

Thoreau, Leopold, & Carson: Challenging Capitalist Conceptions of the Natural Environment

Savannah Kuper
Department of English
Barnard College, New York City, New York
slk2157@barnard.edu

Abstract

This paper examines criticisms on anthropocentrism expressed in *Walden* by Henry David Thoreau (1854), *A Sand County Almanac* by Aldo Leopold (1949), and *Silent Spring* by Rachel Carson (1962). The belief that humankind is the most superior in all existence, anthropocentrism promotes the exploitation and commercialization of the natural environment. Anthropocentric thought disregards the intrinsic value of nature and has raised debates concerning the relationship between humanity and the natural world throughout history. Despite the different time periods, historical contexts, and environmental consciousness of Thoreau, Leopold, and Carson, their assertions against anthropocentrism indirectly challenge America's industrializing and environmentally insensitive market economy activities. While their works highlight criticism toward capitalism's narrow and anthropocentric conceptions of the natural world, their efforts for reform and awareness still hold resonance today.

Keywords: Anthropocentrism, capitalism, capitalist theory, commoditization, community, conservation, environmental history, ethics, intrinsic value, literature, market economy, philosophy, sustainability

1. Introduction

The whistle of the train penetrates the woods and shrieks over the hills. In the distance, the farmer's instruments break the stony soil, burnt flaxen under the sun. Remains of the past resurface, worn and darkened with the pigments of the earth. And with aggressive tilling, they are broken over and over again until the shards are seemingly indistinguishable from the rocks. This scene is reminiscent of countless literary works, which criticize the anthropocentric hierarchy in America. Anthropocentrism, or the idea that humankind is superior to all other species that exist in the world, manifests itself through the exploitation of natural resources and general prioritization of human self-interest over the environment. The American desire for progress and wealth are blatantly manifested in the deformation of the

land and egocentric attitudes of humankind. This essay explores the criticism of anthropocentrism in the selected essays of Henry David Thoreau and Aldo Leopold in addition to Rachel Carson's *Silent Spring* (1962). Specifically, it aims to argue that the writings of the aforementioned authors directly challenge anthropocentrism, and in doing so indirectly challenge capitalist conceptions of the natural environment.

2. Anthropocentrism and Human Supremacy in Western Philosophy

Anthropocentrism is a mode of thought that considers humankind as the most superior in all existence. Thus, through this mode of thought, a hierarchy is established in which humans are placed above all nonhuman species. Although the historical roots of anthropocentrism cannot be traced to a singular origin, the idea is present in many influential texts and philosophical works throughout human history. Notably, anthropocentrism can be found in one of the most popular passages of Genesis:

And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. (Genesis 1:26)

According to the Old Testament, mankind is the master over nature and all its inhabitants, as decreed by God during Earth's creation. In other words, the Old Testament describes not only God's creation of the earth, but also His establishment of a worldly hierarchy, in which man is given a superior position on earth. Nonhuman species and natural elements, such as timber and water, all rank below humankind and, thus, are regarded as instruments. They exist to specifically serve and sustain humanity as well as contribute to its growth: "Be fruitful and increase in number; fill the earth and subdue it" (Genesis 1:27). The biblical texts of Genesis support the anthropocentric belief that humanity is the only living force that possesses intrinsic value. The religious understanding of humanity's relationship with the natural environment preached in the Old Testament supports and encourages humankind's instrumentation and manipulation of nature. Therefore, using nature to fulfill self-interest is considered moral, as declared by God and expressed through the Bible. The Bible justifies anthropocentric thought.

In addition to Genesis, Aristotle's text *On the Soul* and *Politics* frequently promote anthropocentric ideals. In *Politics* Aristotle (350 B.C.E) writes:

After the birth of animals, plants exist for their sake, and... the other animals exist for the sake of man, the tame for use and food, the wild, if not all, at least the greater part of them, for food, and for provision of clothing and various instruments. Now if nature makes nothing in vain, the interference must be that she has made all animals for the sake of man. (p. 13)

Aristotle's (350 B.C.E) argument in *Politics* expands upon the Bible's moral and religious justification of human dominance over nature. Aristotle poses that because animals are unable to think, reason, or form speech, they are inferior to humankind. Aristotle refers to human beings, in contrast to nonhuman species, as "rational animals" because of their ability to rationalize and make individual choices. Aristotle injects logic and reasoning to Genesis's claims that nature was made for the sake of human use. All elements of nature, both flora and fauna, are assigned a practical value as food, clothing, shelter, or whatever purposes humans deem appropriate.

In his book *Anthropocentrism and Its Discontents*, Gary Steiner (2005) describes the significance of anthropocentrism in Western philosophical thought. He writes, "The dominant view in the history of Western philosophy is that human beings are superior to nonhuman animals" (Steiner, 2005, p. 38). He lists St. Augustine, St. Thomas Aquarius, Descartes, and Kant as examples of scholars that address the superiority of humans over nature.

Saint Augustine, like Aristotle, maintains that animals are irrational beings that exist solely to serve humanity. He states:

We see the face of the earth, replete with earthly creatures; and man, created in thy image and likeness... that is having the power and reason and understanding by virtue of which he has been set over all other irrational creatures. (Augustine, 398 AD, p. 214)

Augustine (398 AD) argues in *Confessions* that mankind is positioned above animals and all other inferior beings, such as flora, as humans are created in the image of God. The earth's nonhuman organisms do not physically or intellectually compare to humankind. Humans have the ability to reason and understand, thus making them rational and superior beings. Since animals are regarded as irrational, their nature remains separate from mankind despite any similarities, such as the ability to fear or feel pain. Rene Descartes (1637), often referred to as the "father of modern philosophy," further contributes to these anthropocentric perceptions as he theorizes that animals are nothing but machines (Armstrong, 2003, p. 128).

