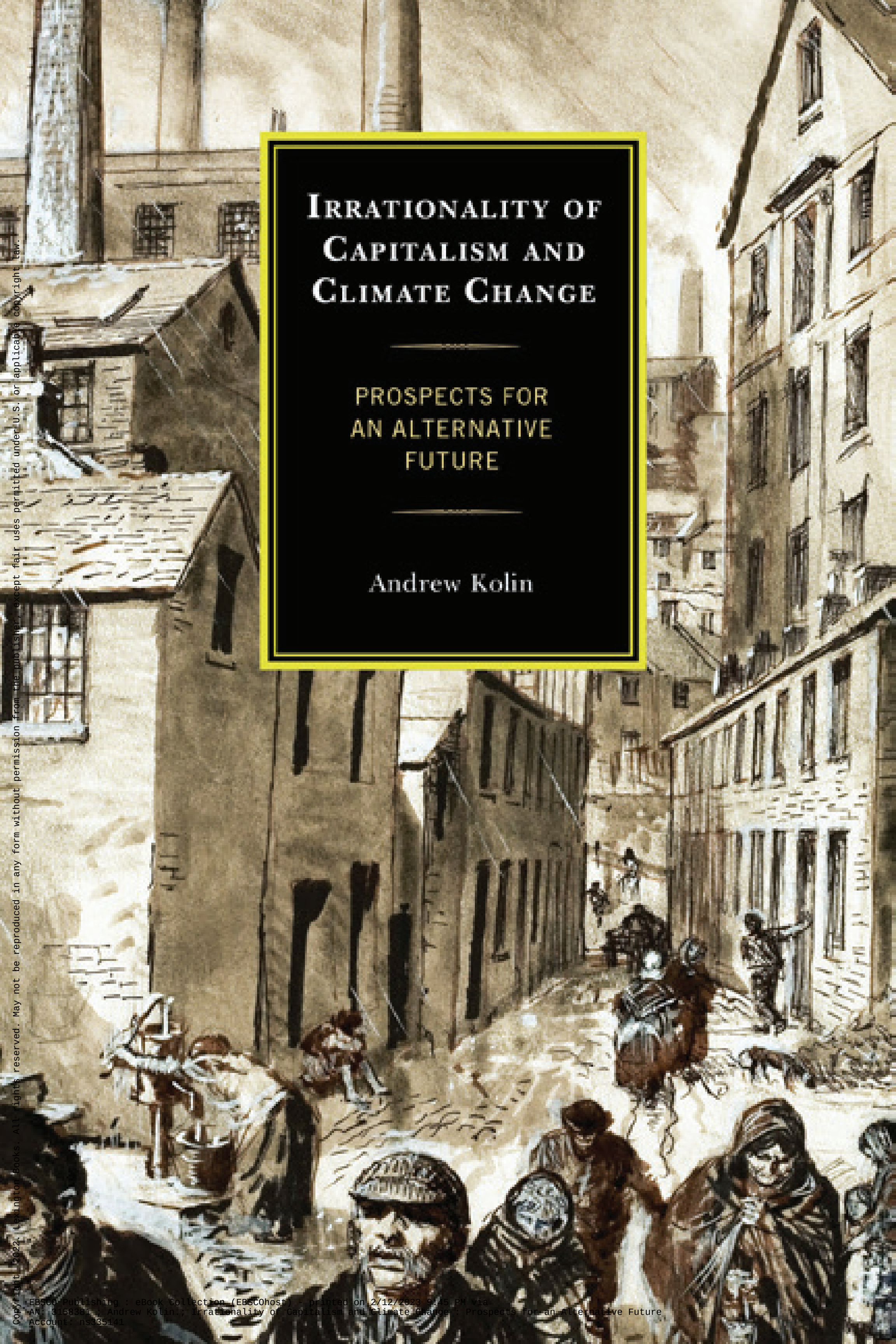

Irrationality of Capitalism and Climate Change

Prospects for an Alternative Future

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Contents

Introduction

There is ample scientific evidence in support of the reality of climate change. The sum total of the science informs that climate change is the product of human interactions with the environment. The change in the climate disrupting the harmony of nature by our actions is an indicator of the disharmony of our human nature. The rational and irrational parts of our nature function in contradiction to the functioning of nature. There are environmental policies appearing to be rational that function as irrational while irrational ones only appear to be rational. The expression of rational-irrational elements of human nature are manifested in the context of a social system. What is rational and irrational is produced and reproduced in a social system understood in a historical context. There are criteria from which to assess such behaviors. Criteria used to define rational behavior and to assess these behaviors is in terms of the goal of uplifting the quality of life promoting specific behaviors, which minimize social and environmental harm.

In contrast, the criteria used to assess a set of irrational behaviors are those behaviors motivated by passionate self-interest and which function to diminish social unity and foster division among various social segments. In a social system that produces and reproduces irrational passions driven by self-interest, the end result are policies and actions detrimental to the environment. The politics of the environment expressed as a changing climate centers on the role of reason and passion in the production and reproduction of social systems. An approach to the issue of climate change that favors the pursuit of rational moral ends means formulating policies, which are non-destructive to the environment. The scientific evidence supporting climate change indicates the functioning of an irrational social system. This irrational pursuit of destruction, which translates into planetary destruction, moves toward nihilism. Dismissing the scope and scale of a changing environment is also an act of cognitive dissonance, ignoring rational, moral, common ends. As policies producing climate change are re-created over time, it is evident that an irrational social system prevails over a possible rational one. A social system that values above all else its reproduction, which appears to advance human civilization, has resulted in the contrary, a steady decline in the quality of life.

There is an inherent irrationality that arises in social systems as humans seek to reshape their physical environment. This alteration of the environment began to take shape during the pre-industrial and industrial periods. During the pre-industrial period, environmental change was local or regional, not global, whereas environmental change became global during the Industrial Revolution. The precondition for the preindustrial changes to the environment unfolded as a result of the agricultural revolution, which consisted of the often forceful seizure of additional land. These seizures were often a result of genocidal wars and resulted in larger amount of CO_2 and methane being emitted into the atmosphere. Instrumental rationality in service of an overriding interest in engaging in imperialism caused an environmental transformation of land usage. On the upside, European imperialism produces what is known as the Columbia Exchange, which spread more diverse crops and livestock into the non-Western world. The downside, however, is that this also led to increasing deforestation. Elsewhere on a regional scale, there are examples of air and water pollution in South America. Spanish conquest of South America was a leading cause of pollution from various mining operations. Regional pre-industrial carbon emissions persisted into the Industrial Revolution adding to the total emissions. During this time, the unwillingness to comprehend how reckless intervention in the environment causes harm to the natural world and the quality of human existence, emerges as evidence of an historical cognitive dissonance. This cognitive dissonance expands as social systems use instrumental rationality to enhance how best to exploit the environment. This amounts to an historical alienation of who we are as a species and our connection to the environment.

As the Industrial Revolution unfolds, genocidal practices continue the global assault on the environment. Genocides develop as an intent to physically exterminate a group through actions that disrupt, disconnect and destroy human interaction with the environment. The objectification of the intended victims is essential to all genocides. This coincides with the objectification of nature. An ideology that serves to justify genocidal practices reduces its victims to animal status. The mass killing of both humans and animals proceeds in accordance with standardized procedures. Examples of industrialized mass killing in the twentieth century has to do with an obsession with speed and efficiency applied to normalizing the destructive, rapid removal of resources from the environment. All forms of life on Earth become subjected to the development of technological means to exploit and cause harm to the natural world. The right to exist is the central right expressed in the Universal Declaration of Human Rights. Absent from the agreement is any reference to the environment and non-human life.

Genocidal practices that target non-humans and the physical world were not part of the Universal Declaration but they appear in a more

comprehensive definition of genocide as described by Raphael Lemkin. His definition of genocide takes into account actions designed to undermine human and non-human life. Lemkin makes reference to what are essentially ethnocidal actions. His broader usage of mass killing allows for the usage of a concept of ecocide, coined in the early 1970s as a description of the environmental damage to Vietnam caused by the use of the chemical defoliant Agent Orange. Ecocide involves actions that are either intentional or unintentional. The concept applies to harm done by humans to non-humans and the planet. The association of ecocide with genocide identifies actions that are intended to harm planet Earth. Such actions, which would constitute ecocide are understood to be specific actions that threaten the existence of the planet. The internal memos and research conducted by the fossil fuel industry reveal that there is conscious knowledge of environmental damage caused by the use of fossil fuels. In fact, about ninety companies are responsible for more than two-thirds of the greenhouse gas emissions. What is known from the recent World Economic Forum's Global Risks Report 2021, is that if humankind doesn't make a serious effort to mitigate and adjust to a changing climate, humans will confront "the most impactful risk facing communities worldwide."

According to the World Health Organization, the toll that we should expect is about 250,000 more deaths between 2030 and 2050 due to climate change. A degraded quality of life from climate change means that air pollution impacts respiratory health. A warmer planet increases fatalities and illnesses from higher temperatures. Warmer oceans impact underwater life, depleting species such as shellfish, which is the food source of various fish, birds and mammals. The year 2020 is tied with the year 2016 as the hottest individual year. Already, in 2021, record heat, drought and wildfires have been reported throughout the United States and Canada. These examples are indicators of ecocide, genocidal in that the actions that led to them are intentional and destructive to the environment. Ecocide becomes genocide when actions intended to destroy humans and non-humans result in environmental destruction. Ecocide is expressed as genocidal when it attacks and undermines the association between humans and non-humans. Consider the example of the buffalo in America and the animal's relationship to indigenous people. The buffalo was a vital part of indigenous culture and a source of food and clothing. Genocidal intent against indigenous people coincided in part with the elimination of the buffalo. This example and others serve to illustrate how genocide expressed as ecocide leads to the disruption of the environmental link between humans and non-humans. The underlying mindset of genocide expressed as ecocide denies that the destruction of non-humans is correlated to the impact on humans. It is as if the human and non-human worlds are distinct and unrelated.

Humans proceed to disrupt the harmony of the environment while partly recognizing that they are causing its destruction; at the same time there is an inability to develop genuine solutions designed to allow for nature to function in harmony. There is an unwillingness to take appropriate action beyond recognizing that humans are causing this destruction. For example, with full knowledge of the adverse effects caused by pesticides they developed earlier, companies developed neonicotinized pesticides in the 1990s and promoted them without any consideration of their long-term effects. These companies were in a hurry to promote the use of these products without first subjecting them to rigorous testing. Testing is typically regarded as an afterthought, after these products are already in use. Once neonicotinoid pesticides were found to prevent honeybees from reproducing, only then there was an effort to develop an alternative. The problem remains that the main focus is simply to employ the technological means to reshape agriculture, ignoring nature's complex interactions and the damage that these products create.

Its recent report, the World Wildlife Fund stated that since 1970, 60 percent of Earth's mammals, birds, fish and reptiles are now on their way to becoming extinct. In spite of this knowledge, there are no global initiatives intended to reverse this. The most recent U.N. Intergovernmental Panel on Climate Change is sounding the alarm bells citing evidence that the planet is heading not for 1.5 degrees of warming, as was previously thought, but more than 2 degrees of warming by 2040. A global catastrophe could unfold as a result:

> . . . the melting of ice sheets will pass a tipping point of collapse, flooding dozens of the world's major cities this century. At that amount of warming, it is estimated, global GDP, per capita, will be cut by 13 percent. Four hundred million more people will suffer from water scarcity, and even in the northern latitudes heat waves will kill thousands each summer. It will be worse in the planet's equatorial band. In India, where many cities now numbering in the many millions would become unliveably hot, there would be 32 times as many extreme heat waves, each lasting five times as long and exposing, in total, 93 times more people. This is two degrees—practically speaking, our absolute best case climate scenario.[1]

The IPCC recommends the necessity of a complete re-emphasis of social priorities if humanity is to avoid a climate catastrophe. This would amount to a global Marshall Plan. The question is, how to put in place political will for such a global undertaking? The global effects of a changing climate represent the visible evidence of an irrational disharmony between humanity and the environment. The idea of the Anthropocene crosses the boundaries of various disciplines, but they all share in common a core idea that humans are the

primary force changing the functioning of the Earth just as much and even more than the forces of nature. The loss of biodiversity associated with climate change is currently unmatched with the exception of the mass extinction of over 65 million years ago in which three quarters of the Earth's plant and animal species including the dinosaurs vanished from the face of the Earth.

Humans have always impacted their environment starting with the mastery of fire and the invention of tools. As time marched on, and humans became hunters and gatherers, and then began farming, they had a greater impact on the environment. By the time of the Industrial Revolution in the late eighteenth century, there was already some recognition that human activity was impacting the global environment. In 1778, Comte de Buffon stated, 'The entire face of the Earth bears the imprint of man's power.' This was his optimistic statement that humans would function as responsible managers of the Earth. As events unfolded, other scientists didn't share his optimism. As deforestation and other impacts became obvious, other scientists were beginning to express more pessimism about the outcomes of environmental changes. The utopian socialist Charles Fourier was sounding the alarm in 1821, arguing that an unrestrained industrial capitalism would wreak havoc on the planet.

> Many early-nineteenth century authors developed nightmarish visions of anthropogenic climate catastrophe. Meterologists and agronomists refer to plant physiology to incriminate deforestation for all sorts of weather events—harsh winters, droughts, storms and excessive rainfall. Concern about climate change was widespread in European scientific circles. . .after the eruption of the Tambora volcano in Indonesia in April 1815, Europe experienced a series of anomalous seasons and bad harvests. In consequence, learned societies in France, Switzerland and Britain fostered research on climate change, pointing to the possibility of its anthropogenic origin.[2]

It was not just Fourier, but other socialist thinkers in the nineteenth century also referred in particular to the pioneering work of Liebig, who theorized about the concept of a metabolic rift. Liebig's theory influenced Marx's writing on the environment especially in the third volume of *Capital*.

To be clear, industrial capitalism did not originate climate change. Starting with the pre-industrial period, early humans began that process. Humans, acting as agents who are distinct from the environment but who are of the mindset that the environment is something that has to be conquered, changed the environment beginning with impacts that were first local, then regional, then global. Over time, the global reach of capitalism has transformed human interaction with the environment, exerting power over the physical structure of nature. Capitalism functions as a global force representing the

depersonalized will of a capitalist social system. Capitalism is the historical culmination of the early tendencies of social systems to grow and expand. Associated with this global expansion, especially from 1945 to the present, was a great acceleration by which production and consumption increased exponentially. As a result, humanity has become a physical force that is capable of also acting as a geological force.

The history of significant climate change unfolded during the rise of industrial capitalism. From that point in time to the present, the continuity of capitalism has been associated with an ongoing assault on the environment. Humankind exists as a part of, and in relation to, the natural world. As the climate continues to be altered, causing it to become increasingly dysfunctional, this decline is interrelated with the decline of human civilization. This inability to seriously address a changing climate is due to an irrational social system that grows through destruction. As capitalism expands, it appears as a rational social system as it seeks to supersede the previous system. Over time, this becomes a mere rational façade for as capitalism first creates, it then destroys. In this process of creating this new form of social organization, it is also undermining it by acts of creative destruction. This takes place as capitalism seeks to eliminate anything of value unrelated to the recreation of capital. Capitalism only utilizes a form of instrumental reason as what is essential for capitalism to continue with the resulting discarding of what are common, moral ends. This irrationality as capitalism regenerates itself does so regardless of the social harm it creates. Remaking capitalism by any means necessary is at the expense of the environment. This goal is simply to plunder, taking whatever is required. This irrationality proceeds so as to conquer the environment. Appearing as accumulation for the sake of accumulation, capitalism does not function by seeking rational limits to its growth. Any impediments to capital accumulation, which temporarily halt this drive to accumulate reveals the dysfunction, which is expressed as a social crisis. It is, in psychological terms, the manifestation of a systemic neurosis compensated as capital strives to accelerate the social harm to labor as the exploitation of labor is ramped up.

