere," and between the years of 2000-2008, carbon emissions increased 3.5 percent per year (17); it should be

noted that during these years, $218 million USD were invested into the FutureGen project in order to reduce carbon emissions. While the two may not be related, the outcome certainly seems ironic.

The relationship between upper and lower class is also represented through the "Advanced Energy for Life" campaign (as well as GM's "Model Miners" and Peabody's "Cool Clean Coal"), which arguably demonstrates a gap between the two social classes. The image works rhetorically through class separatism by showing various children from impoverished countries, implicating that the nature of capitalism is transnational: make these societies more like *ours* by supporting coal (which is arguably colonialist). If the advertisement can achieve a means to bring social classes together (that is, upper and lower) for the greater good (an end to energy poverty), then their relationship is exclusive; the detrimental effects on the environment are unimportant or unmentioned – hence why the advertisement was banned in the United Kingdom as *misleading*.

Slavoj Žižek "The Revolt of the Salaried Bourgeoisie" further justifies the separation between classes through the use of natural resources and oil. Žižek's article examines how Western Corporations exploit resources (oil) from Third World countries, which begs the question as to *who* should receive the profit. Such an argument is relevant here. For example, Peabody Energy is exploiting Third World countries (through the *Advanced Energy for Life campaign*) in order to manipulate viewers to support coal in First World countries.

Such examination of greenwashing also poses a unique look at the future of capitalism in the United States. As an economic system that is supposedly capable of self-regulation but largely dependent on coal and fossil fuels, one must ask where the

country is headed in regards to economic stability. As of 2013, oil and mineral fuels totaled approximately 9.4% of ($148 trillion USD) total U.S. export. Coal itself contributes approximately $225.1 billion to GDP, and employs nearly two million (directly and indirectly). In the central Appalachian region alone (Kentucky, West Virginia, Pennsylvania), roughly 15.1 percent of employment is supported through coal, and paying around $15 million USD annually (Berger et al. 110). The impact of coal on the economy is undeniably important; nonetheless, in 2013, the United States saw a decrease in coal exports. During the first half of 2014, “coal exports totaled 52$ million short tons, 16% below the same period in 2013” to European and Asian countries (U.S. EIA, para. 1). The EIA speculates that exports have decreased due to countries purchasing more from Australia and Indonesia as opposed to the United States.

The United States also saw a decrease in carbon emissions by 4% in 2012, and “was the lowest since 1993” (Olivier, Janssens-Maenhout, Muntean, and Peters 17); this trend can be explained due to the increased use of natural gas. Such an outcome leads one to believe that the role coal currently plays in United States economics is dwindling (although it is currently very important for certain states). While it is probable that coal will never *completely* disappear for its metallurgic reasons, current trends do show its viability is declining.

Thus, while natural gas may not be a *permanent* solution, it can be the crutch that leads the United States to sustainable energy. For the Appalachian region in particular, it is imperative to accept the trend and begin pursuing economic gains through other, more sustainable means. Promises of clean coal have yet to be proven

as much more than money pits, as the FutureGen project has nothing to show but wasted investments.

An issue regarding the ethics of businesses also plays a role in the unwillingness to give up coal, wherein corporations are exploiting consumers, Third World countries, and nature for capital gain. This disassociation between humans and nature poses a problem regarding the sustainability of future generations. Climate change and ocean acidification can each be explained through rising CO2 emissions, which are most heavily impacted through the burning of fossil fuels. While completely disregarding fossil fuels in today's economy is preposterous, current technological advancements and rising awareness of these issues can be combined for a realistic solution. Funding clean coal appears to be a backwards initiative that hopes to keep a dying field alive; instead, funding should be put into more practical, sustainable energy technology.

Conclusion

Traditionally, the American-Marxist perspective has been quick to examine the effects of oil politics on both the local and global scales. The United States' role in the Middle East has steadily increased since 1945 (with military presence coming into play during the Gulf War and War in Iraq), which is oftentimes accredited to the region's abundance in oil. The Bush Administration's decision to go to war with Iraq was, for American Marxists, due to America's interests in oil and their desire of controlling the global economy through the "global oil spigot" (Harvey 19). Worldwide, the only oil reserves that are projected to produce over the next 50 years are those in the Middle East, which poses a serious threat to our current living condition; thus, in order to preserve stability, Iraq *had* to open its oil reserves to include the U.S.

With that being said, little attention has been shown by American Marxists in reference to coal politics at the homestead. As has been presented throughout this paper, the pursuit of making coal clean due to rising environmental concerns has proven to be nothing more than a squandered investment. So how does coal, and clean coal, continue to maintain relevance?

For starters, coal is oftentimes ingrained into the area's culture. It is, ironically enough, a way of life in several communities and states, specifically in the Appalachian region; shifting away from or mitigating the use of it is detrimental to the community by removing its main source of income (dried up coal mines resulting in abandoned towns are not uncommon to the Appalachian region). In West Virginia alone, there are 28 counties (nearly half) that produce coal, and collectively they employ approximately 30,000 people. Because it is such an important aspect to the region, then, I would like to contest that the community's reliance on coal is hegemonic, and that coal corporations disregard the Appalachian region's best interests for monetary gain.

In a 2010 study on Central Appalachian's coal production, Rory McIlmoil and Evan Hensen show that the production of coal "has declined to approximately 235 million tons," or 20%, since 1997 (8). This decline is attributed to various reasons (depletion of mines, rise in production cost, and addition of nature gas), but with an increased use of natural gas, stricter environmental regulations, and more productive mines to the west (Wyoming, for example), the Central Appalachian region's relevance in coal is *slowly* declining. Regardless, corporations still lobby against regulations (and renewable energy) with intentions of maintaining or increasing current coal production. Awareness has slowly risen (in West Virginia, anyways), however, and a 2014 survey

conducted by the Sierra Club showed that 61% of West Virginians believed that the "coal industry and other corporate lobbyists have too much power to prevent common-sense protections and regulations" (3). 58% of those surveyed agreed that it is "time the state's elected officials put residents' well-being first and stop letting coal industry lobbyists call the shots" (3). Thus, a hegemonic relationship between coal and those who rely on it can be seen through the lobbyists' unwillingness to put the needs of citizens before wealth accumulation.