In his *Discourse on Method*, Descartes (1637) argues that the bodies of animals, while composed of a "great multitude of bones, muscles, nerves, arteries, veins, and other parts," are in fact machines "made by the hands of God" (p. 41). Animals may be able to respond or act intelligently in limited contexts, but their abilities are finite compared to those of mankind. Although humans similarly have complex internal systems, they are regarded by Descartes to be more than just bodies as they are equipped with linguistic competence and rational thought. Specifically, Descartes argues that language and reason set humans apart from all other living organisms. Using the principle of parsimony, or the idea that things behave in the "simplest or most economical way," Descartes (1637) concludes animals are machines, "destitute of reason" (p. 41) and absent of a soul (Armstrong, 2003 p. 128). Like Aristotle, Saint Augustine, and Descartes, Adam Smith (1776) exhibits anthropocentric views in his influential work *The Wealth of Nations*.

3. Anthropocentrism in *The Wealth of Nations*: Limitations of the Invisible Hand

Although Adam Smith never uses the word, he is often credited as the “father of capitalism.” His work, *The Wealth of Nations* (1776), explains the inner workings of the market-based economy. Many of Smith’s ideas expressed in his prominent text are still subjects of debate in contemporary economies in significant ways. As Nobel winner economist Amartya Sen (2013) notes in his piece, “Capitalism Beyond the Crisis,” *The Wealth of Nations* “succeeded in solidly establishing the market system in the corpus of mainstream economies.” Smith’s economic framework continues to remain in place today.

In *The Wealth of Nations* (1776), the market-based economy rests on the assumption that humans primarily act in their own self-interest. Smith (1776) famously states, “It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest” (p. 7). Smith emphasizes the exchange between individuals as a means of maximizing personal gain and circulating capital in the economy. For the butcher, it is the exchange of meat for money that gives him economic benefits. By exchanging meat for money, the butcher does not aim to solve a social problem or spread good will. He strives to maximize profit. He can then go exchange that money for something that he needs or wants. The process of earning and spending capital inherently drives the capitalist system and, as noted by Smith, consequently better the whole of society. In other words, *The Wealth of Nations* (1776) presents a society benefitting through the exchange of goods for capital. Everyone is acting in his or her own self-interest for his or her own personal gain. Thus, it is through the aggregate results of each individual’s pursuit of profit that society as a whole benefits. Smith argues that the marketplace self regulates and leverages economic activity – exchanges, production, etc. – in spite of the lack of benevolent intentions on behalf of economic actors. He uses the term “invisible hand” to describe the ways in which profit maximization can contribute to the betterment of society as a whole (Smith, 1776), p. 364).

However, in relation to environmental concerns, Smith’s invisible hand theory and vision of a successfully functioning market economy is lacking. *The Wealth of Nations* overlooks the environment as a significant factor in the wellbeing of the whole of society. Therefore, the concept of the “invisible hand” does not apply to the conservation of natural resources, the limitation of pollution, or the general preservation of the Earth and its flora and fauna. Smith promotes a vision of capitalism that gives primacy to the maximization of profit, while environmental concerns become mere externalities. The oversight of the environment in *Wealth of Nations* is likely related to lack of awareness about the harms of pollution, and the absence of the environmental science field. In his chapter, “Of the Agricultural Systems, or those Systems of Political Economy, which Represent the Produce of the Land, as either the Sole or the Principal, Source of the Revenue and Wealth of Every Country”, Smith (1776) marks the land as a “source of revenue and wealth” (p. 539). His economic portrait of the land parallels anthropocentric ideals in which the soils, organisms, bodies of water, and plants are perceived as instruments to humankind. The idea of nature as a source from which to extract and generate

capital also affirms Marx's analysis in *The Communist Manifesto* (1848), which posits that nature, with the rise of the market economy and industry, is to be subjected to the use of mankind. Trees become lumber, wilderness becomes privatized and converted to farms, animals and insects become pests, and the land becomes something to conquer. In Smith's vision of a market economy, the environment and its resources become a commodity; something to be extracted, bought, and sold. Smith's (1776) market economy and his conceptions of nature in *Wealth of Nations* thus have anthropocentric roots.

Smith addresses the exceptional nature of the human species in his analysis of exchange. Smith (1776), like Aristotle, explains that the "faculties of reason and speech" separate all men from animals (p. 18). He further claims that this separation is distinguished through humankind's ability to exchange goods. Smith (1776) writes, "Nobody ever saw a dog make a fair and deliberate exchange of one bone or another with another dog" (p. 18). Specifically, *The Wealth of Nations* analyzes the environment through an economic lens with an anthropocentric filter.

Smith regards the land as an economically beneficial source, as it is an essential instrument in the pursuit of self-interest and the circulation of capital. However, he does not recognize that the wellbeing of society is strongly intertwined with the health of the environment. For example, the environment provides four different kinds of services that benefit not only nature but also the whole of humanity. These services are identified as the following: supporting services, provisioning services, regulating services, and cultural services ("Ecosystem Services"). While many of the products obtained from the environment's provisioning services, such as food and fuels, are assigned commercial value in the market economy, the other nonmaterial benefits essential to the health of Earth and its communities are "absent from society's balance sheet" ("Ecosystem Services"). If these systems collapse, the market economy and society will suffer accordingly. Thus, the invisible hand of a market economy in theory should work to maintain and manage the environment. In other words, the net result of all society's individuals acting in their own self-interest should better the natural environment and the natural systems that exist within it. In practice, as evidenced by the accepted scientific link between human activity and climate change, the invisible hand does not reach the environment.