The possibility of a rational social system that does not cause social harm and harm to the environment is worth considering. There is an argument to be made in support of socialism representing a rational social system, which strives towards common, moral ends. In the absence of capital reproduction and the social harms it causes, socialism establishes truly free labor. Without capital, there is no longer the need for capitalists and no need for class struggle between labor and capitalists. It would also mean social reproduction without the necessity of growth without restraint. It would mean a socialist social system, which would put in place a relation of harmony with the environment.

NOTES

1. David Wallace Wells, "UN Says Climate Genocide Is Coming. It's Actually Worse Than That." *New York Magazine*, October 10, 2018 https://nymag.com/intelligencer/2018/10/un-says-climate-genocide-coming-but-its-worse-than-that.html.

2. Jean Baptiste-Fressoz, *Losing the Earth Knowingly: The Anthropocene and the Global Environmental Crisis* (Abingdon: Routledge, 2015).

Chapter 1

Reason, Passion and Climate Change

The issue of climate change. The cost and direction of it understood in terms of how a social system responds in ways that are constructive seeking remedies or continues in a direction that is destructive to the environment. This means taking into account to what extent decisions are made about climate change making use of rational moral criteria. Destruction of the environment in the absence of any moral considerations moves forward driven by passionate self-interest. Throughout the history of Western political theory, there has been a divide among theorists who define politics as driven either by reason or passion.

From Greek political theory starting with Plato is the idea of a rational moral political system. Most clearly expressed in Plato's *Republic* using Socratic dialogue to arrive at the concept of a rational moral state or ideal state, which is the personification of justice. The just state develops and is eventually the product of the pursuit of justice and of a state that possesses a harmony of its parts. Plato describes government in general is only as good as the rational moral qualities of those who are rulers in relation to those who are ruled. A change in the pursuit of a common moral end as justice diminishes, moves government away from its ideal state and as it disintegrates increases injustice and a more dominant role of passion.

There is an interesting contrast between the ideal state and what happens as it disintegrates. Plato's ideal state had developed associated with the social psychology of its members seeking justice as the primary pursuit that binds the members of society. As a result, life-affirming activities lead to the greater common good. The concept of justice as a common good, as present in Plato's *Republic* is life-affirming and is also emphasized in Plato's *Symposium*. In the pages of the *Symposium*, there is a description of the affirmation of life appearing in the form of Eros a lover of wisdom in the pursuit of truth as being the object of Eros. A philosopher is not just the lover of wisdom of love

in its highest form it is also of a drive to enhance life that allows for humanity to achieve the highest level of civilized existence. It is also to elevate our potential and to live in harmony with others outlined in Plato's *Phaedrus*. In writing *Phaedrus*, Plato identifies the function of Eros as life-giving, life enhancing mobilized in service of human needs leading to the highest pursuit of justice resulting in living in a just society. This unity of the rational and moral leads to a society in which society lives in harmony with the environment. Plato's insight is the recognition that passions eventually in the absence of rational moral guidance create the basis for destructive politics.

Destructive politics motivated by self-interest adversely undermines the environment. Destructive politics functions to negate Eros, moving towards policies that cause harm and diminish the quality of civilized life. Plato's conception of living in harmony with others in a social setting using rational moral means towards creating a just society is consistent with the essence of Greek science. Ancient Greek science investigated the physical world seeking to explain how matter and other physical forces functioned as inter-related parts of the natural world. While humans are a part of nature, the Sophists understood people are also distinct from nature as the difference between nature and convention. The materialism of Greek science was an understanding of the interdependence of parts of the environment expressed as a consistent regularity and as Leucippus states, ". . .nothing occurs by chance but there is a reason and a necessity for everything."[1] As ancient Greek science understood nature as an ordered system, for the Sophists it is society that creates order through convention.

In contrast to Plato, Aristotle develops his science of politics on the possibility of constructing a stable political order in terms of how our human nature is in association with the order existing in nature. With obvious implications towards understanding humanity and environment as a science of ends. This teleological approach to the unity of humans and nature unfolds, like Plato's approach, in terms of a rational, moral pursuit of justice. As Aristotle proceeds to define political science as the master science, he analyzes the various building blocks leading to the formation of government as the highest form of human association. Using the aporetic method, he puts together a theory of government derived from an understanding of various forms. He carefully examined and identified the forms of government in terms of the specific contradictions each form contains. They amount to imperfect forms and yet each form contains an element of truth.

As Aristotle proceeds, he considers the essence of the state in terms of its constitution. Constitutions represent the ends of the state in terms of what are the purposes of government. A constitution represents a system of justice. Regardless of the form of government, people are dependent on the state for all life activities. It is through the state that meaning is given to human

life, through the shaping of behavior in which the state functions as a moral educator generating moral virtues by citizens who are active participants in decision-making. As Aristotle analyzes specific constitutions, there are criteria that define the functioning of each one. Each constitution represents how offices are arranged and the distribution of each office. Most of all, the essence of each constitution is an end that is the moral existence a society has established. In effect, various constitutions personify and pursue justice in greater or lesser degrees. A constitution's principles represent the ends of a state. States that pursue virtuous ends are classified as a normal state. The opposite is classified as a perverse state, which fails to pursue virtue. Normal constitutions being virtuous in terms of representing one few or many or monarchy, aristocracy and polity. For those perverted constitutions, they are identified as tyranny, oligarchy and democracy. The bottom line is the fundamental difference between a normal and perverted kind as whose interests they serve. A normal government rules for the common interest while a perverted government rules rule only for their self-interest. Consistent in the use of his aporetic method he points to the shortcoming of numerical classifications of governments. He considers the best criteria to understand constitutions in terms of who they represent. In defining constitution, it is social class that determines whether or not it is a democracy or oligarchy. The other forms of government are based simply on numbers of those they represent, one, few or many. In an oligarchy, the constitution supports the dominant role in principle of the pursuit of wealth for the few. In a democracy, the struggle is for the masses to formulate policy to advance their interest in which the dominant principle is freedom. It is evident from Aristotle's analysis of class divisions that they undermine the pursuit of a just society.

Unlike Plato who is pessimistic that a stable, ideal state of justice can be maintained Aristotle advances the idea of the best practical form of government which can be just. Before Marx provided an analysis of class in a capitalist social system, Aristotle considered the social cause of injustice rooted in class divisions. Extremes of wealth and poverty are indicators of social inequality and injustice. Aristotle proposes a stable middle class as a social and political solution to class conflict, a middle class neither rich nor poor and removed from class conflict. Aristotle and Marx regard the abolition of class divisions as essential to a just society. Aristotle's middle class depicted as a political mean bears a resemblance of Marx's abolition of class. Plato and Aristotle are of one mind when it comes to their assessment of a political order that is the ideal when there is the pursuit of rational moral ends. Decisions made by policymakers can be assessed in terms of specific policies, which are in pursuit of rational moral ends. Plato and Aristotle have defined the ends of politics are centered on life-affirming activities which are intended to enhance the quality of life and prevent actions which caused harm

to society. By virtue of being instructive in terms of how to live a better life in so doing politics is constructive.

Politics is also constructive in its goal to operate as a problem solver and to initiate policies that also affirm the quality of life. This includes addressing social divisions, efforts made to level these divisions and promoting various common concerns. This would include a range of reformist measures as well as comprehensive systemic changes. The essential prerequisite for constructive politics is to prevent policies that are destructive. Destructive politics develops from irrational passions intended to cause harm to society and driven by self-interest. In contrast to constructive politics motivated by the pursuit of justice destructive politics is motivated to dominate by the exercise of power. Climate change is reflective of a choice made in the social system that pursues policies destructive to the environment. Policies driven by passionate self-interest without consideration to the impact on the environment reflects the unleashing of destructive politics.

Contrasting political perspectives either promote harmony or disharmony in the environment. Examples of political philosophy destructive to the environment are found in the writings of Machiavelli and Hobbes. Machiavelli understood what can happen in the failure to adapt to the changing world of politics. Machiavelli's method, which would explain the volatile world of politics was of a political science freed from what had been previous conceptions of politics. In writing *The Prince*, he offers us a new body of knowledge, that can identify what is political and how politics adapts to changing circumstances. This meant liberation of the new science of politics from what has been considered to be political and is not purely political, such as ecclesiastical institutions. He considered the essence of politics as a rejection of traditional political arrangements such as hereditary rule which is no longer viable in this changing world of politics. In this ever-changing world of politics Machiavelli presents a ruling principle which can navigate this altering political landscape. Hereditary rule presupposes fixed politics. Because it passes from father to son, this does not require any specialized political knowledge and skill. Machiavelli describes the new prince as a ruler in possession of unique political skills. The prince can achieve greatness by what Machiavelli identifies as virtu, the prince's ability to use his skill to create and expand his political domain.

Machiavelli is representing a modern view of politics of the renaissance consisting of politicians who function in a period of competition ambition and intense change in terms of how to rule over those who are ruled. This new prince exists in a political environment of perpetual change. What is also clear to Machiavelli this is an age of scarcity and competition for resources between the few in the many. The prince must in many ways mediate and acquire the knowledge as to how a ruler can function when so many passions

are expressed to appear is not taking sides. The prince as the practitioner of the new science of politics makes reference to a body of knowledge that a ruler must know if he is to function as an objective observer of the political scene. Machiavelli addresses how rulers should confront people whose passion governs their pursuit of self-interest. He proceeds to introduce into the mix of politics the relationship between ruler and ruled as driven by passionate self-interest. The unique role of the ruler is how he devises the means to compel obedience. This is achieved through the exercise of power. Machiavelli's prince is centered on how to mediate the manifestation of various forms of self-interest by using the instrument of power. This new prince puts himself in a position to preserve the rules that govern the use of power through manipulation of how the ruler relates to the ruled. The ruler needs to know how to use power in order to acquire and hold onto his position. What a ruler needs to know is the logic of power. Absent from the exercise of power are ethical considerations. The ruler will also need to know that his exercise of power must remain only in his hands so he can monopolize the use of power. Machiavelli's prince is centered on how ruler should unleash power so as to shape behavior and in so doing, manage diverse self-interests. By using the instrument of power, the new prince put himself in the position as ruler and can master the logic of power. Part of this logic of power is for the ruler to know when and how much power is to be exercised.

Depending upon the circumstances, the prince has to know how to exercise the use of power, when to use violence to economize its use so as to best minimize possible threats to the prince. With measured doses of violence, it shows the prince is not extreme in the use of violence and limits any manifestation of resistance to the rule of the prince. Machiavelli's insight is the recognition of social divisions are rooted in the passions. While Plato and Aristotle argued for a science of politics that can be obtained through rational ethical means and illuminate wrongdoing, Machiavelli accepts what he considers to be the fact of political existence that injustice and wrongdoing are inevitable. Rulers need to understand not only to accept wrongdoing, which stems from interest-driven individuals, the goal is to develop the means to minimize harmful acts. For Plato and Aristotle, using rational ethical considerations, people can overcome falsehoods and illusions. In contrast, Machiavelli did not seek to unmask illusions but to make use of them at certain times to create illusions in order to deceive opposition to your rule.

The other elements of Machiavelli's handbook for new rulers are his recommendations that the ruler needs to get mastery of events by seeking to anticipate future threats. In various passages of *The Prince*, Machiavelli instructs how rulers need to stay ahead of events by taking control in order to shape the actions of others for the ruler can eventually determine the outcome. To be future-oriented means having the foresight to anticipate events

involving the ruler who may have to act as a political chameleon changing his political colors and assuming different roles at different points in time. As circumstances change so must the ruler's role change as well. This leads to a ruler becoming an actor who pretends to be something he is not. Machiavelli's description of the ruler is of an actor characterized by the roles he assumes. In other words, politics boils down to a matter of perception. The ruler must be perceived to be competent. This competency is achieved in terms of how the ruler's behavior is perceived by the public. The ruler's policies should not inflame the people's passions. This means avoiding the appearance of either wealth or poverty and by spending the people's money wisely.

Through the use of rational ethical considerations Plato and Aristotle make the case it is possible to have a just ruler in contrast to Machiavelli who is most concerned with the role of passion at the center of political life, and who contends that the ruler must simply appear to be just. As Plato rejects the world of appearances Machiavelli's political view is that politics clearly must make use of illusion and manipulation. Political existence for Plato and Aristotle is equated with striving to achieve a just life. In contrast, Machiavelli only considers morality in terms of what is useful to the ruler at any given point in time. The political world of Plato and Aristotle is about moral just ends while Machiavelli understands that the reality of politics is only what can be known from observation. A passion-driven political system ultimately lacks the means to reproduce a legitimate political order as there is no effective means to truly regulate the unleashing of self-interested passions with consequences for the environment.

Saul Alinsky in writing *Rules for Radicals* provides an alternative to Machiavelli's top down ruler focus, where the ruler manipulates peoples' passions. Alinsky's bottom-up approach to politics as mass organizing is an example of how peoples' passions can become mobilized toward rational, moral ends. Alinsky understands what he considers to be essential to politics, the ability of people to organize for common causes. Who wins and who loses in politics is often about who is better organized. Alinsky shares with Machiavelli the idea of a how-to manual. For Machiavelli, his manual is for rulers while Alinsky's manual is for the masses. For Alinsky, organizing is also about going into communities and interacting with them so that the organizer can confront the ways in which people feel helpless. This involves addressing the day-to-day struggles starting with things as they are. The process of using peoples' helplessness toward rational moral ends is a process of making people feel empowered. Alinsky's class emphasis is evident in developing the tactics for the have-nots to confront the haves. In seeking to organize and build a mass movement, one intention is to get at the causes of the divide between the haves and the have-nots. The rules Alinsky presents have as their starting point the idea that all problems in a social system are

interrelated. In stating each rule, Alinsky identifies interrelated strategies for raising political consciousness and addressing class divisions. This includes paying attention to the daily struggles of the have-nots, while being flexible toward achieving goals and changing tactics in relation to changing circumstances. To make use of people power and the resources needed to enhance it, Alinsky stresses communicating in ways the masses can comprehend.

When passions are directed toward narrow self-interest, destructive politics develop. This theme unfolds in Thomas Hobbes in his construction of destructive politics in the *Leviathan*. His use of a deductive method unfolds as he presents a political fable of human nature in the absence of government, demonstrating the individualism of passion driven self-interest of individuals in this fictitious state of nature. Self-governing natural persons being their own sovereign who are insecure and afraid of an untimely death seek resolution by the creation of an abstract artificial person as a creation of individuals who this artificial person will come to represent. There is no preexisting society for Hobbes, only individuals who can agree to form society through a contractual relation. What will then take place is that society is formed on the basis of decisions that lead to the creation of an artificial representative authorized to represent the interests of individuals in society.