So where does clean coal play a role in this equation? Clean coal and carbon capture and sequestration technology, I believe, are a means to keep the industry alive, which allows three things. First, if CCS technology does reach a point of validity (which is unlikely due to the economic costs or technology requirements), it harbors the potential of progressing the hegemonic relationship between coal corporations and the Appalachian region (or other regions that may rely heavily on coal production). As such, the probability of pursuing other means of economic development diminishes. Secondly, it will allow several communities to continue production while mitigating carbon dioxide offsets. While this scenario sounds ideal, it still does not address the conversion cost of fossil fuel power plants, the scenario in which the mines dry up, or a particular region's reliance on fossil fuels. And lastly, CCS undermines the possibility of converting our main power supply to a renewable energy source, such as solar or wind. By undermining this possibility, CCS allows corporate powerhouses to continue dictating the carbon energy industry and increase capital while undermining the possibility of cheap energy.

Thus, coal continues to maintain relevance through an ingrained cultural pattern (in which generation after generation is employed by a corporation of the same field) and corporate lobbying intended to oppress and exploit a specific society for monetary gain. While the issues of cultural oppression and exploitation have been explored (heavily) by American Marxists, coal politics have only largely been ignored (or altogether missed) within the fields of Marxism or Eco-Marxism. As such, a Marxist approach to the issue appears the best means of critiquing both the global and local impacts of fossil fuels, specifically coal, and their dynamic relationship with human beings. Specific areas like the Appalachian region are so interconnected with coal that the possibility of pursing life *without* it threatens not only economic stability, but social stability as well. This radical relationship calls for a radical approach of critique – one which I believe can be pursued through the insights provided by Marxist analysis.

CHAPTER 2

ANIMAL AGRIBUSINESS AND THE PRE/POSTHUMAN CONDITION

Manipulation and overproduction within agriculture, natural resources, or livestock fields oftentimes have severe consequences. In regards to farming circa 1920, these consequences began shortly after purchasing technology that would enable farmers more efficiency in maintaining vast amounts of land. While this technology was necessary due to the growth farmers experienced during this time, their actions ultimately had three outcomes: first, with the increase in production, competition for capital gain became fierce (more people were producing more goods, driving the market price down); second, the technology purchased to stay competitive put heavy burdens of debt on the majority of farmers; and third, their ignorance in regards to technology's effects on the land had severe consequences. Each of these will be explored more in-depth later.

With the introduction of selective breeding in the 1950s and transgenics (or the transferring of one gene to another within an organism) in the 1980s, agribusiness found ways to extend their manipulation from land to livestock, increasing production, thus increasing profits. As these practices continue to grow and increase animal production rates, so too do concerns of public health, environmental devastation, and animal welfare. Throughout this research, then, I will examine our species' (that is, human's) moral condition through a posthuman lens and examine technology's effects on our moral species (or ethics).

Disagreeing with the traditional sense of posthumanism (in which we are, indefinitely, posthuman due to our relationships with technology) introduced and

supported by notable theorists (such as Katherine Hayles, Judith Butler, and Donna Haraway, for example), I instead contest (through the influence of Sarah Chan and John Harris's essay *Post-What? (And Why Does It Matter?))* that humans currently, while reliant upon technology, are *pre-posthuman*, in the sense that they themselves are not technologically enhanced enough to be considered *beyond human*. As such, they are in pursuit of becoming posthuman. I also extend upon Chan and Harris's idea of the pre-posthuman and introduce a new concept in which the pre-posthuman (that is, us), human (or those who may live within societies not as advanced as ours) and all other nonhuman entities exist within the parameters of a *posthuman society*. Within that society, there exists a hierarchical arrangement in which the top exploits those at the bottom.

In order to justify this theory, I take into account the evolution of the pre-posthuman's moral species (that is, its *ethics*) in regards to agribusiness, and compare it to the evolution of the corporation-becoming-human, which I label as the indefinite *posthuman*. The timeline of this posthuman society began circa 1630 for the pre-posthuman, with the Cartesian belief that animals were purely automata that existed without a soul; while this belief holds little merit today, the consequences of viewing animals as "automata" lasted well into the 19th century and played a crucial role in how societies oftentimes viewed animals. For the posthuman, this society begins in 1844, when corporations were first established as citizens in *Louisville, Cincinnati, and Charleston Railroad v. Letson*. After 1930 in the graph, I then take note of times in which I believe that agricultural advancements had negative effects on the pre-posthuman's moral species – this occurs from the early 1900s to today.