In the works of Henry David Thoreau, Aldo Leopold, and Rachel Carson, self-interest is recognized to encourage individuals to act for their own benefit, regardless of the cost of the environment. On a larger scale, the self-interest of industries externalizes the harmful effects of business on nature. Capitalism to Smith is the most effective means to improve society, yet his idea of the invisible hand does not extend to the environment. Therefore his argument that individuals acting in their own self-interest better the society as a whole is flawed. Later influential, capitalist thinkers such as Ayn Rand push Smith's anthropocentric ideas to more environmentally harmful extremes.

4. Capitalist Theory and the Environment

In the 20th century, roughly two hundred years after the death of Scottish philosopher and economist Adam Smith, intellectuals Ayn Rand and Milton Friedman

championed an era of laissez-faire capitalism and individual rights. They promoted an ideology in which capitalism reached its extreme with a “complete separation of state and economics” (Rand, 1964, p. 33). They argued that individuals should be left to pursue their own economic self-interest and that the market needed liberation from governmental control and regulation. According to Rand (1966), “no politico-economic system in history has ever proved its value so eloquently or has benefitted mankind so greatly as capitalism...” (Rand, p. 20). She embraces intellect and asserts that capitalism is the “only system constant with man’s rational nature” (Rand, 1996, p. 20). Like the Bible, aforementioned western philosophers, and Adam Smith, Rand separates humankind from nature and considers the human race superior to all other forms of existence. Her capitalist theory is grounded in a hierarchy of values, with the freethinking, uncontrolled individual at the top.

Rand (1989) contends that capitalism is a “system of selfishness” that instructs individuals to “produce and profit” for their own self-interest (p. 129). While Smith’s (1776) idea of the market economy in *The Wealth of Nations* included government regulation, Rand finds it to be one of mankind’s greatest evils and obstacles. Her writings suggest that the unregulated activity of economic actors and the advancement of technology and industry will rectify the adversities of society.

In relation to nature, Rand manifests an unyielding skepticism about the significance of conserving national resources or protecting in the environment. She asserts that concerns for the environment threaten to “extinguish” the intellectual advancements of humankind (Rand, 1971, p. 277). Rand (1971) states:

Ecology as a social principle... condemns cities, culture, industry, technology, the intellect, and advocates men’s return to ‘nature,’ to the state of grunting subanimals digging the soil with their bare hands. (p. 25)

Rand’s opposition to anxieties concerning the wellbeing of nature overlooks the significance of the environment in sustaining healthy functioning societies or, as she may understand, individuals. While the environment acts a central resource in the advancement of intellect, technology, and industry, it also provides nonmaterial benefits to individuals. Rand analyzes the environment through an economic lens, like Smith. Understanding Rand’s theories on capitalism further provides insight to the capitalist conceptions of the natural environment challenged by Thoreau, Leopold, and Carson.

5. Karl Marx: Commoditization of the Natural World

While Karl Marx is known primarily as a communist theorist, it is his analysis of capitalism that made the majority of his works. In the *Communist Manifesto*, Marx (1848) details the flaws of the capitalist system. He asserts that the class conflict between the proletariat and the bourgeoisie, the worker and the capitalist, reveal a fundamentally disproportionate society. Specifically, he contends that capitalism upholds unequal economic relations and exploits the labor relationship between the owner and the laborer. The laborer, in other words, produces the wealth in the form of production and then gives it back to the capitalist, who does what he or she

chooses with it; the system blatantly favors the capitalist class. Marx further contends that the capitalist class controls the media, government, and education, and thus shapes how individuals think and act.

Under capitalism, Marx (1848) writes that the relationship between humans and between humans and the environment is boiled down to “naked self-interest and callous cash payment” (p. 15). As a result, the market economy alienates, exploits, and oppresses large swaths of the population, and defines nature solely in terms of its economic usefulness. With the global expansion of urbanized economic centers, industry hungers for raw materials not at home, “but raw materials from the remotest zones... in every quarter of the world” (Marx, 1848, p. 16). Specifically, Marx (1848) writes, “The need of a constantly expanding market for its products chases the bourgeoisie over the whole surface of the globe...” (p. 16). The capitalist system embodies anthropocentric ideals through the primacy given to economic factors above all others. It solidifies humankind’s position as conqueror of the natural world. It is important to note that throughout Marx’s catalog, there are anthropocentric ideals present, such as the lack of focus on environmental degradation. However, during Marx’s (1848) time, class struggle rather than environmental consciousness was the prominent cause he associated with. Marx (1848) recognized that the capitalist system would bring significant changes to the natural world. His focus, though, was on how class relationships were manifested through them. Any inattention to environmental concerns is likely indicative of the societal consciousness and/or academic debates of the time. Thus, contemporary environmental socialists challenge Marxists to recognize the environmental limitations of economic growth and industry in a more formal way (Tanuro). This is an expansion of Marx’s initial ideals crafted to address the specific challenges put forth by climate change.