This representative will acquire by agreement to act as a sovereign authority over society. According to Hobbes, this artificial creation of a sovereign authority would function to ensure the preservation of order and essential condition for human existence absent in the state of nature. The sovereign is granted the authority to be in possession of a monopoly in the right to have absolute authority essential to maintain order. This is essential given the fact for Hobbes human beings are driven by their passions in service of furthering their self-interest. Underlying Hobbes's notion of the sovereign is the goal to maintain peace given the threat of man's passions which can so easily undermine self-preservation. It is also the overriding fear of untimely death due to the uncertainty of interactions in a state of nature in which there is an absence of political meaning. In essence the sovereign functioning as the rule maker becomes the great the definer of how people live.

The historical context shaping Hobbes's political thought was his keen observation of the English revolution and the emerging role of modern science, which he believed would provide a path towards creating fixed rules for politics. This translated into creating a clear language as to which rules need to be communicated to individuals as they emerge from the pre-political state of nature. In a state of nature, there is no political meaning or fixed rules, the problem of how to control the passions, which are ever in motion, restless and seeking continual satisfaction. This state of nature of total freedom has the downside of giving free reign to all of man's passions. Hobbes is presenting

politics as an activity invented out of peoples' own self-interests. These rules represent a solution to the passions.

For Hobbes, the senses being in motion in the form of passions seeking satisfaction is what guides self-interest. The problem in the state of nature given the lack of political meaning is people are free to do as they please. Laws of nature become understood through right reasoning as the necessity to seek peace amounts to making a transfer of this right renouncing the right to do as one pleases forming the social contract resulting in a solvent authority to create political meaning. At the center of Hobbes's political theory is self-interest which is problematic in that it defines the state as the promoter and protector of self-interest with the state as maintaining the role as mediator and peacemaker of private interests. The view of the state as the promoter of self-interest is detrimental to the health of the environment. The ongoing debate to the present is this division between the roles of reason and passion in the framing of political priorities.

Rousseau enters this debate taking issue with the egoism of Hobbes and harkens back to the earlier Greek view as expressed by Plato and Aristotle. Like Hobbes, Rousseau creates a logical model, a political fable of the state of nature in the absence of government. In contrast to Hobbes's view of human nature, Rousseau considers human beings in this condition as solitary, isolated and essentially undeveloped. What you have in Rousseau's version of the state of nature is a condition of individuals who are anxious and fearful of themselves and not of others. In conditions of scarcity, with a competitive struggle for scarce resources, man is not by nature warlike. Only with the appearance of property does conflict and warfare develop.

Parting company with Hobbes, Rousseau considers the basis for a social contract as a solution to the problem of private interest and challenging the limits of Hobbes's individualism. Rousseau outlines the basis for a government that can be legitimate derived from consent if people possess freedom as individuals and in society. It leads Rousseau to conclude that government can reconcile individual and social freedom. Rousseau views society not as a reflection of private interests. This is the meaning behind Rousseau's expression that "man is born free and everywhere is in chains." This is a reference to man's inability to fulfill the potential freedom he has in a state of nature. A social contract then becomes a process of working towards realizing the freedom that has been alienated. Rousseau then proceeds to demonstrate how a legitimate form of government is something people freely become obligated to obey. This obligation to obey government would be something people freely want to perform. The thrust of his argument is that you cannot alienate your freedom. To be born free means you would not give up your liberty in exchange for anything more advantageous since liberty is the ultimate idea. According to Rousseau to give up liberty is to give up one's humanity to be

born free and yet everywhere is in chains is also a statement about how individuals could put themselves in a position to recover and not lose the liberty. Freedom by definition means to obey one's self. To be free, an individual has to consider something other than self-interest. Following self-interest results in the alienation of one's liberty. What is alienated is the potential to exercise one's liberty. In knowing how not to alienate liberty, each individual only transfers it, giving one's liberty to society. In doing so, this allows individuals to attain liberty because other individuals have also exercised an identical renunciation. This in turn leads to freedom in relation to making decisions by the exercise of a free will through the social contract.

Rousseau then proceeds to get to the heart of the matter, the concept of freedom in association with the expression of a general will. In many ways, Rousseau's concept of general will is the essential critique of Hobbes's concept of government as representing private interest. Hobbes's concept of will as the motivation to form government out of self-interest is for Rousseau, in a word, incomplete. It is founded primarily on the notion of private will. Private interest is partial as the means of creating a unified government. A general will is developed out of a concern for a common good and not for a specific interest. A general will represents the dividing line between those individuals who assemble to further a specific interest and which considers a common good. Rousseau's general will is formed and expressed in the absence of passion. His general will is to be understood as rational, which takes into account not just individual freedom but the freedom of individuals, which is to be understood by placing it in a larger social setting. A general will represents the dividing line between those individuals who assemble to further a specific interest in the world, which considers a common good. A general will is formed as the unity of wills held together for a common good and not for a specific interest. General will once established as for the purpose to promote the common good, the implication being the sovereign authority of the people is absolute, a common good which is expressed as the embodiment of a general will which cannot be broken down into particular wills. While what can be a general will could be mistaken nonetheless in contrast to particular will, which is narrow and partial, is usually wrong because a particular will is the expression of self-interested passion.

The role of reason and passion is evident in the writings of Karl Marx. Throughout his various writings, he explores the dual and contradictory role reason and passion assume in the social system known as capitalism. As he formulates the production and reproduction of capitalism, he concludes that capitalism is destructive to the environment. His argument unfolds as capitalism appears rational but underlying the reproduction of capital, is, in fact, an irrational social system. Human beings are a part of nature but separate from

nature, by defining our unique life activities through the labor process. This is for Marx a rational conscious undertaking and involves social cooperation.

Labor enables humanity to transform nature and by laboring our consciousness is transformed. Labor for Marx is not just the satisfaction of natural needs, the biologically necessary ones of food clothing and shelter, but labor also satisfies the developed needs as labor provides the basis for a civilized existence. In the transition to a capitalist social system involving the social organization of labor at the workplace this apparent rational process of the question of who controls the surplus amounts to formation of a social division of labor between owners and non-owners. This is the process in the formation of class and private property. The extraction of the surplus produced by labor is essential to the reproduction of capital; there's also an underlying process in a social system which is at its root core irrational. The superficial rationality of capitalism appears as labor sells its labor power. Over the course of the workday labor produces beyond what is necessary for the existence of labor. Marx describes how this unfolds in the acquisition of essentially what is ownership of the labor power of the worker. The workday is divided into two parts: in one part, labor works to secure that part of the wage necessary to satisfy the workers' every day needs while the purpose of the second part of the workday is to generate surplus labor for capital accumulation. This has the social effect on labor of alienation. This alienation consists of labor throughout the labor process, which is separated from nature, not able to comprehend what is the function of labor and lacking control over the labor process. The other social effect of alienation is the process in which the worker is regarded throughout the labor process as a commodity. In addition, the products which labor produces since labor has no control over the work process confronts labor as something foreign to the worker as a power over work and leading to a lack of control over the work process. What the worker produces bears no direct relation to the worker. That portion of the labor surplus in the form of money is the ultimate commodity, which dominates the consciousness of labor. Marx understood that while capitalism appears constructive, advancing civilization, at the same time as capital is reproduced, it functions as a destructive force on the environment.

In the process of capital reproduction, as capital is accumulated what is recreated is a social system through which labor is, through the labor process, placed under the domination of commodities. A capitalist social system is characterized by an inability to acknowledge the underlying irrationality of a social system dominated by the production and reproduction of commodities. While labor power is purchased as a commodity, so are the various parts of nature regarded as commodities for sale. Driven to extract resources from nature, there is no rational assessment of the life cycle of nature as capital accumulation unfolds as a process with no rational limits. The environment

is not understood as a rational system, instead the environment is subjected to the demands of capital accumulation without regard to the rational harmony of nature. The alienation of labor is also the alienation from nature. Accumulation of capital is also a process of separating labor from nature as labor under the domination of capital does not control the labor process. It is this lack of control over the workday which disconnects labor from understanding its relation to nature. While labor appears to lack an understanding of its social function, Marx argues that labor can become conscious and acquire an understanding of the social forces that control the labor process. The acquired rationality of labor corresponds in terms of how labor becomes conscious of the irrationality of capitalism. It is Marx's analysis that the irrationality of capitalism leads to consideration of the rationality of an alternative social system, which is socialism.

In writing *In Defense of Politics*, Crick considers rationality as the basis for constructive politics providing this rationality is in service of moral ends. He describes how developing a common consensus creates constructive politics. Rational politics is constructive when there is agreement on what constitutes a common good. Essential to Crick's view of politics as constructive is the notion that when we compromise, reaching decisions in the absence of violence, civilized society is the result. When politics is constructive, it works toward achieving an agreed-upon common meaning resulting in politics as a rational solution to chaos. Politics is constructive when it is an activity that is engaged in by an association of people who are free. Crick follows the tradition of ancient Greek political thought in conceiving politics constructed by rational moral ends. Politics as a decision-making process should aim to include and not exclude people from participating in decision-making. Politics constructs by an inclusive decision-making process, the means by which people can exist peacefully in society. What is also constructed by enhancing civilized life is a future through which politics preserves the human community. The construction of future-oriented society is through a political process working to eliminate social harm, especially by the use of violence. Constructive politics reduces social harm by striving to achieve rational moral ends. In contrast, destructive politics is associated with the pursuit of self-interest regardless of whether or not there is social harm. In the absence of rational moral ends expressed as a common good toward creating a just society, a politics that is destructive is driven by passionate self-interest through the exercise of power.

A rational moral society that leads to constructive politics seeks justice in contrast to passion-driven self-interest in which the goal of destructive politics is power, to use power to dominate people and the environment.

Bertrand de Jouvenal defines the essence of politics as the use of power to impose will as the means to remove any resistance. Power is also expressed as

the will to dominate others. Power is derived from the ability to acquire control of the resources of power. He refers to the expression of power as applicable to policymakers who exercise it as the desire to exploit the environment in a manner that is destructive to the environment. Power politics puts aside justice in favor of the wants and desires of policymakers. To forcefully take from the environment without consideration of the impact on the environment is also to deny the life affirming properties of nature.

In writing *The Idea of Politics*, Maurice Duverger proposes an idea of political fighting as organized fighting over the expression of social differences. According to Duverger, people organize and fight over ideas and politics becomes the expression of conflict as people take sides. The difficulty in achieving consensus leads to a conquest theory of politics. A winner take-all approach results in a failure to create a common social good which is life affirming. His view of politics is similar to the one expressed by De Jouvenal placing emphasis on passionate self-interest which is dysfunctional to the idea of constructive politics. This view also translates into a question of who is about to achieve dominance over people and the environment.

A politics that is destroying the environment generates ideological justifications for destructive politics, which are then used to deny climate change. Throughout the *Handbook of Political Fallacies*, Bentham proceeds to expose the deceptive thought processes of those who seek to preserve the status quo. His careful analysis takes into account the underlying implications of each political fallacy, revealing how each one embodies purely individual self-interest. These various political fallacies amount to faulty arguments used to reject policy recommendations. He considers the fallacy of authority which presents what appears to be an argument to dismiss out of hand subject matter solely on the basis of the weight of an existing authority figure. Bentham takes issue with fallacies of delay as arguments made to post pone consideration of an issue with the general goal towards eluding it all together. He goes on to reject fallacies of danger as obvious references to something which is threatening and harmful sidestepping any possible benefits of a new policy. In rejecting fallacies of confusion this is used to reject a new issue as to abstract or vague and full of indefinite generalities. In sum total when these political fallacies are employed successfully the result is not only the promotion of a dominant ideology it is often followed by ceaseless propaganda.

As a critic of destructive politics, Paulo Freire in writing *Pedagogy of the Oppressed*, has insight into how to comprehend destructive politics made by decision-makers who initiate policies which damage the climate. In possession of a monopoly of resources from which decision-makers exercise power and then assault the environment acting as oppressors of the environment. The essential difference between the two forms of politics amounts to how constructive politics can challenge destructive politics discussed in Freire's

discussion of oppressors and oppressed. Constructive politics develops in relation to overcoming destructive politics. His analysis of this process follows the class analysis of Marx. The basis of constructive politics is the process of how the oppressed can become conscious of their oppression. It is from this consciousness that a social education works toward overcoming dehumanization. Freire outlines the process of this social education as a redefinition of political reality. To embrace a constructive politics of the environment is to be critical of policies that cause harm to the environment. It is an acquired rationality as the oppressed take steps toward creating a new constructive political reality. Oppressors maintain the current political reality as they pursue their self-interest at the expanse of the common good of the masses. The constructive pedagogy, a raising of the social consciousness, are the steps taken of an awareness of how the masses are oppressed. It is from Freire that the dividing line of politics is made in terms of the politics of choosing sides in society, choosing the roles of oppressor or oppressed. This applies to creating the politics of oppression as the oppression of the environment. To support the ongoing use of fossil fuels is to work against a constructive politics and in the words of Freud, to identify with the aggressor. A constructive politics would move toward a view of the environment that is freed from harm.

Overall climate change can be understood as a manifestation of destructive politics, which developed from dysfunctional policymaking. Dysfunctional in the sense as contributing to social and environmental harm as the planet and people living in it experience a declining quality of life. In addition, with the over reliance on force and violence used to extract resources from the environment life is under threat on a planetary scale as the politics of destruction embraces a culture of death. The byproduct of this process is the quality of life on the planet continues to decline accelerating destruction of life on a planetary scale there is a troubling increase in the indifference to human suffering. Such destructive politics exists so long as decisions about the environment made through the lens of policymakers who manifest an authoritarian mind set.

NOTE

1. Samuel Sambursky, *The Physical World of the Greeks* (Princeton: Princeton University Press, 2014) p. 159.

Chapter 2

The Science of Climate Change

Humankind has two choices as to how to interact with the environment to be in harmony or to conquer. The science tells us humans have chosen to conquer the environment. The clear consensus from the scientific community is that there is ample evidence that climate change is underway. The prominent science organizations around the globe have issued public statements declaring the reality of climate change. These various studies on climate change conducted by these institutions in the United States and around the world are subject to the peer review process in which the findings are examined by external experts throughout the research process and are available and open for review by the public.

As early as the nineteenth century, scientists were concluding that specific gases would trap heat: for example, in the 1850s, Eunice Foote published the results of experiments that explained how carbon dioxide traps heat from the sun. John Tyndall elaborated on her findings and concluded that carbon dioxide in particular, can hold on to and transfer heat from these gases. In a major research study, in the late nineteenth century, Svante August Arrhenius came to the conclusion that the burning fossil fuels could become a major source of carbon dioxide emissions. In his later study and assessment of the effects of carbon dioxide on the climate, he concluded that Earth's temperatures would rise.

Since the middle of the twentieth century, scientists at the Mauna Loa Observatory in Hawaii have documented the amount of carbon dioxide in the upper atmosphere. The recording of these levels was done under the direction of Charles Keeling of the Scripps Institute of Oceanography in what became known as the Keeling Curve. In addition, scientists began to track the rise in surface temperatures, using satellite data, indicating that the Earth is warming. Since 1880, average global temperatures have increased by 2.2 degrees Fahrenheit. The greatest changes have impacted the Arctic, which has warmed by 4 degrees since the 1960s. However, the increase in surface temperatures alone does not reveal the full extent of climate change. What is

not immediately visible is the impact of the ocean absorbing 90 percent of the heat emitted by greenhouse gases. What is visible is the shrinking of glaciers and ice sheets along with rising sea levels. This is generating a feedback loop in which the diminishment of snow and ice allows land to absorb more heat with the additional energy contributing to further warming. Another aspect of this feedback loop is that warmer air contains more moisture, allowing the atmosphere to hold more water vapor, which in turn contributes to increased rainfall and flooding in certain regions. From samples of ice sheets, scientists using carbon dating have determined that levels of CO2 from the burning of fossil fuels have dramatically increased since the dawn of the Industrial Revolution. From 1750, atmospheric concentrations of carbon dioxide have increased by close to 50 percent. The sampled ice sheets also reveal the increase in the extensive presence of greenhouse gases associated with industrialized agriculture. The science also tells us that for hundreds of thousands of years the carbon dioxide concentrations have varied between 180 ppm during ice ages and 280 ppm during warmer times. At present, carbon dioxide levels have reached 420 ppm, their highest in millions of years. This uptick coincides with the increased burning of fossil fuels since the Industrial Revolution.