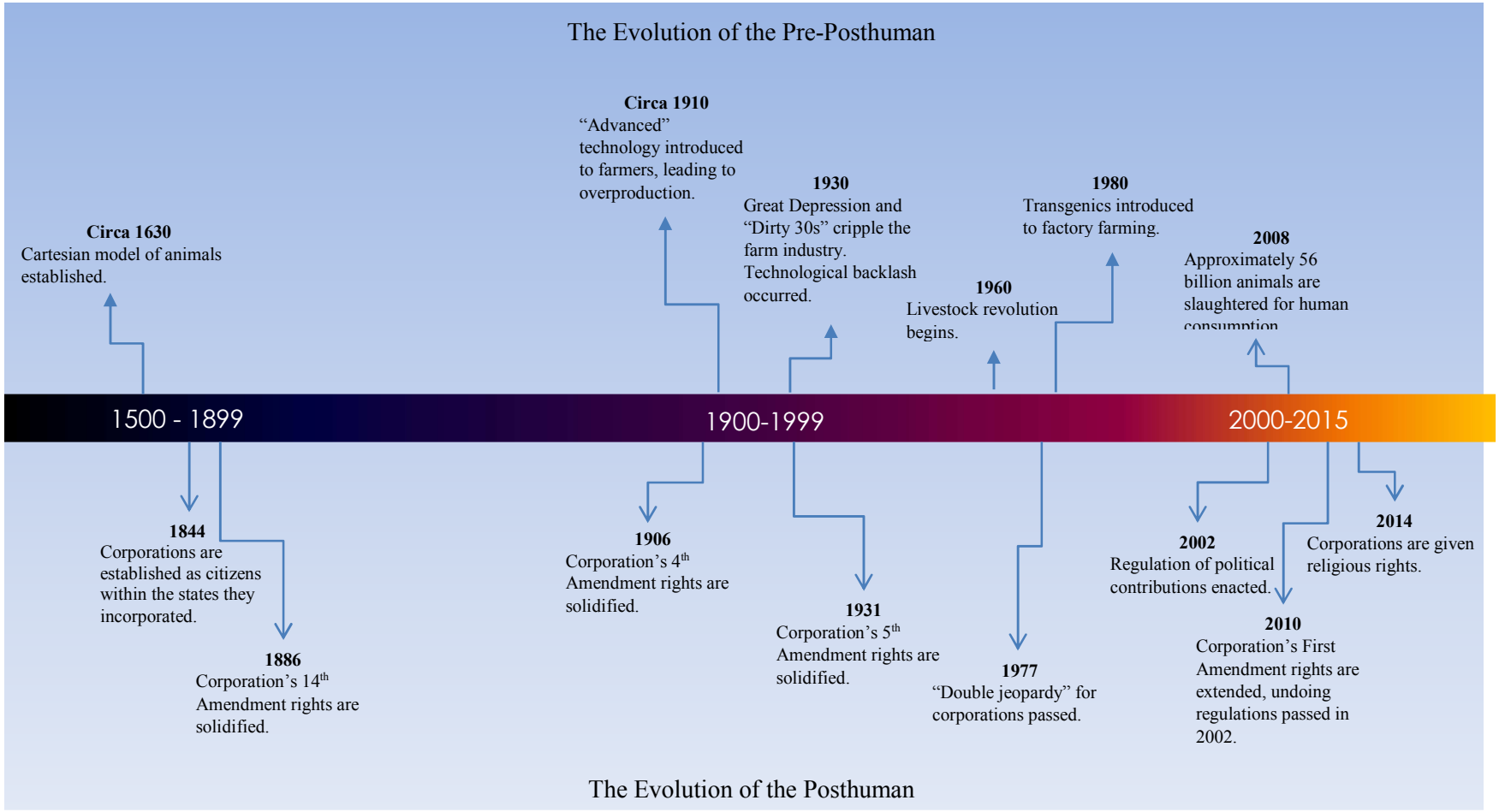


Figure 2: The Evolution of the Pre-Posthuman and the Posthuman

As will be discussed later, this technology has, in one way or another, negatively affected our moral species and the way in which we view the environment and certain types of animals (mostly livestock); that is, as exploitable resources. From 1844 onwards, I simply track the progression of the Supreme Court's various decisions to humanize corporations through a number of court cases. In due time, I will examine how the posthuman (that is, the corporation) exploits both humans and nonhumans.[1]

Thus, I contest, throughout the timeline of society I have established, the posthuman has slowly been acclimated into citizenship while establishing domination. If corporations are, as I argue, posthuman, then their moral species exists without regards to other entities. I suspect, and agree with Chan and Harris, that if the current pre-posthuman society seeks to pursue posthumanism, then it is likely that their moral species will be negatively influenced to resemble that of the current posthuman. As such, I believe that this is entirely possible based on humanity's track record of abusing technology for monetary gain; that is, technology can be used in such a way that discards our moral species, which I will present henceforth with the history of factory farming.

The History of Factory Farming

What makes the history of factory farming so interesting is that it does not begin with one key figure; rather, it begins pre-Great Depression, during which the United States was experiencing economic prosperity from increasing advancements in technology (automobiles, telephones, electricity, and so on). These advancements eventually found their way to American farmlands through support of a regime

[1] While this may certainly be the case globally, I instead focus on the exploitation of animals and humans within the United States.

(engineers, bankers, economists) interested in capital gain through agriculture. As a result of their interest, small farms grew in size through consolidation, and new farms emerged “to take advantage of new mechanical and managerial capabilities” (Fitzgerald 107).

Naturally, as these farmlands grew in size throughout the United States, modern industrial advancements were required for practical production means**.** As this became the case, Henry Ford’s “Fordson” tractor model (which cost under $1000 USD) and other such models were popularized due to their efficiency at maintaining such lands (White para. 9); additionally, farmers had to stay competitive by increasing production. The majority of farmers during this era took loans on advanced technology to achieve maximum production – the Fordson, for example.

This era of expansion and prosperity drove agricultural economists to examine farms as factories that were laden with gold. “Farm” became synonymous with factory, wherein “the soil and seed are the raw materials, and from these are manufactured a variety of finished products, through the agencies of sun, air, moisture, power, and implements” (Fitzgerald 109). The idea of such a relation between factory and farm is not so preposterous; each converts raw material into processed goods for profit. While this is not necessarily bad in itself, overproduction in the early 1900s eventually had severe consequences on the livelihood of farmers during this era (this also continues today on a grander scale, but with different effects).

After World War I, and the collapse of the German Empire (and subsequently their control of certain trade routes), the United States’ exportation of food vastly declined, along with profits made by farmers; put simply, the demands of

intercontinental trade within the realm of agriculture were diminishing. Europe and Russia found themselves capable of growing their own crops, and by 1921 the price of wheat dropped to $0.92 cents per bushel – an approximate 66% price drop to the $3 dollars bushels were going for during the peak of World War I. Naturally, this deficit put many American farmers out of business, as the loans that were taken on tractors and land (as higher production meant better wages) became difficult to repay. As production did not stall until the 1930s, the market price of wheat and other crops dropped so low that farmers became unable to repay their debts. Eventually, some lost their land and tractors (or other forms of technology purchased) to the banks, who would then typically auction off the obtained goods.

Overproduction lasted throughout the 1920s in the Midwest, and was disastrous not only for the economy (and farmer's best interests), but also for the environment. Extensive manipulation of the land via technology eventually saw the aftermath of capital-intensive farming; technological advancements intended to make life easier and more productive for farmers pulverized the soil *too* finely, which left it vulnerable to the wind which would lead to dust storms. While the rest of America was prosperous during this era, farmers oftentimes had to sell out and find work elsewhere. This remained the case until the 1930s, when farming situations actually worsened in America due to overproduction and recurring dust storms.

The Great Depression and the stock market crash of 1929 resulted in closing businesses and layoffs. Consumer demand decreased, as families did not have excess funds. Agribusiness turned into a debacle, with "some 750,000 farms lost between 1930 and 1935 through bankruptcy and foreclosure" (Moore 2). Additionally, 1934 began the

first “wave” of droughts that the mid-west would experience, otherwise known as the “Dirty 30s.” With the Great Plains receiving no water and temperatures well over 100 degrees for days (oftentimes weeks), dust storms became normal. These storms occurred approximately 179 times per year, and were known for carrying up to 350 million tons of dust (Worster 13); at their worst, the storms destroyed “one-half the wheat crop in Kansas, one-quarter of it in Oklahoma, and all of it in Nebraska – five million acres” as well as forcing approximately two and a half million people in the area to relocate(18); this also led to “the largest peace-time migration in American history” (Gregory 8). The latter half of the 1930s eventually saw the implementation of the Soil Conversation Act, which was successful in reducing and preventing soil erosion.