One of Marx’s (1848) criticisms of capitalism focuses on the idea of private property. He describes the ownership of private property as a “strange and inhumane” activity, greatly contrasting Smith and Rand’s support of land ownership (Marx, 1848, p. 23). The dilemma for Marx (1848) is that land ownership is an illusion. The idea that one person or entity can take control over a stretch of land in the environment exists beyond reason to Marx. Further, as industry prompts increases in production, human ideas about standard of life shift and the perceived need for raw materials grows. The contrast between Marx and Smith and Rand on this issue is stark. Rand and Smith advocate for the privatization of land as they see it as a source beneficial to profit maximization. While Smith contends that the land is a vital source of revenue, Rand’s writings further suggest that land in a capitalist society is a mere pawn in the individual’s quest for economic gain.

Briefly, Marx’s (1848) ideas of alienation encompass man’s detachment from his or her existence because of his experience within the capitalist system. Environmentally, alienation manifests the ignorance of producers and consumers as they take part in extractive and environmentally harmful economic processes. When the common American consumer, for example, buys a cup of coffee, thoughtlessness often defines the exchange. Further, the consumer rarely acknowledges the externalities, including the environmental extraction and degradation typical in large-scale coffee production. The detachment of individuals from the land, labor, and externalities allows the capitalist system to function without regular criticism and questioning. To challenge the relationship between capitalist anthropocentrism and

the environment requires tremendous amount of research in addition to awareness building.

6. Henry David Thoreau

Industry and commerce warp the natural fabric of Thoreau's woods in Walden. The locomotive cuts through the hills on iron tracks, "sounding like the scream of a hawk sailing over some farmer's yard" (Thoreau, 1854, p. 190). The town is "restless" with activities of the market (Thoreau, 1854, p. 190). As the cities and towns bustle, the locomotive presses forward, rushing through the lands. The woods are deformed, stripped of their blackberry bushes and cranberry meadows and reaped of their timber and natural resources. Drained and molded to fit the use of mankind, nature is raked of its intrinsic roots and values. Throughout *Walden*, Thoreau (1854) observes the interactions between humanity and its surrounding environments. His writings and observances eerily parallel Marx's (1848) depiction of nature in a capitalist framework:

Subjection of nature's forces to man, machinery, application of chemistry to industry and agriculture, steam navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalization of rivers, whole populations conjured out of the ground.... (Marx, p. 23)

Thoreau's (1854) imagery illuminates the exploitive nature of the market economy. Similar to the monetary relations established between laboring individuals, humankind's relationship with the environment is based on economic self-interest. In other words, it is founded on the anthropocentric belief that nature is an instrument in which it is to be used to serve humankind in all ways possible. However, this principle is rooted in times before those governed or influenced by market economies. Thus, what initially was perceived as a tool for achieving primarily food and shelter became an instrument or source for commodities. Thoreau beautifully captures the commoditization and objectification of nature with a central industrial force: the railway.

The locomotive cuts through the uncharted areas of the woods or where one could once only walk afoot. It brings with it goods and comforts from far off: "Here come your groceries, country; your rations countrymen! And here's your pay for them! Screams the countryman's whistle" (Thoreau, 1854, p. 190). The railway provides for a greater and faster exchange of goods and capital within the country. Thus, it mobilizes and expands the market, generating a significant demand for goods and luxury items. In addition, populations are able to disperse and expand in regions not before considered. The railway significantly altered the dynamics of the market economy and, in doing so, put greater stress on the natural environment. Timber was needed to build homes and towns; water became a source of energy; animals were desired for food; and the lands were cultivated into croplands. Then in those homes were needed furniture and means of comfort, foods and drinks that did not fill but satisfy, and attire that determined social status. Thoreau (1854) marks with the advancement of civility and industry, "Up comes the cotton, down goes the

woven cloth; up comes the silk, down goes the woollen..." (p. 191). The rise of the market economy and the expansion of the railway depend on the commoditization and exploitation of natural resources for stability. This intensive dependence on and demand of the environment in a capitalist system is imbalanced.

In his chapter, "The Bean Field," Thoreau (1854) exposes the nutrient-depleted conditions of an environment overworked, or overexploited. The soil of his garden is stony and dry, parched to a flaxen color under the summer sun. He describes the fertility of the soil as "for the most part lean and effete" and the hills as "yellow gravelly uplands" (p. 123-124). Thoreau's (1854) verbal illustrations of his surrounding landscape suggest that the soil is depleted of essential nutrients required for vegetative growth. Major sources or factors of nutrient deficiency in plants include low levels of organic matter, leached or waterlogged soils, intensive farming practices, and overuse of the land. As Thoreau tills the soil, he unearths remnants of the past, thus indicating the land had been cultivated and worked prior to his arrival. The presence of the artifacts and seemingly frail conditions of the soil further suggest that the land was a resource in an anthropocentric framework. In other words, its conditions indicate that it was drained of its nutrients through large-scale versions of crop production to satisfy economic self-interest. Thoreau (1854) criticizes this wealth-oriented approach to farming:

Ancient poetry and mythology suggest, at least, that husbandry was once a sacred art; but it is pursued with irreverent haste and heedlessness by us, our object being to have large farms and large crops merely. We have no festival, nor procession, nor ceremony, not excepting our cattle-shows and so called Thanksgivings by which the farmer expresses a sense of sacredness of his calling or is reminded of its sacred origin. It is the premium and the feast, which tempt him. (p. 131)