While global warming is the common term used to explain climate change, a more accurate description of what is happening is a global perversion of the climate, the increasing incidence of extreme global events. These freakish events are appearing with greater frequency, with ever greater periods of abnormally high temperatures. Various climate models are projecting that by 2040, heat waves will persist throughout the globe causing heat related fatalities. With a changing climate, droughts are creating vast areas of what had been productive agriculture into deserts. With warmer winters, days of record high temperatures are outnumbering days with record lows. Rising temperatures translate into heating and drying forests, triggering extensive wildfires that burn hundreds of acres out of control.

This increase in extreme weather events adds up to a more dysfunctional climate on Earth, a global climate system that is no longer self-regulating and which is destroying life on the planet. Climate changes used to take millions of years to occur, allowing the Earth to adjust. However, extreme weather events are now taking place over a span of just hundreds of years. In this short period of time, a rapidly changing climate with its uneven effects is disrupting the planet's environmental harmony. In the North Atlantic, there has been a cooling due to a slowdown in the ocean's circulation due to the introduction of vast amounts of fresh water from a melting Greenland. The concern is that if this circulation of warmer water comes to a halt, this would reshape weather patterns throughout the world.

The oceans continue to absorb more heat from the warmer air, which holds more moisture, which in turn produces more hurricanes of a greater intensity. Coastal cities are at greater risk from these stronger storms. The geographic and political consequences of unchecked climate change are becoming more clear. Toward the end of the twenty-first century, climate change will clearly have uneven geographic consequences. At certain times, extreme heat waves make it too hot to venture outdoors in parts of the Middle East and South Asia, while Central America experiences severe droughts. Coastal cities in many parts of the world are being overwhelmed by rising seas. In contrast, parts of the upper Midwest, Canada and Nordic countries may benefit from an extended growing season.

Climate change, over time, will most likely accelerate global inequality. Developing countries in tropical regions subjected to rising temperatures and diminished crop yields will cause mass famine. Populations living in coastal areas in substandard housing will be among the most vulnerable. Even though developed nations can marshal the resources to confront the changing climate, even within well-to-do countries, the disadvantaged will suffer. People whose living or working conditions do not allow them, for example, to escape extreme heat, will suffer health consequences. Developed nations are not entirely immune. The effects of climate change on developing nations will also impact developed nations. For example, conflicts and political instability created by climate extremes within developing nations will lead to an influx of migrants seeking refuge in more developed nations. In addition, national boundaries do not prevent the spread of various infectious diseases that will result from a warmer climate.

While there are many unknowns regarding the extent to which the impact of climate change will be felt there is clear scientific consensus that the Earth is undergoing consistent and significant warming. It is not a question of whether or not the climate has changed over time. During the Ice Age, many parts of the planet froze. For 2.6 million years, the Earth has shifted between periods of extreme cold when the climate was 11 degrees cooler with huge ice sheets covering the North American and European continents and the post-Ice Age with the Earth experiencing mild temperatures. Nonetheless, these changes in the global climate took place over millions of years and were the result of variations in the Earth's orbit over ten thousand years, which affected the growth and melting of ice sheets.

American scientific societies agree that human activity is the primary cause of climate change. The American Association for the Advancement of Science found that 97 percent of climate scientists agree that human-caused climate change is happening. In its report, issued in 2016–2019, the American Chemical Society found that the Earth's climate is undergoing climate change due to excessive amounts of greenhouse gases in the atmosphere as

a result of human activity. The American Geophysical Union arrived at the same conclusion, citing scientific evidence that human activities are generating extreme emissions of greenhouse gases as the main cause for observed warming throughout the twentieth century. In support of the findings of the Intergovernmental Panel on Climate Change, the American Medical Association concurs that the Earth is in the process of undergoing the negative effects of climate change. In its 2019 report, the American Meteorological Society concluded that human influence is the dominant cause of observable warming in the latter part of the twentieth century. The changing climate is presenting significant risks to the well-being of nations, according to the American Physical Society. All of the following national scientific bodies agree that the global climate is warming due to the increasing concentration of carbon monoxide and other greenhouse gases in the atmosphere: the National Academies of Sciences, Engineering, and Medicine, (NAS) the National Research Council, the Intergovernmental Panel on Climate Change, the U.S. Global Change Research Program and the Geological Society of America. Worldwide, there are close to 200 scientific organizations that identify human activities as the cause of climate change.

The National Climate Assessment for the United States is the work product of independent civil service scientists whose research was not subject to the wishes of politicians. Consider some of the specific findings of the climate report and the national climate assessment is a troubling summary of the present and future trends. The United States summary report identifies areas impacted by climate change in communities, including the economic impact of interconnected parts of water health, indigenous peoples, ecosystems, agriculture and food infrastructure, oceans, tourism and recreation. Communities at present and in the future can expect to experience ongoing damage to ". . . infrastructure ecosystems and social systems which provide essential benefits to communities. Future climate change is expected to further disrupt many areas of life exacerbating existing challenges to prosperity posed by aging and deteriorating infrastructure stressed ecosystems and economic inequality."[1]

Effects on the U.S. economy associated with the rising temperatures and rising sea levels will impact coastal cities, damage important infrastructure and reduce property values in addition to damage to agriculture tourism and fisheries. What the report refers to as interconnected impacts is the multiple impact of climate change on ". . .water resources, food production and distribution, energy and transportation, public health, international trade and national security."[2] Regarding the impact on the quality and quantity of water, the report makes reference to challenges, such as changes in rainfall amounts, which increase the intensity of droughts as well as the uneven availability of water resources in the United States. Effects of climate change on health currently and in the future decrease air quality and increase the health impacts of

ozone pollution. The range of negative health effects include ". . .increased exposure to waterborne and food-borne diseases affecting food and water safety. With continued warming, cold related deaths are projected to increase. Climate change is also projected to alter the geographic range and distribution of disease-carrying insects and pests."[3] Vulnerable indigenous peoples are already suffering from the effects of rising temperatures impacting with negative consequences since their economies depend on agriculture fishing recreation and tourism.

The report summary on ecosystems and ecosystem services describes the interrelated environmental impacts in terms of what the report refers to as ongoing deterioration of interrelated specific systems from air, water, land-use, disease and tourism. Agriculture and food are affected by rising temperatures with the byproducts of extreme heat events creating greater incidences of drought; increased heavy rain falls are impacting crop production yields which the report indicates will decline with the association of decreased water availability, soil erosion and resources needed to control pest outbreaks. The scientists predict that climate change will produce more extreme weather events wreaking havoc on the aging infrastructure of U.S. energy and transportation systems. The expected increased power outages and disruptions in service along with road systems subjected to more flooding from heavy rains in combination with storm surges and rising tides will contribute to undermining the infrastructure. The impact of climate change on the ocean has started and will accelerate with severe consequences. The report summary identifies these effects: rising water temperatures, ocean acidification, retreating Arctic sea ice, sea level rise, high tide flooding, coastal erosion, higher storm surge, and heavier precipitation events that threaten our oceans and coast. These effects are expected to continue putting ocean and marine species at risk decreasing the productivity of certain fisheries and threatening communities that rely on marine ecosystems for livelihoods and recreations.[4]

There is the climate change impact on tourism and recreation. Across the various regions of the United States the report refers to the economic impact on. . . "coral reef-based recreation, winter recreation and inland water based recreation."[5] Each region will be eaffected differently. The decrease of snowfall will lead to a decline in winter recreation industry of the northeast, northwest and northern Great Plains. Land recreation is impacted by deforestation and greater wildfires. Throughout the report there is ample evidence of the already visible changes taking place due to the climate.

The causes of climate change understood in association with the increase in carbon dioxide and greenhouse gases accumulating in the air in the atmosphere preventing the heat from the earth surface from escaping producing the greenhouse effect. The science also tells us since the late nineteenth

century from the burning of fossil fuels, greenhouse gases have increased. Some of the other key findings in the report include the observed changes in the global climate. "Global average temperature has increased by about 1.8 from 1901 to 2016."[6] With no credible evidence for anything other than the release of greenhouse gases as the cause. Another key finding associated with climate change is not only the increase in sea levels and sea surface temperatures the oceans of the world are burdened with having to absorb 93 percent of the excessive heat from human induced warming.[7] The result is the oceans have become not only warmer and more acidic which challenges various forms of sea life including coral reefs which support marine life and is going through a process known as bleaching as the reefs turned white and eventually die a corresponding rise in global sea level.

The report identifies a rise of 7 to 8 inches since 1900 affecting the U.S. coast cities as well as many island nations of the Caribbean. The report also refers to the threat of rapid arctic melting due to a yearly average temperature, which is rising two times faster than global averages. As the permafrost melting increases, a far greater threat to climate change develops with the increased release of methane, which will amplify global warming.

The environment is an interrelated system in which one dysfunctional part impacts other parts of the system. Climate change affecting the land, sea and air impacts the survival rate of many species. Mass extinctions are taking place eventually undermining our quality of life. Consider the rapid decline of bee populations responsible for pollination, which impacts food production. The increase of toxic chemicals and climate change is decreasing bee populations. Warmer oceans are decreasing fish populations in combination with overfishing. The IPCC was a step in the right direction assuming a role do you want conference on the environment and development or earth summit in Rio de Janeiro 1992.

The three working groups represented a division of labor each assessed aspects of climate change. One working group considered the science of the climate. This group considered the impacts of climate change and how nations could respond. Another working group examined what are the possible options for mitigating and diminishing climate change. The IPCC report indicates it is emissions from fossil fuels that is the main cause of climate warming. The initial IPCC report issued in 1991 with the resulting earth summit paved the way for the development of the framework convention on climate change in 1994 which, in turn, came out of the Kyoto process as Phase 1 which began in 1998.

The framework convention on climate change or phase 2 from 1995 to 1997 centered on implementation of the FCCC from 1997 to 2004. Not surprising, there was much negotiation and resistance to the proposal to curb omissions from the oil producing regions. Overall, the goal of the Kyoto

protocol is to lower emissions of carbon monoxide. The horse trading centered on the emissions trading scheme or ETS. In specific articles, the Kyoto protocol identified how countries would fulfill the objectives collectively. There was a provision which allows countries to store or bank unused emissions. An allowance was made for emissions credits for countries which took action to reduce omissions. In addition, countries could earn additional emissions reductions through participation in a clean development mechanism program. Each country was to assume responsibility for the omissions generated. A key provision included three elements: a cap and trade program, joint implementation, and a clean development mechanism. The protocol had a built-in flexibility as to when developed and developing countries should commit to meeting emissions reductions. The sticking point was ratification when United States, Canada, Japan, and Australia saw exceptions to the agreement. The targets established by the Kyoto protocol call for an average of 5.2 percent reductions to 1990 levels as of 2012. By 2012 the majority of the signatories failed to meet the target.

Seeking to advance the Kyoto protocol brought nations to meet in Copenhagen in December 2009 as the largest international conference with close to 27,000 people, including 10,500 delegates from 190 countries over 120 government officials. By December 2011 ". . .141 countries which account for about 87 percent of global greenhouse gas emissions had pledged under the provisions of the Copenhagen accord to limit the omissions by 2020."[8] In spite of this commitment in principle the end result was the Copenhagen conference was a failure to adapt a goal to reduce global temperature below 2°C. A modified agreement in 2010 in Cancun allowed for the continuation of the Kyoko protocol to remain in place with a dilution of the obligation on the part of developed countries to reduce greenhouse gas emissions and increase the use of carbon trades and financial incentives to developing countries to lower their omissions.

In an effort to keep alive the Kyoto protocol until 2020 the conference which took place in Durban South Africa from November 25 to December 11, 2011 the European Union and developing nations advocated more ambitious reductions in emissions but progress to this goal was resisted by the United States, China, India, Brazil and South Africa. At the same time, wholesale destruction the environment continues to undermine life on the planet. If this trend continues, there would be a blind acceptance of what amounts to an increasing culture of death as global suffering and the corresponding decline in the quality of life. The course of climate change unless there is a radical halt in the upswing of warming the planet's temperature could rise by as much as 4°C by the year 2100. "According to some estimates that would mean the whole regions of Africa and Australia United States parts of South America north of Patagonia and Asia south of Cyberia will be rendered uninhabitable

by direct heat deforestation and flooding."[9] What makes climate change such a threat is the associated environmental and human impacts.

This process of conquering the earth has resulted in an environment that is increasingly dysfunctional. By degrading the harmonious balance which made for a functional environment instead there was disharmony which is destructive. Each part of what has been in harmony is in the process of breaking down. There is ample evidence of how a hotter world out of balance results in an overall decline in the quality of life and an upswing and death rates. The world is on the move more so with a change in climate as the hotter climate displaces millions from the "UN projection of 200 million climate refugees by 2050."[10]

All the interrelated parts of the environment, land water and air are increasingly thrown off balance by climate change. There is no certainty as to how much the planet will be harmed according to the various models. The models tells us what to expect within a range of temperature increase. . . "2° the ice sheets will begin to collapse 400 million people will suffer from water scarcity major cities in the equatorial band of the planet will become unlivable and even in the northern latitudes heat waves will kill thousands each summer. At 3° southern Europe would be in permanent drought and the average drought and central America would last nineteen months longer and then the Caribbean twenty-one months longer. In northern Africa the figure is sixty months longer five years. At 4° there would be 8 million more cases of dengue fever each year in Latin America alone and close to annual global food crisis."[11] These troubling possible scenarios point to the ripple effects and feedback loops of increasing climate events. As the polar ice caps melt there is a decrease of sunlight which reflects back and therefore more is absorbed making the planet war even faster. As the planet continues to warm there is an increasing amount of water vapor which in turn is a greenhouse gas contributes to increasing warming. A warmer planet means a dramatic increase in heat waves such as the one in 2015 in India and Pakistan which killed thousands.

Environmental decline means human decline from death by hunger will also increase. To grow sufficient amounts of food requires an optimal temperature. As the world's population increases so does the need for food. Each part of the environment necessary for food production is being undermined. Climate change creates a challenge from insects which decrease crop yields. Soil erosion is reducing the available land needed to go food. Global meat and dairy markets demand large amounts of water, feed and land. Animal farming emits toxic methane into the environment contributing to global warming. A hotter world is a world plagued by drought which in combination with soil erosion creates a gulf between what can be produced and global demand. From land to the sea climate change order is the boundaries land loss with

the rise of sea level will cause dislocations and along with it severe economic consequences. One such example is the impacting of the waste and pollution caused for example on the Pearl river delta region of China as. . . "Most of the smart phones we used to navigate it today manufactured in the Shenzhen with sitting right in the pool with a delta is likely to be flooded."[12] The dislocation and economic impact would be most severe when you consider that. "Nearly 2/3 of the worlds' major cities are on the coast—not to mention its power plants, ports, Navy bases, farmlands, fisheries, river deltas, marshland, and rice paddies. . ."[13] Disruptions to the global economy and increasing dislocations take place due to inland flooding.