Thus, the first half of the 20th century saw advancements within agricultural technology, as well as its adverse consequences on the environment; ignorance and over production were directly correlated with the Dust Bowl’s intensity, as the pulverized soil was easily picked up by the wind. Today, farmers and corporations are more aware of what causes arid soil and seek to avoid these enablers, although little can be done to mitigate the chances of a drought (however even this can be combatted through a proper conservation systems).

The mid and latter half of the 20th century, however, saw a boom in intensive animal farming. Known as the “Livestock Revolution,” factory farms began using genetics (selective breeding) to improve the production of poultry, cows, and pigs (Nierenberg 15). Since the 1960s, “global meat production has increased more than five-fold and has doubled since the 1970s,” and remained relatively “clean,” relying heavily upon genetics (11). The1980s, however, saw the integration of transgenics

(when genes are transferred between animals) which resulted in “increased growth rates, enhanced lean muscle mass, and enhanced resistance to disease or improved use of dietary phosphorus to lessen the environmental impacts of animal manure” (Whyte and Prather para. 13). Some *accomplishments* made by the implementation of transgenics include: higher rates of egg and meat production, a supposed boost to the immune system, and quicker reproduction rates. Similar to how technological advancements worked against farmers in the 1920s and 1930s, however, the integration of biotechnology within livestock has proven problematic and has raised several questions regarding the ethics of factory farming.

Addressing the Problems of Factory Farming

As stated previously, the integration of biotechnology within factory farming has exhibited several problems, including: animal welfare, public health, and environmental devastation. The majority of these problems are a result of the farm’s “excessive size and crowded conditions” (Gurian-Sherman 2). As these animals are looked upon as commodities and not nonhuman entities, they are subject to short, distressing lives intended for monetary gain. Such is the case with all concentrated animal feeding operations (CAFO), whether it is chicken, cattle, pork, duck, or aquatic animals.

Currently in the United States, no federal laws exist to protect either the animals or the conditions in which they are raised. This has been a direct result of agribusiness corporations lobbying for laws that “regard CAFOs as farms rather than industries,” which has given them a “free pass on certain air, water, and solid waste emissions, and in many cases, exempting them from animal cruelty legislation” (Imhoff para. 10). Thus, by law, or lack thereof, the treatment of these animals and the devastation caused by

CAFOs are decided by the farm industry. As such, the treatment of animals usually results in the animal never experiencing sunshine (as their lives are spent inside an enclosed factory), free movement, fresh air, grass, or several other things considered “ordinary” for animals to conduct their daily lives (Stathopoulos 18). They are subject to cruel practices, including debeaking, close confinement living conditions, overcrowded living conditions, and forced feeding. Such living conditions allow animals to be subject to, and breed, virulent diseases, “which can then spread to the wider community via many routes,” whether through personal contact, water, or air (Sayre para. 2). For those who live close to factory farms, air and water quality are an issue as a result of sprayfields (which oftentimes use ammonia, hydrogen sulfide, and methane) and excess manure. Exposure to these pesticides results in “headaches, runny noses, sore throats, excessive coughing, respiratory problems” and several other issues that impact the daily lives of humans (Marks 1).

The increase in factory farming has, coincidentally, increased the rate of infectious diseases within animals which is ultimately transferred to humans. As these animals are only given antibiotics to prevent diseases and increase growth – not to fight diseases after infection – they raise the potential of antibody resistance. This “wipes out the weaker bacteria, leaving the playing field open for the strongest, most resistant ones to thrive” (Owens para .3). In other words, as animals become acclimated with antibodies, they become more susceptible to antibiotic-resistant bacteria. As these bacteria thrive within animals, they are eventually transferred to humans and the environment (that is, nonhuman animals and crops) through various routes, the most common being sewage, rodents, birds and meat consumption (Phillips et al.). The latter

of these routes (meat consumption) is one of particular interest because animals do not exhibit traits of various foodborne illnesses (salmonella and campylobacter in particular, which are the most common to affect humans). This makes distinguishing *bad* meat from *good* meat impossible. Because these bacteria are antibiotic-resistant, successfully killing them is difficult; this allows the bacteria to spread exponentially, and once in the human body, little can be done. The only *true* way to combat bacteria is to thoroughly cook the meat and prevent cross-contamination between cooked and uncooked meats, which still does not address the problem at its source.

In the United States alone, the CDC estimates that "at least 2 million people acquire serious infections with bacteria that are resistant to one or more of the antibiotics designed to treat those infections" and that at least "23,000 people die each year as a direct result of these antibiotic-resistant infections" (Frieden 11). Tom Frieden of the CDC believes that "antimicrobial resistance is one of our most serious health threats," suggesting that "the loss of effective antibiotics will undermine our ability to fight infectious diseases" (5). Effective measures have yet to be taken seriously, but addressing the excess use of antibodies in factory farming could help prevent the spread of antibiotic-resistant bacteria to humans and nonhuman animals, thus minimizing public health concerns.

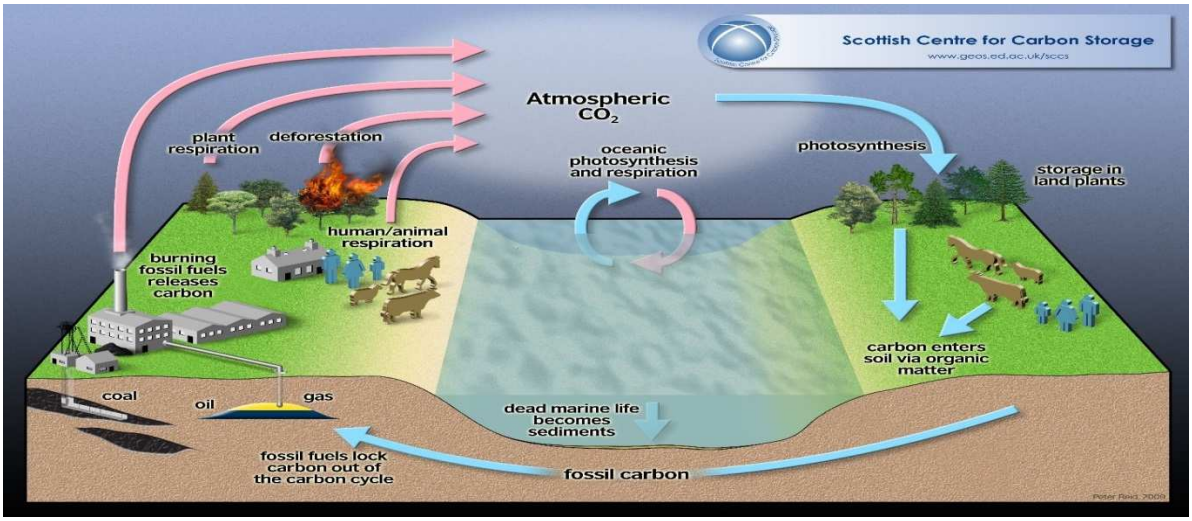
In addition to animal welfare and public health concerns, CAFOs and factory farming conditions also have severe environmental impacts. According to the Intergovernmental Panel on Climate Change, "agriculture is responsible for 10-12% of global anthropogenic greenhouse (GHG) gas emissions and ~24% of the increases in atmospheric GHG emissions;" these emissions consist of carbon dioxide, methane, and