Thoreau asserts (1854) "men labor under a mistake" (p. 109) that has redefined the farmer as a "wage laborer" and reduced agriculture to a practice built on "mere money relations" (Marx, 1848, p. 11). In other words, he argues that the land is wrongly perceived as an instrument for profit, and thus challenges Smith's (1776) argument that the significance of agricultural systems is strictly economic. The purpose behind the labor is misguided; it is driven by motives of economic self-interest, rooted in interests with the "factitious cares and superfluously coarse labors of life..." (Thoreau, 1854, p. 109). Blindly, workers fall "obediently" into the market economy and disregard the environment as having intrinsic value or a crucial role in bettering society as a whole (Thoreau, 1854, p. 109). The introduction of machines and industrialization has "converted the physician, the lawyer, the priest, the poet, the man of science into paid wage laborers," and Thoreau (1854) recognizes this in the farmer as well (Marx, 1848, p. 16). The farmer "has no time to be anything but a machine" (Thoreau, 1854, p. 110) or, as Marx (1848) states, an "appendage of a machine," (p. 18) laboring and producing for the market economy.

Thoreau (1854) separates himself from the "machine" in which he "earns [his] living from the labor of [his] hands only" and disconnects himself from the frivolous comforts and luxuries of civility and industry (p. 101). Although Thoreau (1854) is gaining food and other benefits from cultivating the land, his method of

farming contrasts monoculture and other intensive systems of agriculture in which he grows other crops between the rows of beans, leaves half the field uncultivated, and consumes the food he produces. Thoreau's farming techniques, identified as small-scale polyculture, allow the beans to restore essential nutrients back into the soil and support the natural regulation of ecosystem processes and services. He does not overwhelm the fields with synthetic manure or over-till the soils with a plow and oxen. Overall, he depends little on manufactured sources of aid and embraces the intrinsic value of nature and its resources. His approach to agriculture and life at Walden is simple—intentionally detached from the spoils and luxuries of industrialized society.

In his chapter, "Where I Lived, and What I Lived For" Thoreau (1854) views civilization as cluttered with superficial objects and "ruined by luxury and heedless expense" (p. 173). He argues that these objects satisfy self-indulgence; they do not contribute to the basic human needs of food and shelter. Impractical social symbols, these objects embody anthropocentric values and interfere with the individual's awareness and ability to break from or challenge the capitalist system. In many ways, Thoreau's (1854) writings mirror Marx's (1848) concept of the fetishism of commodities. Laborers work toward common goals: capital and economic self-interest. However, this focus encourages the exploitation of the environment and veils the "poetics" or "divinity" of life as well as the natural world (Thoreau, 1854, p. 173). Anthropocentrism gives natural resources economic value and limits personal growth, as it tends to motivate "physical labor" rather than "effective intellectual exertion" (Thoreau, 1854, p. 172). Thus, Thoreau (1854) advises self-restraint in the sphere of the market economy or a removal from the frivolous details of society and impractical commodities of the market. He claims, "Our life is frittered by detail. Simplicity, simplicity, simplicity!" (Thoreau, 1854, p. 172). While the practice of living simply decreases anthropocentric stresses upon nature and its nonhuman organisms, it appreciates the intrinsic values of the environment.

Thoreau (1854) inspires moral responsibility and protection of the environment to the conservation. Drawing from his experiences and observations at Walden, Thoreau (1854) challenges anthropocentric motives. In doing so, he lambasts excessive consumerism, inattention to nature, and economic activities based primarily on self-interest. His criticisms serve as a denunciation of central aspects of the market economy. He cites the market economy as responsible for severe and significant environmental degradation as well as a declining appreciation for the natural world among the population.

7. Aldo Leopold: Extending the Community

Published in 1949, Aldo Leopold's essay, "The Land Ethic", advocates for the extension of humanity's moral concern to nature. Similar to Thoreau, Leopold (1949) challenges anthropocentric values and motives regarding the natural world. He argues that anthropocentrism is a discriminatory and economically "lopsided" force that "tends to ignore, and thus eventually eliminate, many elements in the land community that lack commercial value, but that are...essential to its healthy functioning" (Leopold, 1949, p. 7). The disregard for and elimination of organisms and their natural habitats generates instability not only within the environment, but

also within the social and economic realms of society. The pollution of major waterways, deforestation of pinelands, dissemination of insecticides, and growth of urban centers all serve as examples that have shook the stability of the United States' economic sectors and raised concerns for the health of individual populations. Everything is interconnected, and the disturbance of nature's biotic structure, or "land pyramid," affects both human societies and environmental communities (Leopold, 1949, p. 2).

In his book *Sand County Almanac* Leopold (1949) recognizes the repercussions of the market-based economy on the environment and contends that the anthropocentric framework in which it was structured threatens its effectiveness and overall existence. Economic actors in a capitalist system only consider the benefit and sensitivity of the environment when its health or stability coincides with their own economic-self interest. Conversely, said actors are quick to pollute and exploit natural resources and reserves for industry. In 1930, for example it was blatantly evident that Wisconsin's southwestern topsoil was nutritionally drained and becoming increasingly vulnerable to erosion due to intensive farming practices. In 1933, the federal conservation programs instructed farmers to "adopt...remedial practices" for a contracted five years (Leopold, 1949, p. 4). By agreeing to participate in the program, they were provided with the required tools and materials. Overall, the results were positive; the land's fertility was restored and farmers began accumulating profit once again. However, after the five contracted five years ended, many farmers returned to their traditional farming practices to further bolster their current yields and profit (Leopold, 1949, p. 5). The remediation of Wisconsin's southern topsoil in the 1930s is only one example of environmental concern borne of economic fears. However, concern for the health of the environment later began to stem not only from anxieties over dwindling economies but also fears of population health. Although Leopold (1949) does not explicitly examine the impact of environmental degradation on the health of individuals, he does draw the conclusion that the wellbeing of societies significantly depends on healthy, functioning environments. Compromising any of the biotic communities structured within the land pyramid most often leads to adverse consequences.