The social and economic cost would be catastrophic when taking into account these parts of the United States, which are subjected to rising sea levels. "More than 90% of Florida will disappear leaving only a few hills in the panhandle and just under 97% of Delaware would be submerged. Oceans would cover 80% of Louisiana, 70% of New Jersey, and half of South Carolina, Rhode Island, Maryland, San Francisco, and Sacramento would be underwater as well as New York City, Philadelphia, Providence, Houston, Seattle, and Virginia among dozens of other cities. In many places the coast would retreat by as much as 100 miles. Arkansas and Vermont land like today would become coastal."[14] The interrelated acceleration of climate change is due to policies which decrease the Earth's ability to absorb the effects of climate change. The combination of deforestation and the increase of wildfires reduce the ability to mitigate global warming. The most striking example is the reduction of the Amazon, which has been a major absorber of carbon emissions. The political fallout of climate change is destructive and how nations will have to adapt in ways that increase human misery and death.

In the global struggle to secure scarce resources whether it is energy, food, and water nations especially those in the developed world are willing and able to wage war in order to secure these precious resources. As the world's sole superpower with a clear global military presence, the United States has a vested interest in acquiring its energy needs. Overcoming resistance from other countries means putting in place friendly governments and putting down resistance by the use of counterinsurgency techniques by U.S. special forces. On a global scale, mass violence is the terrible social toll is nations respond to climate change. The scope and scale of violence develops as contingent and situational in terms of the needs of nations. The expectation is that in response to food and water shortages it will be spontaneous riot and social unrest. At the extreme end, mass killing expressed as genocidal practices should be expected. With competition for scarce resources the physical annihilation of segments of the population would not be surprising. By itself climate change does not cause genocidal practices but in the desire to obtain scarce resources and acquire other valuable ones it creates the justification to

commit genocide out of a necessity to scapegoat certain population segments as responsible for the difficult life conditions.

They have been and the world should expect water wars. Nations have gone to war what is regarded as a vital energy interest from water to oil. Mass migration is a response to environmental changes issues such as environmental degradation increasing levels of soil salinity and densification ". . .of forcing those in impacted areas to leave for better regions."[15] The often violent hostility to immigrants and the rise of nationalist hatred is a response to the mass migration of people fleeing environmental change, often targeting people of color from the developing world. Climate change unfolding as a global struggle between two basic principles that which determines human existence that which is supposed to affirm and rich life and that which undermines and lead to the destruction of it.

As the destructive aspects of climate change accelerate, humankind must either seriously address climate change in order to promote life or allow climate change to continue on its current course. There is a global struggle between Eros and Thanatos, one which promotes life and the other, which promotes the opposite. Freud refers to these instincts, "This aggressive instinct is the derivative and the main representative of the death instinct, which we have found alongside of Eros, which shares world-dominion with it. It must present the struggle between Eros and death, between the instinct of life and the instinct of destruction, as it works out in the human species."[16] Eros and Thanatos also symbolize the difference between living in harmony with the environment as the pursuit of rational, ethical ends compared to destroying the environment motivated by irrational self-interest.

To protect the environment, policymakers would have to pursue rational ethical ends which amounts to doing little to no harm to the environment. The destructive politics associated with climate change amount to the conquest of the environment which Nietzsche explains as "A desire to overwhelm reforming shaping and re-shaping until at length that which has been overwhelmed has entirely gone over into the power domain of the aggressor."[17] Nietzsche, like Freud, describes a social psychology that characterizes climate change ". . .takes the form of self destruction the instinctive selection that's which must destroy. The will to destruction as the will of a still deeper instinct, the instinct of self-destruction, the will for nothingness. . ."[18] It is this use of power as an instrument used to dominate nature is destroying the environment and amounts to a regressive drive to undo in environment which has been in balance prior to human intervention. And its most extreme manifestations climate change with increasing destruction of the planet involves embracing the destruction of humankind.

There is no denial of death, which one would expect as a basic psychological issue for humans instead death and destruction are accepted as the

environment is being destroyed. The idea of death and the death of the environment is not repressed instead a culture of death is unleashed. As the environment continues to be degraded it was also denial that climate change is real faced with the anxiety of life on a planetary scale the idea is simply to deny the decline of life. Denial of climate change amounts to humans who repress their decline and death in association with the destruction of the environment. It's also a failure to equate climate change with the demise of humankind. When the environment is not protected the affirmation of life is weakened and the tendencies towards destruction of the environment are enhanced. Existing side-by-side the affirmation of life and destructive impulses often in conflict not usually in balance. When life-affirming activities are weakened, the quality of life is undermined and along with it, consequences for the environment. Civilization is thus threatened, ". . .in which the death instinct strives to gain ascendancy over the life instincts."[19] When irrational self-interest prevails, the preservation and protection of the environment is under threat. Climate destruction is equated with the passion driven self-interest of Hobbesian man.

Anti-democratic control over energy resources by the coal, gas, and oil industries is associated with the politics of authoritarianism. As a decision-making process, authoritarianism expresses the intent to exercise power and the ability to impose sameness to minimize diversity and produce political conformity. Authoritarianism functions in accordance with the issuing of commands by the imposition of will. Authoritarian political norms reproduce the conquest of the environment. This authoritarian impulse works to ensure that energy industries maintain a monopoly over the control of energy resources. This tendency to extract these resources regardless of the environmental consequences illustrates the aggression which characterizes the authoritarian mindset of these industries. By continuing to secure fossil fuels energy industries have put in place a rigid set of priorities. With implications for governmental decision-making, this authoritarian control over energy resources as for the sole purpose of maintaining a monopoly over the use of fossil fuels.

Western powers interested in the Middle East oil such as the United States maintain ties to Iran and Iraq and support, so long as they provide access to oil. There is no room for Rousseau's general will as energy industries pursue a particular will and the pursuit of fossil fuels. The ideology of energy industries as they impose their private will is to present their self-interest as the expression of general will. As the visible effects of climate change are becoming more difficult to ignore, the fossil fuel industries aim to discredit possible climate change remedies. The ideology employed bears a striking resemblance to Bentham's reference to political fallacies. Among the various fallacies, such as begging the question, is an example of how the fossil fuel industry addresses climate change issues with responses that tend to confuse

the issue and avoid any discussion of genuine solutions. Vague generalities are a means of avoiding specificity, and proposed climate change solutions are presented in abstract terms. Consider the much-publicized statements made by the billionaire class of Richard Branson, Warren Buffett, Michael Bloomberg and Bill Gates. Branson came forward to volunteer that monies would be diverted from profits made at the expense of the planet towards technology which is planet friendly. He went on to advance the idea of a $25 million prize from his company as the virgin earth challenge to the inventor who are devise the means to remove carbon from the atmosphere. There was to be a carbon war room from which industry leaders would brainstorm how to both reduce emissions and cut costs ". . .in 2010 for years into the pledge Branson told The Economist that we had so far only invested two or 3 million in clean energy."[20] Applying Bentham's vague generalities to Branson's so-called commitment to climate change solutions reveals his real motives for grand statements in which he appears as a responsible corporate citizen while in the pursuit of profits. In the years after his climate pledge, Virgin Airlines greenhouse gas emissions soared approximately 40 percent. "Virgin Australia's emissions jumped 81% between 2006 2007 and 2012 and 2013 a Virgin Americas emissions shut up 177% between 2008 and 2012."[21]

Another member of the billionaire class Warren Buffett engaged Bentham's vague generalities as he began to make statements about the seriousness of global warming. Unlike Branson, who made bold economic commitments, Buffett didn't put his money where his mouth is. What amounts to nothing more than a PR stunt, Buffett continued to follow the logic of capital in pursuit of profit maximization. He purchased ". . .several coal-burning utilities and holds large stakes in Exxon, Mobile and tar sands giant Suncor."[22] Bill Gates employs two of Bentham's political fallacies: allegorical idols and sweeping classifications. Gates advances what scientists call untested and problematic environmental solutions as he makes the rounds of the talk circuit using R&D money to discover energy miracles, such as not yet invented new forms of nuclear reactors. Gates promotes the idea of building giant machines that he suggests nations can use to remove massive amounts of carbon from the atmosphere. He advocates spending R&D money to develop technologies to block sunlight. At the same time, he soured on the use of available and proven renewable technologies.

T. Boone Pickens adheres to Bentham's fallacy of begging the question. With his Pickens plan, unveiled to much advertising fanfare, the message was that energy sources have to move away from fossil fuels and turn towards alternatives like wind and solar power. Bloomberg did put his money where his mouth is in terms of donations to the Sierra Club and the Environmental Defense Fund. Bloomberg's carbon risk valuation tool provides data analysis to its clients about how fossil fuel stocks would be impacted by a range of

climate actions. In addition, ". . .he helped set up Willet Advisors, a firm specializing in oil and gas assets for both his personal and philanthropic holdings."[23] As for Pickens, he was begging the question and believing that profits to be made with the natural gas fracking markets will take off and would benefit the environment. The environmental Pickens plan was transformed into a fracking Pickens plan. He did an about face, once he realized the scope of profits to be made from fracking. Not only were his statements supportive of using fossil fuels, but in conversations with reporters, he went so far as to question how serious human-caused global warming was and praised the tar sands and the Keystone XL Pipeline.[24]

Billionaire capitalists are a part of the larger picture of begging the question. On the upside, corporations engage in climate friendly capitalism in the recognition that climate change is real, so that capitalism can coexist with the environment. Consider Bentham's reference to allegorical idols: This amounts to corporations acting as authority figures, claiming to know what's best in order to eliminate further discussion. Capitalist billionaires use allegorical idols as well as sweeping classifications which according to Bentham are a means to halt discussion because those in authority are beyond reproach and not to be questioned. They also make use of Bentham's concept of popular corruption, the argument is to disregard the message because the messengers are environmental activists and not to be taken seriously.

Bentham is describing how those in authority such as policymakers in the energy industry discredit by an argument that the measures for addressing climate change are not rational or the viewpoints are highly speculative and even if the idea seems plausible it is not possible to put his ideas into practice. The goal of many of these fallacies as they are manufactured by supporters of the fossil fuel industry is to stereotype alternatives and mislead with the result of preserving the status quo. This fallacy is an appeal to custom and identifies deviation from the status quo as threatening. Policymakers who support the fossil fuel industry engage in what Bentham refers to as a fallacy of rejection instead of amendment. It has a goal to reject completely a proposal offhand and not to make changes which may strengthen the proposal. To remove climate change reform from consideration is to use such phrases as time is of the essence what amount to little to no time given to a specific reform, from what Bentham refers to as sinister self-serving interest. This is related to another self-serving argument used by the fossil fuel industry in relation to Authority prejudice or the idea of imposing their interest as being the only ones worth considering.

When one set of ideas dominates, it reduces the free flow of ideas. This dominance amounts to propaganda, ". . .which becomes the enemy of independent thought and an intrusive and unwanted manipulation of the free flow of information.. It's just the triumph of emotion over reason in a bureaucratic

struggle by the machinery of power."[25] The propaganda used to support the continued use of fossil fuels becomes a process of selection and often repeated distorted views. This practice very often in the use of the big lie is one of omission. In the struggle to maintain support for fossil fuels and as a means to retain power over the production and distribution of sources of energy. The production and reproduction of propaganda when used effectively, undercuts reason, serving to make people act without critical insight to benefit a particular point of view. All propaganda is deliberate so that there is social conformity to think and act one way the desired way those who disseminate the information. Propaganda for the benefit of those who control the process of information production. One such example of propaganda is the dissemination of the idea of societal dependence on the permanent use of fossil fuels.

Machiavelli and Hobbes are correct in their understanding of how peoples' emotions can be manipulated for a political end, for propaganda's primary appeal is to the emotions. The fossil fuel industry has had an effective campaign and the selling of coal, gas, and oil as essential to us as consumers. It is related to products advertised and associated with the use of these energy sources. This selling of these energy sources through the use of propaganda transmits messages that are scientific in nature. The success of propaganda is how it's functions as a body of knowledge or developed as time tested rules and procedures. For propaganda to work it must reach a mass audience. Most effective means to accomplish this goal is by the use of technological means through the use of the media. The scientific aspect of propaganda is constructed on the importance of it being ceaseless. Propaganda can function as being ever present when people become receptive as a captive audience in specific settings where they are unaware of the effect of propaganda. Propaganda which is not so obvious is when the messages tend to obscure who is the messenger. To achieve the aims of propaganda, it must fill up peoples' minds in such a manner that the frame of reference is dominated by the messages coming from the propagandist. Hardly something spontaneous, propaganda functions always in the context of institutional settings, which explains why the production of propaganda flows from the media and policymakers in government and corporate America. The social psychology which propaganda seeks to shape is accomplished as it creates a conditioned reflex through which an audience is conditioned to respond to key images and associations. Understood in a historical context, production of propaganda is never fixed and is always changing as to what techniques would work in specific points in time. Never losing sight of the overall goal of propaganda, it serves a particular self-interest and is contrary to the idea of a common good and ". . .must not concern itself with what is best in man—the highest goals humanity sets for itself, its noblist and most precious feelings. Propaganda

does not aim to elevate man but to make him *serve*."[26] The self-interest of the fossil fuel industry disseminated as propaganda from the energy industry repeats the same message of our dependency on fossil fuels which is reemphasized in periods of scarcity. In many ways this form of propaganda amounts to the marketing of economic self-interest. It is also the relentless propaganda of market ideology which promotes the accumulation of capital as the inescapable nature of global capitalism. Often associated with this ideology is to disparage any move from fossil fuels towards alternative energy sources.

Official propaganda from corporate America was distributed by the 1987 Brundtland Report of the world commission on environment and development which on the plus side has acknowledged the impact of global economies confronted with finite natural resources which are in decline. Nonetheless the report argues it is essential to maintain economic growth in order to continue a high standard of living. A similar emphasis appears in the 1992 report changing course released from the 1992 business Council for sustainable development. It's conclusions where to continue with a global model from which market forces will provide for a sustainable environment. There is a matter of utilizing economic incentives to correct environmental challenges so the report goes on to express. Essential reforms are needed which would effectively regulate the global economy in particular nonpolluting technological inventions omitting any reference that a possible cause of climate change is the continued growth of capitalism. The authors conclude that the market should be self-regulating and will adapt in accordance to the purposes of enlightened capitalism. This conclusion fails to take into account the dictates of capitalist economies centered on profit maximization. It is puzzling that in their support for free market capitalism how this would motivate capital to provide both social equity and protecting the environment.