nitrous oxide (Lin et al. 2). Each GHG emission plays a significant role in climate change by killing beneficial microbes, trapping heat (which raises the annual average temperature), causing ocean acidification, and changing ecosystems. The following table comprised by Lin et al. shows the potential sources of GHG emissions caused by agricultural practices (3).

Table 1: Potential sources of GHG emissions (CO2, CH4, and N2O) from agricultural systems

CO2 Emissions	CH4 Emissions	N2O Emissions
• N Fertilizer production • On farm fossil fuel, feed • On farm fossil fuel, livestock related • Deforestation • Cultivated soils, tillage • Desertification of pasture • Processing • Supply chain operations: packaging, cold chain, transport	• Enteric fermentation • Manure management • Methanogensis from water logged soils • Agricultural waste burning	• Fertilizer application • Indirect fertilizer application • Leguminous feed cropping • Manure management • Manure application/deposition • Indirect manure emissions

Image 3: Scottish Centre for Carbon Storage's GHG emissions cycle



Environmental impacts are influenced by agribusiness in several ways, and are each interconnected. For example, the application of fertilizer-N (nitrogen-based fertilizer) within crop fields "creates a potential threat for nitrate pollution of natural waters" (Singh, Singh and Sekhon 172). The efficiency of this chemical oftentimes leads to mismanagement. If contaminated soil experiences runoff or contact with surface or groundwater, it can pose problems to humans, livestock, and the aquatic environment of that area. Additionally, nitrate-heavy fertilizer is linked to soil acidification, which reduces soil pH; this can reduce production and plant growth, and in rare cases, halt growth altogether. While nitrates are not particularly harmful to livestock (in fact, they are needed to make protein), excess nitrates can lead to ammonia poisoning within animals, more commonly known as nitrate toxicity. This occurs "when high nitrate levels in the feed overwhelm the animal's digestive system to the extent that the rate of conversion of nitrate to nitrate is faster than the conversion of nitrate to ammonia" (Vough 2). Ammonia poisoning can cause suffocation within the animal by stopping the transportation of oxygen to the lungs and body tissues (2).

As CAFOs group hundreds or thousands of animals together in confined living conditions, excess ammonia (as a result of fertilizer-N within crops) is released through manure which is oftentimes used as a fertilizer. When high levels of ammonia are released from farms and (eventually) into the atmosphere, they can be converted into smog or haze; this increases air pollution and can lead to death. Through precipitation, increased ammonia may result in acid rain which *ages* natural ecosystems and eutrophication, or excessiveness of nutrients in a body of water (Powell 6). Each of these, as a result of ammonia, can lead to biodiversity loss by killing habitats or decreasing the amount of oxygen within water.

GHG emissions are also increased through transportation. In the United States, it is suggested that agricultural transport "as a whole contributes 11% of all agricultural GHG emissions" (Lin et al. 5). Additional emissions are released when a country imports food from various countries around the world. Saudi Arabia, for example, has dried up underground water reservoirs that were once used to water wheat crops; today, they import wheat from various countries around the world. Transportation from on-farm means (the use of tractors or other gas-powered machines) also increases total CO2 emissions.

Deforestation as a means to increase production in factory farms plays a role by decreasing the amount of emissions that can be reduced through photosynthesis. The increase in livestock results in "land use changes as deforestation and overgrazing cause desertification, ground water and soil contamination, and other environmental problems" (Cassuto 9). Carbon emissions are also released into the atmosphere when deforestation occurs by releasing the carbon withheld in said trees; studies show that

upwards of 30% of GHG emissions are a result of loss of forests (Johnson). Natural habitats are then lost, negative potentials of climate change are increased, and areas become more prone to flooding. While this has been a decreasing issue in North America, South America, specifically countries in which the Amazon rainforest lies, has increased the rate of deforestation.[2]

While factory farming, selective breeding, and the introduction of transgenics have had some undeniable success (egg production rates being the most notable), their presence nonetheless effects various ecosystems; for example, while fertilizer-N increases the chlorophyll within a plant (increasing its ability to absorb energy), overexposure can lead to water pollution. Antibiotics, which produce larger animals, increase the risk of antibiotic-resistant bacteria, and CAFOS, while providing cost-efficient products, lead to environmental devastation.

Thus, it would appear that the research I have done so far examines technology through a negative window, and one which provides its user with the capabilities of exploiting various types of entities (eukaryotic organisms). I am not the only one concerned with technology's effects on our moral species, however. Various liberal thinkers, including Habermas, Fukuyama, Sloterdijk, and Borrador are "very alert on this issue" and blame advanced technologies for it (Braidotti 64). If we are, as I argue, pre-posthuman, or becoming posthuman, then technology has already had negative consequences on our moral species; that is, we see ourselves as separate from nonhuman entities and view them as exploitable resources. While technology has

[2] It should be noted that deforestation in South America is primarily associated with agribusiness (not factory farming)

further extended the human/nonhuman binary, I suggest that its origin began circa 1630, when the Cartesian belief that animals were lesser than humans was established.

A Brief History of Bioethics and the pre-Posthuman Response[3]

> How significant is it that Descartes, in providing modernity with its philosophical meta-text, held both pen and scalpel?
> --Dawne McCance

Inarguably, one of the most relevant names in regards to animal welfare was French philosopher Rene Descartes, whose impression lasted well into the 19th century. Having studied the works of Andreas Vesalius, Descartes sought to learn firsthand the anatomy of animals with intentions of "speaking on his own authority" (McCance 78). His works eventually lead him to the belief that humans were mechanically superior to animals, accrediting the claim to spoken language. Because animals lacked the ability to speak, then they must lack the ability to think. This belief was further justified when he located the pineal gland (or, more importantly its location in the human brain), which he coined the "seat of the soul." Thus, not only was the ability to think absent from animals, but also the soul.