Economic actors, such as corporate CEOs, position themselves in roles similar to "conquerors" in which they consider themselves superior to the environment (Leopold, 1949, p. 13). There is a constant manipulation and drainage of the land for economic self-interest. These anthropocentric and economic pressures, however, directly or indirectly perturb and dismantle valuable ecosystem services. In other words, they jeopardize biotic structures and processes essential for sustaining healthy, functioning communities and environments, such as soil fertility, pest and disease control, and water purification. By jeopardizing these systems, communities and industries defeat themselves. Such incidents are countless in the United States. Two prominent examples are the 1930s Dust Bowl and the mid- to late-1970s Love Canal disaster in Niagara Falls, New York. Intensive forms of anthropocentric activity provoked both instances. While drought and poor farming techniques caused the dust storms of the 1930s, chemical dumping into an unfinished waterway in upstate New York lead to soil and water toxicity as well as serious health complications and illnesses in the town's residents (Revkin 2013). Hooker Chemical Company's dumping of toxic waste into the Love Canal and the western farmers' decision to use intensive farming practices illustrate the ignorance

of individuals and industries in the pursuit of self-interest and economic gain. Rather than being cost effective, however, these environmentally-degrading practices consequently ended up paying a heavy price. Cleaning up Love Canal took nearly two decades and cost more than \$350 million, while restoring soil fertility in the west took several years and required various remedial practices (Revkin 2013). Like mankind in the Bible and the western philosophers, the farmers and Hooker Chemical Company positioned themselves above nature and, thus, assumed the role that Leopold has termed ‘conqueror.’ As seen in the devastation of the Dust Bowl and health implications of the Love Canal disaster, conquering the environment without regard for its health or the communities surrounding it has adverse consequences. At the extreme, the degradation of the environment and the elimination of biotic communities lead to the downfall of humankind. We defeat ourselves.

In his essay “Land Ethic” Leopold (1949) acknowledges the market-based economy’s inflexibility to change and its dependence on the “produce” and resources of the land (Smith, 1776, p. 539). He further contends that the “non-economic categories [are] threatened” by the idea of self-interest, and that such disregard for nature’s intrinsic value jeopardizes not only the environment but the health of society (Leopold, 1949, p. 6). Through his observations and proposals, Leopold (1949) challenges the limitations of Smith’s (1776) invisible hand. Specifically he argues that the health of the environment is a crucial part in any well-functioning society. Often overlooked or taken for granted, ecosystem services sustain and benefit the wellbeing of every society. If these systems collapse, the market economy and society suffer because of it. In theory, Smith’s (1776) invisible hand should extend to nature and result in environmental improvement. However, it stops short, as land in *The Wealth of Nations* is specifically perceived as a “source of revenue and wealth” (Smith, 1776, p. 539). Thus, Leopold (1949) proposes a “land ethic” in which the “boundaries of the community include soils, waters, plants, and animals, or collectively: the land” (p. 2). In other words, he is extending Smith’s (1776) invisible hand to nature so that the pursuit of self-interest results in the wellbeing of the environment as well. Leopold (1949) recognizes the limitations of his idea, but one of the most critical factors seems to be that it dismantles the anthropocentric hierarchy:

A land ethic of course cannot prevent the alteration, management, and use of these ‘resources,’ but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state. In short a land ethic changes the role of *Homo sapiens* from conqueror of the land community to a plain member and citizen of it. (p. 2)

A land ethic establishes a greater sense of harmony and balance between individuals and nature. With the market economy still in place, a land ethic encourages economic actors as well as all other members of the community to consider how acting in their own self-interest impacts the health of the environment. Establishing a land ethic, thus, “reflects the existence of an ecological conscience” in which individuals feel a sense of responsibility for the wellbeing of the land (Leopold, 1949, p. 4). In other words, Leopold (1949) encourages individuals to

think and act with an environmentally-aware conscious. His efforts to reshape the ethics of society and call awareness to the significance of all nature and not just the commercially valuable resources challenge the anthropocentric framework of the market economy. A healthy environment is critical for a well-functioning society and, therefore, must be welcomed as a part of the community. Its wellbeing is just as important as that of a society. If humankind continues to take on the role of conqueror, it will in the end defeat itself.

8. Rachel Carson: Toxic Bodies

There is silence. The skies are still. The fields are empty. There is something strange in the air, the rivers, and on the ground. It sits hidden in the bodies of those who have touched and consumed it. It has silenced the birds and poisoned the fish, and yet the toxic white powder is still cast from trucks onto the earth. The chemical lingers on the crops, tucks itself under roof shingles and in the gutters, and is carried unknowingly in the wind over the land. This is the dismal scene depicted in the beginning of Rachel Carson's critically acclaimed novel, *Silent Spring*, published in 1962. Similar to Thoreau and Leopold, Carson (1962) analyzes the ramifications of anthropogenic activity on the natural environment and expresses an appreciation for the inherent value of nature. In her book, *Silent Spring*, Carson (1962) reveals a significant and often overlooked connection between the wellbeing of the environment and health of humankind.