This kind of reformist capitalism functions in relation to a climate conscious capitalism. There is an admission of the reality of climate change from corporations such as BP, Dupont, Morgan Stanley and others who established the Partnership for Climate Action and the Business Environmental Leadership Council, which has outlined "seven categories of climate change mitigation strategies that many multinational corporations are embracing: (1) investing in renewable energy sources; (2) improving energy efficiency; (3) encouraging employees and consumers to reduce their personal emissions; (4) developing technologies for sequestering CO2; (5) shifting to biofuels; (6) carbon offsetting; and (7) influencing national and international climate policy making."[27]

This is not to say that there are not divisions among oil companies over climate change. These divisions were expressed during the "Coping with

climate change" conference organized by the UK Geological Petroleum Group in 2003. On one side of the debate are U.S. auto companies who question the science of climate change in contrast to European oil companies who acknowledge the role that climate change plays in impacting the quality of life on the planet. Various corporations support reforms so that they can appear as responsible corporate citizens and not just motivated by the profit motive. The same corporations do not see a contradiction between profit making and environmental protection in their support of common trading. One such example would be the use of carbon sink credits, which are popular in the voluntary carbon market. Variations of corporate climate reformist politics presented as a green new deal also seeks to function in the context of a capitalist economy. One such example was a conference organized by the United Nations Environmental Programme to consider a global green economy whose goals are to accept climate change and develop proposals to create green jobs. Proponents argue such a program would limit the use of carbon emissions and maintain living standards but they do not consider the viability of these goals or how they are possible in a capitalist economy driven by the necessity to expand production and consumption which in turn, contributes to climate change. These and other proposed reforms would if they had any chance of succeeding would have to be profitable in the long term. These climate reformers stress the importance of sufficient state support for climate initiatives. Opposed are the climate libertarians whose goal is to prevent market interventions from policymakers and to seek unlimited growth which is often expressed as climate denial. Advocates of pure climate denial reject any responsibility for climate change as a result of human activity. In contrast, a modified denial position accepts a causal relation to climate change and energy policies, but maintains climate changes leads to tangible global benefits.

The arguments presented are not supported by unbiased objective science. Much of the research monies comes from libertarian capitalist foundations such as the Heritage Foundation, the Cato Institute, Heartland Institute and the Competitive Enterprise Institute. When push comes to shove, the dynamics of capitalist economics put profits over environmental protection.

NOTES

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6. Ibid., p. 64.
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8. Hans Baer, *Global Capitalism and Climate Change: The Need for an Alternative World System* (Lanham, MD: AltaMira Press, 2012) p. 134.
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10. Ibid., p. 8.
11. Ibid., p. 14.
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14. Ibid., p. 75.
15. Alex Alvarez, *Unstable Ground: Climate Change, Conflict and Genocide* (New York: Rowman & Littlefield, 2017) p. 127.
16. Sigmund Freud, *Civilization and Its Discontents* (New York: Norton and Co., 1989) p. 82.
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18. Ibid., p. 37.
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20. Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (New York: Simon & Schuster, 2014) p. 240.
21. Ibid., p. 243.
22. Ibid., p. 234.
23. Ibid., p. 235.
24. Ibid., p. 237.
25. Philip Taylor, *Munitions of the Mind: A History of Propaganda from the Ancient World to the Present Day* (New York: Manchester University Press, 2003) p. 1.
26. Jacques Ellul, *Propaganda: The Formation of Men's Attitudes* (New York: Vintage Press, 1973) p. 38.
27. Baer, p. 153.

Chapter 3

Pre-Industrial Climate Change

The International Geosphere-Biosphere Programme (IGBP) was formed in 1987 to organize research on what scientists had referred to as global change. In February 2000, a meeting of the IGBP was held in Cuernavaca, Mexico. The scientists at this meeting understood global change to mean not just climate change but to include how human beings interact with the environment. An emphasis during the meeting was to arrive at a consensus of global changes in the environment over time in particular during the Holocene epoch, the term geologists give to the warm interglacial time 11,700 years ago. Paul Crutzen, who was awarded the Nobel Prize for his research on the ozone layer, was troubled by the repeated references to the Holocene especially in relation to global changes in the climate due to human actions. Crutzen proclaimed to others in the meeting: "We are in the Anthropocene." In collaboration with ecologist Eugene F. Stoerner, who also made reference to the Anthropocene in various lectures, Crutzen published in the March 2000 issue in the IGBP newsletter an explanation that the current period of the Anthropocene is one in which human actions are in the process of reshaping the environment that will have long-term consequences.

Crutzen and Stoerner argued that the Anthropocene began at the start of the Industrial Revolution, associated with the upswing in greenhouse gases recorded in ice cores taken from Antarctica. What followed was supporting research and evidence in highly respected scientific journals. Jan Zalasiewicz, a geologist at the University of Leicester in England, who along with other researchers, was investigating the concept of the Anthropocene with the support of the Geological Society of London, arrived at the same conclusions expressed by Crutzen and Stoerner. It is important to keep in mind the historical links between the advent of the Anthropocene and what had preceded it. It is only half the story to identify the start of the Anthropocene with the Industrial Revolution. While global climate change begins with the Industrial Revolution, human beings were altering the environment prior to the Industrial Revolution. Over a hundred years earlier,

> . . . in 1661 polymath John Evelyn wrote of London air as a cloud of sea-coal, as if there is a resemblance of hell upon Earth. . .This pestilent smoak, which corrodes the very yron and spoils all the movables, leaving a soot upon all things that it lights: and so fatally seizing on the lungs of the inhabitants, that the cough and the consumption spare no man.[1]

Evelyn wrote his book so that Charles II would recommend planting trees so as to diminish polluted air. Another author Stephen Hales writing in 1727 in his book Vegetable Staticks sought to prove that deforestation was changing the local climate. Comte de Buffon writes in 1778 of nations acting to ravage nature, taking from nature, exploitation of nature's bounties without any concern over how to renew what had been taken. Charles Fourier wrote in 1821 about the material deterioration of the planet, the necessity of a planetary medicine so as to heal the damage caused by harm to the environment.

The roots of the Anthropocene date back to the agricultural revolution. By the end of the last ice age, as the ice receded, introducing a warmer earth slowly over time, humans would begin to domesticate plants. It involved taking advantage of and capturing the sun's energy to create agriculture, setting the stage for permanent human settlement and a planet dominated by humans. Agriculture began to appear in Southwest Asia, South America and Central East Asia starting around 10,500 years ago. "The most recent evidence suggests there were at least fourteen independent origins of farming cultures, probably seventeen, and possibly as many as twenty-one."[2] It was a combination of factors that made agriculture possible. Stable, warmer temperatures, sufficient rainfall and elevated concentrations of carbon dioxide were essential, but these elements weren't present in all places at all times.

Agriculture had ripple effects, it increased populations and transformed more land for human use and needs. One environmental impact of agriculture was that "the greenhouse gas emissions resulting from farming offset the long, global cooling seen in previous interglacials. This new way of living helped generate a period of climatic stability lasting thousands of years."[3] While global climate begins in connection with the Industrial Revolution, there are historical examples of a degrading environment at the regional level. Before the Industrial Revolution, the means by which the environment and the climate were altered was through land use. With the spread of the agricultural revolution, farming emitted significant amounts of CO_2 and methane into the atmosphere, which prevented the next ice age. Early humans began what became a long, historical relationship with fire. There are a multitude of ways that fire impacts climate. If fires lead to a shift from forest cover to grasslands, the result is changes in carbon storage and evapotranspiration, the process by which water from land, soil and plants reaches the atmosphere. By adding aerosols to the atmosphere, fires restrict cloud formation and lead

to longer dry seasons, which creates a feedback loop, increasing, in turn, the likelihood of fires.

Human interactions with the environment can be understood with Max Weber's characterization of rationality as actions governed by well-thought-out calculations. Ends are to be achieved by efficiency with the use of rules, which seek to control uncertainties. Overall, Weber is defining practical rationality. While he associates rationality with the appearance of a capitalist economy, pre-capitalist societies also made use of practical rationality. In addition, instrumental rationality, which serves self-interest in both pre-capitalist and capitalist societies, results in assaults on the environment. Instrumental rationality emerged over time after the dawn of the agricultural revolution.

Natural resources, in particular, mineral deposits known as pit coal were extracted during the Middle Ages. People in medieval Europe understood that pit coal as it was used "poisoned the air."[4] Throughout the middle ages and during the Renaissance, there was a blatant disregard for conservation. Italy had ". . .exhausted her forest reserves. . . In Lombardy, the area covered by trees was reduced to less than 9 percent of the whole rural territory by 1555."[5] In northern Italy, in the town Finale, a citizen filed a lawsuit ". . .against the manufacturer and demanded that he should move his workshop outside the town to some other place, on the ground that he poisoned the whole neighborhood whenever his workmen roasted vitriol in the furnace to make sublimate."[6]

Such instrumental rationality produces irrationality by harming the local environment leading to harmful social consequences. Inside the dense cities, there were clear indications of a breakdown of the infrastructure. From unsafe drinking water drawn from water wells to the total lack of hygienic faiclities, a breeding ground was created for waterborne diseases related to the unsanitary disposal of human waste. It was all too common for the streets to serve as public toilets and it wasn't uncommon for all kinds of waste to be carelessly tossed or thrown into the streets without regard to passersby.

The threats posed to workers by unsafe environmental practices provide more evidence of instrumental irrationality, for example with miners,

> Whatever metal they mine they invite dreadful diseases . . . Gilders . . . what terrible maladies are contracted from mercury by goldsmiths, especially by those employed in gilding silver and copper objects . . . Potters . . . their mouths, nostrils and the whole body take in the lead poison . . . their hands become palsied, then they become paralytic, splenetic, lethargic, cachetic and toothless . . . Sulfur . . . does serious harm to those who roast and liquiefy it or use it in their manufactures . . . Farmers . . . they are distressed . . . by the incessant stink and foul exhalations; one can see then with cadaverous complexions, swollen bodies, ghostly looks, and oppressed breathing . . . Glass workers during the process

> of making glass vessels the men stand continually half-naked in freezing winter weather near very hot furnaces . . . they are liable to diseases of the chest . . . pleurisy, asthma and a chronic cough. . .[7]

In various local and geographic locations, human populations were exploiting and causing harm to the environment but that harm would become exponentially worse starting in the late seventeenth century, with the spread of epidemics. The most frequent and severe of these epidemics were typhoid fever, typhus, dysentery, plague, influenza and the notorious Bubonic plague. Between 1348 and 1351, a plague epidemic killed twenty-five million people out of a European population of 80 million.

Prior to the Industrial Revolution, the global environmental impact of human intervention was limited by the availability of land. But it wasn't long before the technological advances allowed for increased geographic exploration. During the fifteenth to the seventeenth centuries, superior military technology and the development of the sailing ship would result in a greater reshaping of the environment. Alteration of the physical environment brought with it changes to the people inhabiting that environment. This period is called the age of exploration but it is more accurately called an age of European imperialism, characterized by European contact with non-Europeans, which unfolded as a process in which the former was destroying the way of life and even the existence of the latter. One example was the encounter between Native Americans, who had lived in North America for twelve thousand years and Europeans. Throughout this unequal interaction, the European conquerors imposed by force a way of life foreign to the native people. The Spanish historian Bartolomé de las Casas documented in his diary how the arrival of Columbus in what is now Haiti and the Dominican Republic imported diseases with which the native populations had had no immunity against. In addition, the eventual enslavement of the native population as well as genocide and ethnocide would reshape the physical environment of the conquered land. This pattern was often repeated. In August 1519, Cortes conquered the city of Mexico-Tenochtitlan, which is now Mexico City, after a seventy-five day siege, which brought with it mass starvation and disease. Cortes claimed the city for Spain. In making contact with the Incas in Peru in 1526, another Spanish conqueror, Pizarro, brought a smallpox epidemic that so weakened the Incas that it lost half its population and was conquered. "The arrival of Europeans in the Americas probably killed about 10 percent of all humans on the planet over the period 1493 to about 1650."[8]

Population shifts were also having an impact on the environment. In writing Ecological Imperialism, Alfred Crosby explains in detail the various environmental implications of massive population shifts. "Between 1820 and 1930, well over 50 million Europeans migrated to the Neo-European lands

overseas. That number amounts to approximately one-fifth of the entire population of Europe at the beginning of that period."[9] The enormous population transfer of Europeans to the New World, motivated by various factors including profitable new colonies, places to send surplus populations, the need for cultivable land and new technologies propelled the Europeans to re-create a physical environment like the ones they had left. They sought to acquire and shape the physical environment of lands with temperate climates, for example in the Azores, they were, as Crosby put it 'Europeanizing' them, introducing livestock as they had done elsewhere.

Reshaping the physical environment also included introducing new crops; this was done in Madeira to such an extent that Madeira became the world's largest sugar producer. Once the Europeans conquered an island, they proceeded to remake it so that it would become profitable. But it wasn't just a matter of profit, the remaking of the environment was also driven by the need to re-create European culture and a European way of life. They imported food and livestock from Europe. In the Canary Islands, sugar played a key role as a profitable commodity that also brought about changes in the ecosystem. Thousands of workers, both free and enslaved, were imported to work in the cane fields in order to expand sugar production. Forests were cleared to pave the way for more cane fields. Extensive deforestation brought about soil erosion and less rainfall.

This is not to say that the Europeans were always successful in reshaping non-European lands, though it wasn't for lack of trying. Tropical Asia, for example, was well-suited to resist European intrusion due to its wet and humid climate; Europeans were also repelled by local disease and unfamiliar plant and animal life. While Europeans sought to reshape the African ecosystem, the physical environment was at first too hostile, before technological advancements made conquest possible. An ecosystem can present a natural barrier to would-be colonizers who have no defense against local diseases. "West Africa's most effective defense against Europeans was disease: black water fever, yellow fever, breakbone fever, bloody flux and a whole zoo of helminthic parasites."[10] Yet overall, the historical record indicates that Europeans have been largely successful in imposing European-style agriculture in the places they conquered. Putting aside military conquest, the long-term viability of European conquest has often amounted to importing plants, in particular weeds, that allowed for the growth and expansion of European agriculture.

Conquering nations impose their ways of life on the nations they are conquering, changing the local environments in the process. They also impose new social systems making use of instrumental rationality in the pursuit of self-interest. But while extensive use of force and violence play key roles, imperialism also succeeded due to the introduction of new diseases from one

part of the world to another. "Smallpox first crossed the seas of Pangaea—specifically to the island of Espanola—at the end of 1518 ore the beginning of 1519, and for the next four centuries, it played as essential a role in the advance of white imperialism overseas as gunpowder."[11]

Over time, with global interactions increasing, ecosystems become integrated: resources are shifted from North to South and new crops, plants, animals and deadly diseases are introduced to new regions. Crosby refers to this as the Columbian Exchange which leads to global mixing and finally a homogenization of ecosystems. Despite its initial negative effects, it would have a long-term positive outcome, allowing people in many parts of the world to cultivate a wider variety of crops. This integration and homogenization of ecosystems has created a significant uptick in agricultural productivity since the start of the agricultural revolution. "Fields of the same crops across the world: Wheat in Europe and North America, maize in Mexico and East Africa. The same animals across the world: Pig farms in China and Brazil; cows in fields in England, Mexico and New Zealand."[12] Unlike what would unfold during and after the Industrial Revolution, the Columbia Exchange did not assault the global climate in the short run. In addition, it allowed adaptation and homogenization to take place in the ecosystem. On the other hand, the long-term effects of the Columbian Exchange resulted in spreading crops to other global regions, expanding agricultural output and leading to increased deforestation. As a result, it did over time, increase carbon dioxide emissions and has introduced land use practices that have contributed to warming the planet.