With a decline in the Cartesian belief that humans were superior, and a progressive agenda in animal protection, the 19th century slowly oversaw a turn in animal rights. After several protection acts failed, the "Ill Treatment of Horses and Cattle Bill" was passed in 1822, which prohibited "any person from wantonly and cruelly beating, abusing, or ill treating any Horse, Mare, Gelding, Mule, Ass, Ox, Cow, Heifer, Steer, Sheep, or other Cattle" (Curnutt 71). Violation of the law resulted in a fine, although it was typically unenforced altogether until the establishment of the Royal

[3] It must be clarified that information presented henceforth deals primarily with livestock (not domesticated animals)

Society for the Prevention of Cruelty to Animals (RSPCA), which helped regulate and promote new laws. The United States later adopted a similar organization in 1866 (the ASPCA), furthering animal rights activism.

The first half of the 20th century saw continued efforts for animal rights throughout the United States and Europe; even Hitler's Nazi Germany restricted vivisection. By the latter half, however, animal experimentation increased, as well as industrialized livestock farming of chicken, cows, and pigs, notably due to advancements in technology. The global population increase has resulted in increased animal production, with the majority of meat being produced on factory farms. In 2008, the Food and Agriculture Organization of the United Nations (FAO) confirmed that "approximately 56 billion land animals are reared and slaughtered for human consumption annually," with livestock inventories expected to double by 2050 (Koneswaran and Nierenberg para. 7). Technology, it would seem, has worsened animal conditions, which begs the question of what is ethical in the current posthuman society, and who these ethics pertains to. [4]

A traditional approach to understanding *who* ethics pertains to in our current society would generally commence with the human/nonhuman binary. As I believe that our present condition includes the pre-posthuman, I suggest the following ternary: pre-posthuman/human/nonhuman. As we (that is, pre-posthumans) seek to achieve a supposedly desirable posthuman society, it is necessary that we begin to "rethink [our] moral attitudes towards species boundaries and towards other biological species" (Chan

[4] As stated earlier, I define "posthumanity" through the influence of Sarah Chan and John Harris: an intersection between biology and technology on the present human race (75). "Present" is an important word because it implies that we are not a complete "posthuman" entity, but rather one becoming such. I contest, then, that we are "pre-posthuman" within a posthuman society, and that our current relationship with nonhuman animals is fundamentally lacking ethics.

and Harris 75); that is, we must seek to abolish the previously mentioned ternary in order to improve our moral condition.

One such way to discard the line that separates humans from nonhumans (which could help lay the groundwork for posthuman ethics) is to move beyond the capitalist society that views the nonhuman world "as anything other than a storehouse of exploitable resources" (Taylor 177).[5] This comes with accepting that animals are complex entities capable of speech, empathy, and self-recognition, and that they "possess a degree of autonomy in conducting their lives" (180). Basic senses are also present within animals, and they are oftentimes more capable of living out their lives in comparison to fully-grown adults. Even these qualities, however, are not enough to establish an agreeable ethical stance for animals – as humans (whether pre-posthuman or not) are at the top of the hierarchy, they are ours to exploit as we please.

At any rate, the exploitation of animals is not correlated with survivability; hunting or eating food for survival (as justified in nature) is different from exploiting animals for monetary gain and excessive consumption. But while this act may be unethical to some, others may cite that ethics are constructed by humans; because ethics do not exist within animals, they do not exist within humans (at least in regards to animals). [6] As such, belief is run aground when considering domesticated animals. Laws exist to protect their well-being, which are absent for livestock. Humans accept that it is morally wrong to harm a domesticated animal, but turn a blind eye to the slaughterhouse.

Throughout this research, I have explored the idea that the exploitation of livestock (and the environment) is facilitated by technology (as it provides the

[5] Exploitation of animals goes far beyond livestock, and includes exotic, aquatic, and domestic animals.
[6] Primitive morality has been studied in Chimpanzees, but no conclusive evidence has been formed.

capabilities to exploit) and that the current condition lacks morals towards nonhuman species. Perhaps, then, the emerging *posthuman society* (that is, "we" as pre-posthumans) should begin to consider not the consumption of animals as immoral, but rather their exploitation as immoral; additionally, I suggest that we view technology as a possible enabler of immorality. Such consideration provides a starting point in establishing posthuman ethics *before* we become posthumans (an issue brought forth by Chan and Harris) by two means. First, we must abolish the belief that there exists any binary or ternary that includes pre-posthumans/humans/nonhumans; this will aid our present society in viewing exploitation of any species (not just animals) as ethically wrong; arguably, the best way to achieve this abolishment is through education or activism, although these are not exclusive. And second, we must critique the consequential effects that technology has on *all* species. This is especially crucial given the current capitalistic mode of production, in which "positive development is bought at the price of the destruction of traditional values (whether these be idealistic, familiar, or religious)" (Taylor 191). As the pre-posthuman society evolves into the posthuman society, moral foundations will have already been established (thus eliminating any concerns for ethics brought forth by Chan and Harris).

Take, for example, the chicken – perhaps the most over-abused animal within a CAFO, and one who fits within the parameters of the issues (previously mentioned) begging to be addressed. Genetic manipulation of this bird began in the 1950s "to rapidly grow mega breasts," through the use of antibiotics, which continues today (Haraway 35). What is most interesting about the chicken is how its manipulation leads to the exploitation of the current human condition. As noted by Haraway: "illegal

immigrants, ununionized women and men, people of colour, and former prisoners process chickens in Georgia, Arkansas, and Ohio" (36). Thus, the pre-posthuman/human/nonhuman ternary in regards to exploitation is *already* nonexistent, and our failing to recognize it as immoral only escalates the situation. Additionally, said exploitation is in the name of capital accumulation, and is achieved through technologically-advanced means. Arguably, and in regards to this situation, if our present situation discarded exploiting the chicken, then perhaps the illegal immigrants and former prisoners would avoid exploitation (although it is entirely probable that another company would exploit them).