Dichlorodiphenyltrichloroethane (DDT) is an odorless chemical designed for killing insects on farmlands. However, DDT, along with several other brands of insecticides and pesticides, affect more than just the targeted pests when sprayed or dusted onto the fields. Rather, it wiped out entire populations of organisms and left most of the survivors poisoned. Over time, though, insects "evolved super races immune to the particular insecticide use" and so deadlier chemicals were developed by industries to combat insect resistance (Carson, 1962, p. 13). This process of insect reproduction and chemical enhancement repeats itself continuously, in which the surviving insects breed and return in greater masses and the chemicals are created to be deadlier than the ones before. Thus, the land and the organisms caught in the "chemical crossfire" suffer and the biotic systems collapse (Carson, 1962, p. 13). Initially, DDT was advertised as a "benefactor [to] all humanity" (Killing Salt Chemicals 2011). Producers of the chemical, such as Pennsalt and Trimz, claimed that it protected infants from disease-carrying insects, bolstered crop yields, and acted as an effective form of bug control (Wade 2011). With the global growth of large-scale and single-crop agriculture, DDT was "applied almost universally to farms" as it significantly reduced insects after application (Carson, 1962, p. 13). In other words, DDT was a critical instrument in maximizing yields and profit.

The transition from small-scale to large-scale agriculture stems from demands within the market economy. As population skyrocketed between 1850 and 1950, so did food demand. Thus, farmers expanded and simplified their plantations to satisfy current economic trends and maximize profit. As depicted in Thoreau's (1854) *Walden* and Leopold's (1949) *Sand County Almanac*, farmers continued to find more economic viability in the exploitation of the land than in the conservation of it. The "rapidity of change and speed" in which these new situations were created

exceeded the “deliberate pace” of nature and undermined the biologically complex and beneficial structures of the environment (Carson, 1962, p. 12). The intensification of agricultural activities disturbs natural systems and creates hazards not easily repaired. Carson (1962) states:

Under primitive agricultural conditions the farmer had few insect problems. These arose with the intensification of agriculture – the devotion of immense acreages to a single crop. Such a system sets the stage for explosive increases in specific insect populations. Single-crop farming does not take advantage of the principles by which nature works; it is agriculture as an engineer might conceive it to be. (p. 14)

The aforementioned quotation illustrates the ramifications of dynamic shifts in the environment brought about with the intensification of agriculture. Further, the insecticides and the pesticides produced to rectify the manmade conflict exacerbate it in the long term.

Carson (1962) contends that man’s “conquest for nature...[results] in a depressing record of destruction” (p. 52). She, thus, advocates for a change in consciousness as well as an overall recognition of the catastrophic losses that stem from environmentally-insensitive market economy activities. Through her writings on insecticide use, Carson (1962) shows that the harms of such invasive activities are no longer limited to the environment. From her vantage point, the transition to and dependence on large-scale commercial agriculture also introduces a host of dangers to human wellbeing. The use of chemicals to create an “insect-free world” leaches toxins into the earth and consequently poisons all that come in contact with it (Carson, 1962, p. 15). Looking specifically at DDT, this odorless chemical attacks the fatty tissues in both human and nonhuman bodies once ingested. It is known to be most toxic to the liver and nervous system. Even if humans are not directly exposed to the chemical, eating foods that are often polluted or in contact with the chemical, such as fish and vegetables, can still contaminate them. Breast milk has also been a common source of contamination for infants (“DDT- A Brief History and Status” 2013). DDT was the chemical weapon and profit maximizer of the agricultural sector from the mid-1940s to the early 1970s. Once sprayed into the atmosphere, though, its toxic particles disseminated, and there was no control over where they fell and what they attacked. The shift to large-scale agriculture and use of chemicals to protect crops against insects and pests endangers the health of both the environment and humankind. The economic benefits and motives of these new agricultural systems and chemicals, however, keep pushing them forward. Carson (1962) attempts to penetrate the ignorance of the capitalist system.

In *Silent Spring*, Carson’s (1962) criticism of the insecticide DDT challenges capitalist conceptions of the natural world. She contends that the unregulated control of insecticides “have put poisonous and biologically potent chemicals indiscriminately into the hands of persons largely...ignorant of their potential harm” (Carson, 1962, p. 15). Environmentally aware programs are needed to prevent human-induced catastrophes within the natural world. Her argument pulls the attention away from Smith and Rand’s ideas of economic gain and redirects the focus toward the wellbeing of the environment. Carson (1962) writings suggest that

the market economy's disregard for the environment has drastically complicated public health issues. Specifically, she asserts that the means in which "our modern way of life has evolved" have generated challenging new environmental and public health "hazards" (Carson, 1962, p. 100). While she understands that changes, both good and bad, will continue to occur in the natural world, she encourages her readers to think of the "ecology" built within their bodies and what it needs to function (Carson, 1962, p. 101). Carson's (1962) criticism on DDT and environmentally insensitive economic activities reveals a significant connection between the wellbeing of the natural world and human health.

9. Conclusion

Despite the different time periods, historical context, and environmental consciousness of each writer detailed in this paper, the assertions made by Henry David Thoreau (1854) in *Walden*, Aldo Leopold (1949) in *A Sand County Almanac*, and Rachel Carson (1962) in *Silent Spring* encourage a deeper appreciation for the inherent value of nature and, in doing so, challenge capitalist conceptions of the natural environment. Their works indirectly react against thinkers like Adam Smith (1776) and Ayn Rand who allege that profit maximization lies at the heart of a healthy functioning society. Although they do not intend to dismantle and reconstruct society's capitalist framework, Thoreau, Leopold, and Carson advocate for reforms in social consciousness, policy, and business activity in hope that it will enkindle a shift towards environmental sustainability in the market economy's activities.