Ice core samples taken from the Quelccaya Ice Cap in the Peruvian Andes reveal evidence of air pollution in South America before the advent of the Industrial Revolution. "People were mining and smelting copper in South America as early as 140 B.C.E. and the Incas introduced the smelting of silver ore (which contains lead) in the 15th century C.E."[13] The process involved smelting metals in furnaces that spewed particles into the atmosphere, which eventually landed on the Quelccaya Ice Cap. The historical pattern continued with the Spanish conquest of South America in the sixteenth century, when the cause was ". . .probably the gigantic silver mine in Potosi, Bolivia, which exploited the planet's largest deposit of the precious metal throughout the colonial period and released unprecedented levels of lead and other metals into the South American atmosphere. Between 1450 C.E. and 1900 C.E., lead levels in the Quelccaya ice core nearly doubled, and the amount of the metal antimony in the ice increased 3.5 times."[14] The fact that this occurred hundreds of years before the Industrial Revolution indicates that dating the onset of the Anthropocene will vary from place to place. Regional climate change that did impact the global climate had, over time, a cumulative effect

remaining in the atmosphere, which in turn contributed to changing the climate during and after the onset of the Industrial Revolution.

Julia Pongratz of the Max Planck Institute for Meteorology conducted a study of early emissions with Ken Caldeira at the Carnegie Institution. They examined to what extent emissions remain in the atmosphere over a period of time ranging from centuries to millennia. Scientists also have studied carbon dioxide emissions in the atmosphere during industrialization. The period of 800 AD to 1850 AD is often overlooked, when the world's population quintupled to more than a billion. Along with this population explosion, came an expanding need for agriculture and deforestation. Scientists refer to trees as carbon sinks, by storing carbon dioxide, trees keep it out of the atmosphere. But once cut down, trees release the stored greenhouse gases. Pongratz and Caldeira constructed a vertical map of land use back to 800 AD in combination with climate computer models in order to determine to what extent land use changed the climate. "The researchers found that 5 percent of the total 'extra' CO_2 in the atmosphere—the emissions that wouldn't be there if humans weren't around to create them—date back to the preindustrial era before 1850. The percentage of preindustrial emissions for each region varies."[15] The study shows what remains in the atmosphere of the earliest human-produced carbon emissions. These pre-industrial carbon emissions, which resulted from massive deforestation as the Earth's population increased, amount to 9 percent of the current total of emissions, which is been warming the planet in the present.

In addition to the history of deforestation, humankind has relied on burning wood and in so doing, has been polluting the planet, which over time contributed to changing the climate and polluting the air in ancient Europe. "First it was wood fires in ancient homes, the effects of which have been found in the blackened lungs of mummified tissue from Egypt, Peru and Great Britain. And the Romans earn the dubious credit of being perhaps the first to spew metallic pollutants into the air, long before the Industrial Revolution."[16] Air pollution was a problem in ancient Rome. Its residents had nicknames for Rome's air pollution: gravieris caele or heavy heaven and infanis aer or infamous air. Well over two thousand years ago, Rome's legal system was considering civil actions over the effects of air pollution. The Roman Empire pioneered an ancient version of a Clean Air Act. Emperor Justinian in 535 proclaimed that Roman citizens had a right to clean air. He wrote, "by the law of nature, these things are common to mankind—the air, running water, the sea."

Arctic ice cores reveal the use of smelting in order to produce lead and copper. The byproduct of smelting lead caused a tenfold increase of lead in the environment. By 1200, "London had been deforested and a switch began to sea coal . . . As early as 1280 there were complaints about smoke from

burning coal."[17] (Morrison). In addition to air pollution, water pollution was a serious problem in Greek and Roman cities, which were known for their sewage-filled streets.

Prior to and during the Industrial Revolution, pollution was often non-industrial. The toilet was invented in 1596 by John Harrington, but it would be hundreds of years before they were in widespread use. Over two hundred years later, chamber pots were still in use and waste from them was emptied into the streets, turning streets into large sewers. In The Structure of Everyday Life, Ferdinand Braudel wrote: "Pigs were reared in freedom in the streets. And the streets were so dirty and muddy that they had to be crossed on stilts." Another example of non-industrial pollution appears in Laurence Stone's *The Family, Sex and Marriage in England 1500–1800*. "In towns in the eighteenth century, the city ditches were commonly used as latrines, butchers killed animals in the shops and threw the offal of the carcasses into the streets, dead animals were left to decay and fester where they lay; latrine pits were dug close to wells, thus contaminating the water. . ." Journalist Henry Mayhew described the condition of the Thames during the Industrial Revolution that contained such non-industrial pollutants as "ingredients from breweries, gas works and chemicaland mineral manufactories; dead dogs, cats and kittens, fats, offal from slaughterhouses, street pavement dirt of every variety; vegetable refuse; stable dung; the refuse of pig-sties; night-soil; ashes, tin kettles and pans . . . broken stoneware, jars, pitchers, flower-pots, etc.; pieces of wood; rotten mouton and rubbish of different kinds."

Moving forward from the past to the present, the historical record and various examples reveal the existence of underlying social systems, which are irrational. This irrationality continues to undermine and destroy the environment. This historical irrationality is not completely devoid of reason. Local, regional and global changes in the climate over time represent the utilization of instrumental reason in service of an obsessive goal to exert ever greater control over people and territory without regard to how the pursuit of this goal inflicts harm on the environment. Climate change in all its various manifestations is an irrationality that is not a total denial of the objective reality of a changing climate, it is a refusal to deal with this reality. An overriding characteristic is the absence of moral restraints with the goal of conquering the environment by any means, including violence. Alternative policies that protect the climate are met with suspicion and seen as a threat to those vested interests who are obsessed with the conquest of the environment. In what Richard Hofstadter refers to as a paranoid style, the historical destruction of the environment moves forward an obsession which shuts down the ability to consider various alternatives that are contrary to deeply held beliefs. The willingness to lash out with violence against any perceived threat is evidence

of this paranoid tendency and "is a confrontation of opposed interests, which are totally irreconcilable."[18]

The ongoing assault on the environment as irrational expresses itself as this inability to consider any perspective that reduces harm to the climate. At its root, irrationality is to be understood as a set of beliefs that are to be accepted in the absence of critical reflection. The irrational politics of climate change, which tend toward actions that are destructive moves in a direction toward nihilism. This drive toward non-existence involves cognitive dissonance expressed as a fixation on only a set of beliefs that serve to justify separating one's belief from an unacceptable reality. Consider this irrationality as also an unstoppable fixation toward an end regardless of the reality and consequences of specific courses of action. Irrationality is by implication the unleashing of extreme forms of violence, especially those that are genocidal. The historical record reveals evidence of how genocidal practices are destructive to the environment.

NOTES

1. Simon L. Lewis and Mark A. Maslin, *The Human Planet: How We Created the Anthropocene* (New Haven: Yale University Press) p. 23.
2. Ibid., p. 116.
3. Ibid., p. 145.
4. Carlo M. Cipolla, *Before The Industrial Revolution* (New York: W.W. Norton, 1994) p. 92.
5. Ibid., p. 93.
6. Ibid., p. 111.
7. Ibid., pp. 113–114.
8. Lewis and Maslin, p. 158.
9. Alfred W. Crosby, *Ecological Imperialism* (Cambridge: Cambridge University Press, 2004) p. 5.
10. Ibid., p. 138.
11. Ibid., p. 200.
12. Lewis and Maslin, p. 164.
13. Lizzie Wade, "Ice Core Suggests Humans Damaged the Atmosphere Long Before the Industrial Revolution," *Science*, February 9, 2015, https://www.sciencemag.org/news/2015/02/ice-core-suggests-humans-damaged-atmosphere-long-industrial-revolution.
14. Ibid.
15. Stephanie Pappas, "Nine Percent of Today's Warming Caused by Preindustrial People," July 3, 2012, https://www.livescience.com/21378-global-warming-preindustrial-revolution.html.

16. Jim Morrison, "Air Pollution Goes Back Way Further than You Think," *Smithsonian*, January 11, 2016. https://www.smithsonianmag.com/science-nature/air-pollution-goes-back-way-further-you-think-180957716/.

17. Ibid.

18. Richard Hofstadter, *The Paranoid Style in American Politics* (Cambridge: Harvard University Press, 1965) p. 38.

Chapter 4

Genocide and Climate Change

Over time, genocidal practices are associated with climate change. With reference to the scholarship on genocide, there is a general consensus that genocide is to be defined in relation to intent. Mass killing is intentional as what distinguishes genocide from mass killings from such causes as natural disasters, disease outbreaks or the unintentional killing of civilians during wartime. For actions to be considered genocidal, they are policies designed to lead to starvation, exposure to various diseases during relocation and forced labor. These policies force populations to alter their behaviors in such a manner so as to cause massive killing. Aerial bombing of civilians is a genocidal practice if the aim of the attackers is to cause massive killing. Forced marches or forced deportations are also genocidal if people are forced to go to a place without the resources to support life. These examples illustrate when perpetrators engage in deliberate and calculated decisions that they know will lead to the taking of the lives of vast numbers of unarmed human beings.

Once underway, the genocidal process is usually implemented by a minority consisting of various policymakers, such as government officials, heads of state, members of the military and paramilitary and police organizations, a minority that is well-organized, representing a small segment of society who monopolize and make use of extreme forms of violence. Genocides develop and unfold when there is a realization that it is the best available option to address perceived threats to a nation. As genocide unfolds as an instrument of policy, a calculation is made by various means, experimenting with what is the most efficient use of extreme force to implement a genocide. In the mindset of would-be perpetrators, they become obsessed with considering mass killing once they come to the realization that genocidal practices are necessary and effective.

Very often, wartime provides the historical context for genocide. In a time of war, genocide becomes part of a military strategy of targeting civilians. Warfare in association with genocide can be either a wartime policy against a targeted minority in the country or in combination with an external war. War

is considered as an extreme violent form of social change used in connection with actions that are genocidal and is understood by perpetrators as a means of rapidly transforming society. Targeted victims are unable to strike back. Among the preconditions for genocide is the progressive dehumanization of the targeted victims. Historical examples of genocidal practices indicate how common mass killing is in association with specific goals. Until the twentieth century, genocides were carried out by imperialists who conquered and destroyed native populations in order to acquire wealth. This outward movement of nations to go elsewhere tells us much about the historical origins of genocide. The agricultural revolution was to become a precondition for genocidal practices. Seeking to gain access to move land and, with the means to do so using military force, armies spearheaded the accepted practice of waging war. Nations concerned with permanent victory intended to eliminate rival nations once and for all. Mass killing, selling the survivors into slavery and in the end, preventing future threats made genocidal practices functional. In association with genocidal war-making, the conquerors would colonize. During the process of colonization, imperialists would be destroying at the same time the inhabitants and the physical environment. During the 1492 voyage of discovery, Columbus with a fleet of ships arriving in the New World was appointed as viceroy and governor of various Caribbean islands and North America. Having established a presence in the island of Hispaniola (the land mass that today is Haiti and the Dominican Republic), he put in place policies that promoted slavery and genocidal practices that demonstrated an intent to exterminate the native Taino population.

Genocidal intent led to the reduction of the Taino population from close to eight million to about three million by 1496. Genocidal practices continued until as of 1514, according to the Spanish census, only twenty-two thousand Taino people were still alive. By 1542, only two hundred remained. This extreme reduction in the numbers of Taino is attributed to what was known as the tribute system that Columbus put in place in 1495. The aim of the tribute system was the violent means of satisfying the Spanish quest for gold. Taino youth over the age of fourteen were put to work as slave laborers. The goal was to produce for the Spanish a specific amount of gold. Failure to do so meant a workers' hands would be cut and they would be left to bleed to death. Hundreds of thousands were killed in this manner while Columbus was the governor. Having successfully dehumanized the Taino, what appears in the diary of Los Casus are incidents of Spanish colonists engaging in perverse acts of sadism from hanging large numbers of Taino, burning them alive and dismembering children hacked to pieces and used as dog food. The Spanish took delight in waging bets over who could, with a sword or an axe slit a man or cut off his head with a single blow.

There is the horrible human and then there is the environmental cost. Scientists from University College London studied the environmental impact of the colonization of the Americas at the end of the fifteenth century and how mass killing disrupted Earth's climate. Colonization by Europeans of the Americas with the mass killing of large numbers of native people, had the environmental impact of transforming the earth's environment. The study estimated that by killing huge numbers of people and by spreading disease, the European settlers reduced native populations by 90 percent in the century after Columbus arrived in 1492. According to the study, fifty-five million indigenous people perished in the first years of the Spanish conquest after 1492. This led to the abandonment of fifty-six million hectares of land, amounting to an extensive depopulation of untended agricultural land, which became overgrown with new vegetation and trees. All this additional regrowth functioned to absorb sufficient amounts of carbon dioxide, essentially cooling the planet. The genocidal practices resulting in the mass killing of indigenous people was the product of policies that had a global impact on the Earth: ". . .the deaths of 50 million people led to the removal of 13 billion tonnes of extra carbon into regrowing forests, which equates to about 6 parts per million lower carbon dioxide concentration in the atmosphere. The lower carbon dioxide then resulted, as expected, in a global cooling from 1594 to 1677."[1] In other words, the study says, the Great Dying of indigenous peoples of the Americas was not only a genocidal practice, it should also be understood as a cause for the decrease in atmospheric CO_2 which in turn, resulted in reducing global temperatures. That reduction, caused by the genocide carried out by the Spanish in the Americas, contributed to what became known as the Little Ice Age from the years 1350 to 1850. It was a time when the Thames in London froze over, when snowstorms in Portugal were frequent and when wholesale disruption of agriculture cause famine in European countries.

This phenomenon, which took place prior to the advent of the Industrial Revolution, was a defining moment for the Anthropocene, in combination with the Columbian Exchange. This drop in carbon dioxide is also known as the Orbis Spike, taken from the Latin word for world, in which East and West hemispheres are linked into what becomes a global economic system. Imperialism in all its various manifestations over time is to be understood in terms of how the physical environment is reshaped, so that imperialists can extract material benefits from it. In service of this goal, until the early twentieth century, genocide is viewed by perpetrator nations as justified. Nations engaged in genocidal practices would travel elsewhere to acquire wealth through the violent conquest of other nations and establish colonies. The historical record is full of examples of genocide utilized in association with empire building. The would-be victims died because they were perceived to be obstacles that stood in the way of the goal, subjected to mass killing

because of where they were. Genocides were considered functional, a positive means through which nations could expand control over people and territory. Absent from pre-twentieth century genocides was an intense hatred of the victims which became a motive for twentieth-century genocides. Another difference, one which appears before and throughout the twentieth century, is the motive that the mass killing is justified in pursuit of a scarce resource, such as land. Intense hatred and gaining access to an increasingly scarce resource, such as land, generated motives for genocidal practices.