If the current pre-posthuman entity fails to abolish the established ternary (whether through activism or education), and the emerging posthuman species discards our moral species (that is, the morality inherited from our current condition), then there becomes potential for a hierarchical arrangement in which the posthuman exists at the top tier and poses a threat to those below (Chan and Harris 87). This is, for Chan and Harris, a likely possibility, given that our current condition is "not always very good at recognizing members of its own" (87); the posthuman, then, may harbor the same animosity towards humans that humans do nonhumans. This is, of course, reliant on the acceptance that humanity has not yet reached posthumanity.

The Posthuman Society and Corporate Personhood

As stated previously, my belief (diverging from the traditional standpoint of posthuman suggested by theorists such as Katherine Hayles, Donna Haraway, Judith Butler, etc.) suggests that pre-posthumans ("we," or those of us integrated with technology), humans ("they," or those in Third World countries), and animals have

already been integrated into the posthuman society, and have been for some time (my approximation would be the early 21st century, when the Supreme Court solidified First Amendment rights for the corporation, extending their power). In this model society, I suggest that the "enhanced species of human" already exists in a nonphysical form: that is, the "corporation." While the evolution of corporation-to-human dates back to 1809 (Bank of the *United States v. Deveaux*), the most significant case occurred in 2010 (*Citizens United v. FEC)*, when the United States Supreme Court established that corporations have First Amendment rights, just as their owners do; in short, their rights of free speech are protected. 2012's *Burwell v. Hobby Lobby* gave corporations religious rights, which barred them from providing birth control to women after implementation of Obamacare deemed corporation's responsible for providing healthcare – this gave shareholders more power over what their company could achieve.

If we are, in fact, a posthuman society, and corporations are given protective human rights (albeit slowly), then they exist at the top of the hierarchy and have already been stripped of human morality. As such, they are oppressive in nature, and oftentimes use modern technology in order to enforce their agenda. Naturally, their ethics were established by humans, but have since then evolved far beyond the influence of materiality. Found on the following page is a possible model for the established hierarchy.

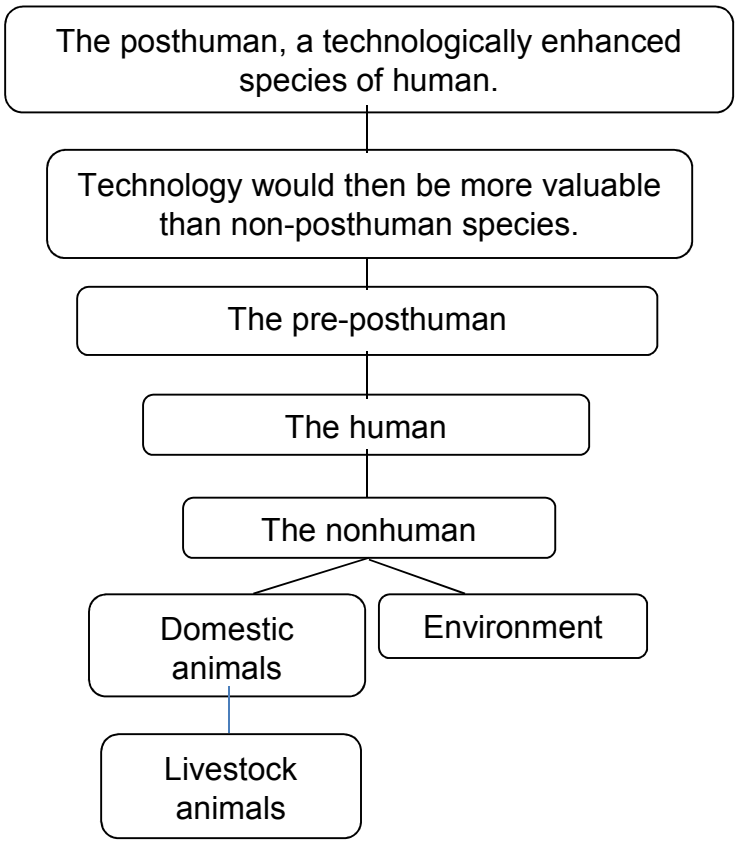


Figure 3: The Posthuman Hierarchy

Take, for example, Smithfield Foods – the largest pork producer in the United States and one whom I believe exists at the top of the hierarchy shown above. Smithfield Foods raises approximately 15 million pigs per year, produces six billion pounds of pork per year, and subjects the pig to the same practices as the chicken; that is, they are buffed up through antibiotics and held within close quarters. The waste from these pigs is then sprayed off the property and into the community, which has been linked to asthma, bronchitis, and neurological damage in humans. Smithfield Foods spends approximately $265,000 USD per year in lobbying (including immigration reform), and have been subject to a number of Immigration and Customs Enforcement

(ICE) raids (Flynn). Several other corporations follow a similar pattern (Tyson Foods Inc., Chiquita, American Cyanamid Co., and McDonald's Corporation to name a few) by exploiting animals, the environment, and their workers. Chiquita, the largest producer and distributer of bananas, is known for the "Banana Massacre," in which the Colombian army killed strikers protesting for better work conditions. The corporate posthuman, then, is institutionally dominant, exploitative, and one that views animals, people, and the environment as expendable resources (Amelinckx).

In order to address the current condition, Michael Allen Fox and Lesley McLean suggest taking ethics in a new direction, and consider that "nonhuman animals deserve to be the subjects of moral concern for their own sake" (Castricano 17); that is, animals currently fail to live up to human expectations as to what it means to *have* a moral status at all. Human ethics does not directly translate to animal ethics, and we need to consider what is *best* for them. To achieve this feat (which they contest would be difficult, as "humans have not been especially successful in establishing a true moral community among themselves" [151]), a moral space must be established that is built on empathy and reciprocity towards nonhuman beings. Current traditions and beliefs would need to be abolished, as would our current self-constructed view on nature (it is ours do with as we please).

Fox and McLean's suggestions bode well with our current condition, but, I contest, it must be expanded upon. For starters, my belief is that it is the corporation (not the human) that is commonly viewed as the being that exploits; for example, Tyson Chicken Inc. exploits chickens (not Donnie Smith – CEO), Smithfield Foods exploits pigs (not C. Larry Pope – president and CEO), and Cargill, Inc. exploits beef (not

Gregory R. Page – Executive Chairman). It is the company, and their First Amendment rights, that allocate funds against CAFO regulations, and it is the company that is charged with water pollution. These companies (as well as several others) also follow the hierarchical mode of oppression previously mentioned. Thus, the empathetic and reciprocal moral space sought by Fox and McLean need not only include nonhuman entities, but also humans, as they are subject to the same exploitation as their nonhuman counterparts. Establishing such a moral space harbors the potential to dehumanize the corporate posthuman by stripping it of its purpose (that is, to exploit). In turn, this removes the corporate posthuman from its hierarchical position at the top (as those below would become less reliant on it), as well as the pre-posthuman/ human/nonhuman ternary.