As noted throughout their works, the market economy's activities are often environmentally insensitive as they regard the land and its resources as instruments of profit. Capitalism perceives the environment through an anthropocentric lens and weighs it only for its economic value. This narrow perspective on the environment most often leads to its degradation and exploitation as well as the rise of disease and pollution. As argued by Thoreau, Leopold, and Carson, a healthy environment is critical for a well-functioning society. Nature and humankind are interconnected, and this relationship is not reciprocal in capitalist or anthropocentric ideals. Thoreau, Leopold, and Carson rework and bring attention to said relationship to create public visibility and wide spread change in behavior towards the environment.

The words of Thoreau, Leopold, and Carson have been expressed historically through art, media, and literature. Published in 1971, *The Lorax* by Dr. Seuss is a children's book that debates Rand's theories on capitalism, manifests support for environmental conservation, and inspires the development of an ecological conscious at a young age. Fast forward to today and writers, such as Bill McKibben and Barbara Kingsolver, continue to echo the ideas of Thoreau, Leopold, and Carson. With the addition of climate change research, debates over the environmentally insensitive economic activities of corporations and large-scale agriculture have reached new ground and are louder than ever before.

Bibliography

- Aristotle. (1999). *Politics*. (B. Jowett, Trans.). Batoche Books. Retrieved from <http://www.efm.bris.ac.uk/het/aristotle/politics.pdf> (Original work published in 350 B.C.E).
- Armstrong, S., & Botzler, R. (2003). Rene Descartes and animals are machines. In *Environmental ethics: divergence and convergence*. (3rd ed.). NY: McGraw Hill Companies, Inc. Retrieved from <http://dhaydock.org/Philosophy/Unit 2 - Animal and Machine Minds/Descartes Animals as Machines.pdf>.
- Carson, R. (1962). *Silent spring*. Greenwich: Fawcett Publications. Retrieved from http://library.uniteddiversity.coop/More_Books_and_Reports/Silent_Spring-Rachel_Carson-1962.pdf.
- Clarkson, L., Morrissette, V., & Regallet, G. (1998). Our responsibility to the seventh generation. *The post development reader*. Atlantic Highlands: Zed Books.
- Ddt- a brief history and status*. Retrieved from <http://www.epa.gov/pesticides/factsheets/chemicals/ddt-brief-history-status.htm>.
- Descartes, R. (2003). *Discourse on method and related writings*. (D.M. Clark, Trans.). London: Penguin. (Original work published in 1637).
- Ecosystem services*. (2013, October). Retrieved from <http://www.fs.fed.us/ecosystems-services/>.
- Leopold, A. (1949). Land ethics. In *A sand county almanac*. Santa, Fe: Water Culture Institute. Retrieved from http://www.waterculture.org/uploads/Leopold_TheLandEthic.pdf
- Marx, K., & Engles, F. (2002). *The communist manifesto*. London: Penguin Group.
- Ollman, B. (1977). *Alienation: Marx's conception of man in capitalist society*. Cambridge: Cambridge University Press.
- Rand, A. (1964). *The virtue of selfishness*. New York: Signet.
- Rand, A. (1966). *Capitalism: The unknown ideal*. New York: New American Library. Retrieved from http://itech.fgcu.edu/faculty/bhobbs/Capitalism-The_Unknown_Ideal.pdf.
- Rand, A. (1971). *The ayn rand letter*. Oceanside, CA: Second Renaissance.
- Rand, A., Peikoff, L., & Schwartz, P. (1989). *The voice of reason: Essays in objectivist thought*. New York: New American Library.

- Rand, A., & Schwartz, P. (1999). *Return of the primitive: The anti-industrial revolution*. New Meridian.
- Revkin, A. (2013, November 25). Love canal and its mixed legacy. *New York Times*. Retrieved from <http://www.nytimes.com/2013/11/25/booming/love-canal-and-its-mixed-legacy.html>.
- Saint Augustine. *Confessions*. (E.B Pusey, Trans.). Sparks. Retrieved from <http://sparks.eserver.org/books/augustineconfess.pdf> (Originally published in 398 AD).
- Sen, A. (2009). *Capitalism beyond the crisis*. Retrieved from <http://www.nybooks.com/articles/archives/2009/mar/26/capitalism-beyond-the-crisis/>.
- Smith, A. (2005). *The wealth of nations*. Hazelton, Pa: The Electronic Classic Series. Retrieved from <http://www2.hn.psu.edu/faculty/jmanis/adam-smith/wealth-nations.pdf>.
- Steiner, G. (2005). *Anthropocentrism and its discontents: The moral status of animals in the history of western philosophy*. Pittsburg: University of Pittsburgh.
- Tanuro, D. (2013). (J. Ennis, Trans.). *Green capitalism: Why it can't work*. Merlin Press.
- Thoreau, H. D. (1989). *Walden*. New York: Library of America. DOI: Walden, H. D. (1854). Walden. Library of America. Retrieved from <http://azeitao.files.wordpress.com/2007/05/walden.pdf>.
- Wade, L. (27, June 2011). *Ddt is good for me*. Retrieved from <http://thesocietypages.org/socimages/2011/06/27/ddt-is-good-for-me-e-e/>.