Conclusion

In this chapter, I have provided a substantial history of factory farming, as well as shown how its escalation has negative consequences in three areas: animal welfare, public health concerns, and environmental impact. Additionally, I have pointed out how these consequences are facilitated by the abuse of technological advancements. While this technology has also had some success, it commonly has drawbacks, such as "development of metabolic disorders (e.g. ascites and lameness), reduced fertility, poor vaccine response, and reduced resistance to infectious diseases" (Burt 10). For every stride made with biotechnology, it appears we take multiple steps back.

As technological advancements continue, and usage increases, I wholeheartedly suggest that we begin to examine its potential as an immoral enabler. Since the 1920s, technology associated with factory farming has had severe consequences on the

environment, and the 1970s saw its integration within livestock, raising issues of animal welfare. The problem only continues to worsen as the human population rises and technology increases to meet necessary demands. Within the period of 80 years (1970 to 2050), livestock production is expected to quadruple and produce approximately 110 billion animals per year.

To address this issue, I suggest, in compliance with Rosi Braidotti, that we begin to "question the violence and hierarchical thinking that results from human arrogance and the assumption of transcendental human exceptionalism" (86). This will provide us with the opportunity to critique our current pre-posthuman moral species (if one is to accept that we are pre-posthuman). If our current condition views certain animals only as commodities, then we should begin to pursue the abolishment of the pre-posthuman/ human/nonhuman ternary for the sake of an ethical future. In the case of an emergent "enhanced species of human" (that is, the pre-posthuman becoming posthuman, which is discussed by Chan and Harris), we will have established moral grounds in which we (that is, the nonhuman, the human, and the posthuman ternary) can live reciprocally and without exploitative means.

Thus, if we accept our condition as pre-posthuman, and that we already exist in a posthuman society (which is my opinion), then perhaps we should begin to critique the current posthuman as a different entity entirely: not one of humanness, but rather one within the form of the corporation. As I have shown, the Supreme Court of the United States has made great strides in order to humanize the corporation and give them rights, thus giving them power and responsibilities (which they exploit to their own advantage). As I believe this to be the case, then human morality has already been

stripped of them, and they now operate from the top of the hierarchy with little regard to those below. Their oppressive nature only continues to expand, and today several corporations continue to express this power through exploitation (Nestle, for example, seeks to privatize water). The solution to this problem, I believe, is to abolish the established pre-posthuman/human/nonhuman ternary and to raise awareness of our current moral species in regards to animal morality. Such an abolishment provides the possibility of establishing an ethical sphere which encompasses each entity, which could, in theory, cripple the exploitative actions executed through the corporate posthuman.

Thus, if we are pre-posthuman and we exist within the posthuman society, our establishment of a moral sphere that removes the pre-posthuman/human/nonhuman ternary is essential to our moral species. Additionally, I believe it is necessary to consider how the use of technology can facilitate the exploitation of the ternary's entities. Until proper ethics are established for animals, however, I suspect that our current condition will only continue to exploit the environment for capital gain. Under current rules and regulations, little can be done to mitigate the problem firsthand (as the posthuman's lobbying tactics provide too much of an influence), but raising awareness, education, and avoiding products that lead to exploitation could provide a proper start.

CONCLUSION

This research, I hope, presented original contributions to both the Eco-Marxism and Posthumanism literary fields. Through critical analysis, I found opportunities to explore cultural issues pertaining to the relationship of corporations, humans, and nature. By critiquing these issues, I have investigated various gaps in research that I felt had either been missed or ignored altogether. I have not only introduced new concepts, but also provided possible exploratory projects for those interested in environmental studies and critical literary theory.

In “The American-Marxist Perspective on Coal Politics,” I examined how the American Marxist community had largely missed its opportunity for critical analysis on the local and national level. In this chapter, I introduced the idea that coal corporations hegemonically undermined the Appalachian community by pursuing clean coal technology and limiting the discourse on sustainable energy. I also briefly discussed how coal played a role in politics through issuing grants to various *swing* states.

In “Animal Agribusiness and the Pre/Posthuman Condition,” I introduced the idea that culturally (this is depending on *which* culture one is to include in the conversation) we are pre-posthuman, and that we exist in a posthuman society. I justified this by examining the pivotal role that corporations (which is, in this scenario, the *posthuman)* play in our daily lives. I also investigated how technology is oftentimes used to undermine various entities, whether human or nonhuman. Ultimately, I argued, that

corporations facilitated technology in such a way that led to exploitation of the established ternary.

For my own future projects, I would like to continue pursuing the idea of the corporate posthuman. Perhaps more specifically, I would like to consider how we are simply extensions of the posthuman. I would also like to further investigate how the corporate posthuman exploits not only eukaryotic entities (like those of the ternary I have introduced), but also various cultures found throughout the world. I believe I could ultimately tie Eco-Marxism and Posthumanism together (perhaps more-so than I have done in this research) to pursue this research, and examine how technology and corporations work hegemonically to exploit those of the ternary. Another possible subject for consideration would be to further examine how technology is manipulated by the corporation, and how it uses those technologies to influence political decisions. I also want to explore water privatization.

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APPENDIX

MARSHALL UNIVERSITY
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Office of Research Integrity
Institutional Review Board

April 9, 2015

Steven L. Smith
512 Cane Fork Lane
Saint Albans, WV 25177

Dear Mr. Smith:

This letter is in response to the submitted thesis abstract entitled *"Exploring the Disassociation between Corporations, Humans, and Nature."* After assessing the abstract it has been deemed not to be human subject research and therefore exempt from oversight of the Marshall University Institutional Review Board (IRB). The Code of Federal Regulations (45CFR46) has set forth the criteria utilized in making this determination. Since the information in this study does not involve human subjects as defined in the above referenced instruction it is not considered human subject research. If there are any changes to the abstract you provided then you would need to resubmit that information to the Office of Research Integrity for review and a determination.

I appreciate your willingness to submit the abstract for determination. Please feel free to contact the Office of Research Integrity if you have any questions regarding future protocols that may require IRB review.

Sincerely,

Bruce F. Day, ThD, CIP
Director