Acquisition of scarce resources works in tandem with the ultimate justification for mass killing: a utopian ideology that the intended extermination of a targeted minority would make it possible for the perpetrator nation to become a better society. This requires the elimination of intended victims who stand in the way and cause all the problems experienced by the perpetrator nation. The fuel for this intense hatred is irrationality. The hatred leading to genocidal practices for the ultimate end to reshape the environment is a response to climate change. Consider the specific elements that characterize this irrational hatred, expressed as an intense emotion that is manifested as shaping the thought process toward engaging in delusional thinking. The intensity of hatred's outward expression is rage, the freedom to strike out and take pleasure in seeing others suffer. This rage is not transitory; instead it is sustained because of an object fixation. As the target for this object fixation, the target of hatred focuses on maintaining a consistent relationship to who is targeted. A motive that justifies the rage for the intensity of hatred is a perceived sense of feeling deprivation due to an underlying envy for the object of hatred. In analyzing the roots of hatred, the pathology of hatred expressed as an obsessive behavior seeking to cause harm to others unfolds as an ir*responsible freedom to undermine* how other people live. Those who hate can only view reality from the perspective of assigning blame to the dehumanized object by perceiving others as a threat. It is an organized threat which by projection of the fears of haters is unable to come to grips with their shortcomings and become paranoid as the motives of others. The haters' shortcomings are attributed to the objects of hatred. Living in fear of others, haters construct paranoid personalities. The features are an assessment of reality as primarily negative given how suspicious they are of others. To hate is to shift the reasons for the haters' misfortune and in so doing result in a state of chronic anger. Haters are self-centered, believing their lack of success in life must be the result of unnamed and invisible forces. To perceive such intense hatred is to formulate a world view that fits into a narrative that allows haters to create their own unique view of reality. Divorced from an objective view of reality, there is a liberty to having many false beliefs that function to interpret events through the lens of delusion. In so doing, to hate is to establish a separation of who I am to the not me. It is when this separation is used to define the not

me as contrary to me as an enemy what you have is the thought process of justifying hatred by rationalization. To scapegoat the targets of hatred is one example of rationalization. To create what appears to be justified reasons to despise groups involves locating the enemy somewhere. The enemy has to be proximate in order to be a threat. For hatred to be produced and reproduced what is defined as "A culture of hatred a natural community that breeds and encourages hatred. This is a group with a shared history and usually a shared locale, a country or its subculture. The leadership, the educational institutions, the dominant religious forces—individually or in concert—indoctrinate the members of the community with their venomous attitudes toward the designated enemy."[2]

In writing *Portrait of a Jew*, Albert Memmi zeroes in on how the anti Semitic hatred of Jews is expressed as part of this culture of hatred, ". . .there is nothing original about anti-Semitism. Its curses, its accusations, its aggressions merely express the surprise, the rage and will to murder of all non-Jewish society. Anti-Semitism openly borrows the language, the images and the obsessive themes from the society in which it lives. And when anti-Semites go so far as to commit murder, that is because they believe they have been given permission to do so."[3] Anti-Semites marshall hatred with their paranoia, the definition of a Jew as distinct from themselves fits into the delusional thought process of assigning distorted traits to Jews which serve to justify actions taken against the Jews. In defining the Jews, the anti-Semite expressed the liberty to be irrational. This means assembling a mythical image of the Jews that fits neatly into the distorted mindset of the anti-Semite. In this process of hating Jews, the object separation is evident in depicting the Jews as a stronger, alien and by negative traits that define Jews as a threat. Jews are one example of how the intensity of hatred is a means to separate by manufacturing false distinctions between people.

A generalized hatred is by definition racism. The concept of racism is the determination of values any number of possible real (not threatening) and imagined differences used to the benefit of those who level accusations to those accused at the detriment of the victims for the purpose of rationalizing the superiority and privileges of racists. In other words, "racism as the systematic attempt to justify the invasion and domination of a people proclaimed to be biologically inferior by another group that thereby judges itself superior."[4] To be a racist is to harbor the unfounded and without scientific basis idea of pure races and of races that are superior. What science tells us is that humans over time are a mixture of various peoples. To adopt racist thoughts means to embrace a defense of oneself against the other who is foreign and strange and as a result generates rationalizations to justify assults on these others. Memmi identifies the universal and particular features of racist thought: "Racist thinking brings these threads together into a form

of coherence: the tendency to generalize and to consider things in absolute terms. For each individual who is denigrated and condemned, there must be a condemnation of his or her group as well."[5]

Ideological hatred and environmental issues throughout the twentieth century acted as preconditions from which to engage in genocidal practices. An imperialist drive to either acquire additional territory or respond to a reduction in acquired territory becomes a motivation to consider mass killing. The context for the developments unfolds in the context of warmaking. The genocidal twentieth century begins with the Armenian genocide. Among the causes are the territorial contradictions of the Ottoman Empire. The record of scapegoating and persecution of the Armenian minority is a result of the defeat of reforms, authoritarian rulers and military setbacks during WWI.

As the twentieth century became a genocidal century often but not always in association with war-making, it is worth considering that a concept of ecocide should include the destruction of the physical environment and the degrading of human life. While intense hatred was often present as genocides unfolded, the hatred was linked to the politics of transforming territory. The reshaping of agriculture in the Soviet Union was part of Stalin's goal to achieve "socialism in one country," the 1932–1933 famine in Ukraine known as Holodomor, which means hunger extermination. Stalin's other goal was to use the famine to repress Ukrainian peasants opposing collectivization. Mass famine was used as a political weapon against what Stalin perceived as a movement for independence in the Ukraine.

The other aspect of radically altering the physical environment in connection with "socialism in one country," was the genocidal process in connection with rapid industrialization: the forced labor camps known as the Gulags. By 1934, the Gulag or Main Directorate for Corrective Labor Camps located in remote regions of Siberia and the Far North was turning prisoners into slave laborers who labored to complete huge architectural projects, such as the White Sea-Baltic Canal, the Moscow Volga Canal, the Baikal-Amur main railroad line, many hydro-electric stations as well as hundreds of roads and industrial complexes in Siberia and Northern Russia. Slave labor was used to extract coal, copper and gold from dangerous mines. As Stalin stepped up the number of industrial projects, this stepped up the demand for more prisoners from the Gulag. Various categories of political prisoners comprised the slave labor force, from peasants accused individualistic tendencies, former inhabitants of the borderlands, persons imprisoned for religious beliefs, various state officials sentenced for having committed various political offenses and persons accused of committing wartime crimes.

The genocidal intent in the examples of Turkey and the Soviet Union took shape as ecocidal actions that undermined and destroyed the human environment. What would later become a basic principle of international law

outlined as the right to life in the Universal Declaration of Human Rights and the Genocide Convention is a rejection of mass killing. Far from being perfect documents, they do not include references to a right to life for other life forms, such as animals and the importance of preserving them. The mass killing of animals should be considered as an example of ecocide. The philosophical roots of such mass killings can be understood from Peter Singer who defines "speciesism" in *Animal Liberation* as ". . .a prejudice or attitude of bias toward the interests of members of one's own species and against those of other species."[6] Acting as speciesists, human beings do not consider animal life forms as worthy of life without pain, suffering and mass killing. The conquest of nature, the exploitation of nature is linked to the exploitation and mass killing of animals. The English philosopher Jeremy Bentham (1748–1832) understood the effects of animal exploitation, when he wrote "the day may come when the rest of the animal creation may acquire those rights which never could have been withheld from them by the hand of tyranny."

Over time, the oppression of animals becomes tied to the oppression of humans. The idea of the superiority of humans over nature in particular, animals, is, according to Charles Patterson in writing *Eternal Treblinka* is "this hierarchical thinking built on the enslavement/domestication of animals that began 11,000 years ago."[7] The implication is that not only does animal oppression derive from the notion of superior humans, but that human oppression is rooted in lowering humans to the interior state of animals. Many examples of mass killing throughout the twentieth century make use of animal metaphors as the means to dehumanize the intended victims of genocide. To commit genocide is to first identify and then concentrate the would-be victims. The domestication of animals would become the next to last step prior to mass killing them. The alleged superiority of humans is expressed with the conquest of foreign lands, depicting non-Europeans as lower forms of life as nothing more than savages and beasts. "European explorers and colonists, who at home abused, slaughtered and ate animals to a degree unmatched in human history up to that time, sailed forth to other parts of the world. . ."[8] This mindset is evident as Europeans settled North America and described Indians and African slaves as nothing more than animals. Slaves were the equivalent of livestock while Indians were seen as untamed wildlife to be controlled and eradicated. Moving forward in time the American campaign in the Philippines, essentially a military campaign of conquest, depicted the insurgents as savages and gorillas. During World War II, the Japanese enemy was referred to as yellow monkeys. These characterizations continued during the Vietnam War as Americans referred to the Vietnamese people as "gooks."

The historical record is filled with references to Jews as a lower form of life. Nazi propaganda was consistent in describing Jews as parasites, vermin and, in Hitler's words, "bacilli" that had to be destroyed. In considering the

extensive scholarship of the Holocaust, the authors examine the Final Solution in the labor extermination and death camps as assembly lines for mass killing. What was also shocking was not just the horrific killing in these murder factories, it is ". . .the slaughterhouse-like aspects of the Holocaust. . .the connection between the industrialized slaughter of animals the industrialized slaughter of people."[9] As the steps toward the Final Solution proceeded, the essential aspect of this process was the dehumanization of the world-be victims, to first identify and then concentrate them, transforming humans into non-humans.

Nazi perpetrators used a specialized language to describe the processing of victims as justified because they are lower forms of life. The Frankfurt School philosopher Theodor Adorno remarked that Auschwitz begins wherever someone looks at a slaughterhouse and thinks, 'They're only animals.' Once again, Holocaust scholarship refers to the Nazi obsession with speeding up the mass killing in the labor/extermination and death camps. Compare this to the mass slaughter of animals over time as an emphasis with creating much faster assembly lines and increasing the volume of animals to be killed. Automaker Henry Ford drew inspiration for the assembly line production of automobiles from a visit to a Chicago slaughterhouse. The Nazis also took lessons from the processing of animals in the Chicago stockyards to the processing of human bodies, as they regarded their victims as animals. The tactic of making the victims completely undress, then herding them quickly to be killed, also bears a striking resemblance to the herding and slaughter of animals. The few survivors of the death camps, along with testimony of Nazi perpetrators, refer to areas where the victims came to be killed as the funnel, the tube or the road to Heaven. "In Sioux Falls, South Dakota, the nearly block-long underground passage used to drive livestock from the stockyard to the Morrell meat packing plant is called the 'tunnel of death.'"[10]

Like the Nazi killing centers, the slaughterhouse is the embodiment of industrialized slaughter; in both cases, the victims are physically isolated. Both the killing centers and the slaughterhouses exist as islands or worlds unto themselves: ". . .industrialized killing from this vantage point draws attention to the distance we create through walls, screens, catwalks, fences, security checkpoints and geographic zones of isolation and confinement."[11] The distance facilitates the objectification of the victims, which is necessary to what happens in both the camps and the slaughterhouse. Once slaughtered, animals are turned into marketable commodities; cows become steak, hamburger and roast beef; pigs become pork, bacon or sausage. This amounts to an alienation from the environment.

There is ample evidence of the environmental impact of meat production. Consider the consequences in terms of the loss of Latin American forests. The Amazon continues to be cleared as habitat for cattle farming. Deforested

areas are cleared by fire, which releases huge amounts of carbon dioxide into the atmosphere. The loss of biodiversity due to cattle farming destroys many habitats. The production of meat releases greenhouse gases, methane, CO_2 and nitrous oxide. Decaying manure releases large amounts of methane. The use of fertilizer creates nitrous oxide. The U.N. Food and Agricultural Organization estimates the meat and dairy industry accounts for 14.5 percent of global greenhouse gases. The mistreatment and killing of animals is a form of ecocide, especially since components of the environment are interrelated parts. Causing harm to animals diminishes our humanity. Killing animals along industrial lines is a crime against nature. To accept the mass killing of animals is linked to the acceptance of the mass killing of humans. Genocide as the intent to exterminate a targeted minority amounts to ecocide. A crime of nature is the denial of a right to life of living things. When humans kill other humans, there is a killing of the environment.

When genocidal practices unfold, it is not only a crime against humanity, it also destroys humanity's link to what should be the harmony of nature. Social system collapse that results from genocide makes societies dysfunctional. Other examples of genocidal practices throughout the twentieth century are bound up with a culture that promotes ecological destruction. Hatred in association with an obsession to acquire and extend control over territory is a motive for genocide. The inability to overcome state-sponsored ideological hatred in pursuit of the goal of dominating others violates any harmonious interaction with nature.

The Final Solution was a societal project to normalize killing the Jews, the racial enemy of the regime; at the same time, the other motive for the Final Solution was an environmental issue, the waging of military campaigns to conquer Eastern and Western Europe in order to provide Germany with Lebensraum (living space). For Hitler, acquisition of additional lands would solve two problems: it would mean exterminating Germany's racial enemies while colonizing other lands and feeding the German people. Genocidal practices during the twentieth century are related to using extreme violence in order to reshape the environment by altering geographic space. The goal links genocide with ecocide. In speeches given over three decades and expressed in *Mein Kampf*, Hitler exhibited virulent anti-Semitism and described a Germany surrounded by hostile powers who during and after World War I made Germany dependent on imports. A war of conquest and extermination leading to Lebensraum would address food shortages and free Germany from its racial enemies.

It was during the unfolding of the Russian campaign that the link between genocide and ecocide was implemented. The Einsatzgruppen, Order Police and Soviet collaborators would eliminate the racial-political threat through mass shootings. Agreements were made prior to and during the conquest of

Russian territory to engage in genocidal practices. In addition, Generalplan Ost, as it was called, was the initiative to effect a massive population transfer, which would essentially lead to death by starvation of close to thirty million Russians. Massive population transfers were underway during the earlier Polish campaign in which Jews were concentrated in ghettoes as a holding action while Nazi perpetrators considered their options. Eventually, as the camp system evolved, the Polish rail system deported Jews to their death in the labor/extermination and death camps. Such actions were taken during the phases of the Final Solution and they illustrate a similarity with previous examples of mass killing undertaken in order to reshape and transform space making it destructive space. Remaking space to serve destructive ends is characteristic of actions intended to cause harm to the physical environment. Genocidal actions in Turkey, the Soviet Union and Nazi Germany share the remaking of territory for destructive ends. In spite of what the perpetrators of these genocides intended as a twisted utopian vision, these and other genocides progress through the waging of total war. The lands that are conquered and the territory that has become purified become uninhabitable as a result of war.

These genocides developed from hatred, while the waging of total war in order to seize territory was done in order to achieve a utopian vision of a better nation; other genocides were a response to real land issues. Climate change has been a precondition for genocide in various parts of the world. Consider not just the underlying tensions and conflicts between the Tutsi and Hutu prior to and during decolonization; there were environmental issues at play as well. In its 2004 report, the World Bank described Rwanda as a densely population country with scarce usable land, which threatens both the physical environment and stability in the country. High population within a small land mass translated into overpopulation and poverty as the available land decreased. Government policies made it difficult for people to move from rural to urban areas. Policies had the effect of ". . .limiting land sales, freedom of movement and labor opportunities as well as non-use of family planning and mismanagement of conflicts in a peaceful way were factors that led to the discontent of people in the country. Another factor contributing to genocide in Rwanda was deforestation, which not only accelerated loss of biodiversity and wetlands, but overgrazing had resulted in soil erosion. These factors, in combination with regimes in the post-colonial period that took advantage of anti-Tutsi sentiments and dissatisfaction among rural Hutu. The military threat posed by the Tutsi refugees from Uganda, seeking to return to Rwanda in order to claim black their land further inflamed the Hutu. Hutu violence against the Tutsi was fueled by radio broadcasts of Tutsi as "cockroaches" and was supplemented by promises that the land taken from murdered Tutsi would be redistributed to Hutu who had no land. The Hutus were

killing Tutsi out of a combination of ethnic hatred and the desire to take back the scarce land that they believed was theirs. The scarcity of land in Rwanda was a factor in the genocide.

An environmental crisis in Darfur resulted in ecocide that caused an ethnocide. The country is made up of many tribal clans. The crisis in Darfur began in the late 1980s as landless Arabs organized in an attempt to seize their "dar" or land from Black farmers. With the release of a doctrine proclaiming the Arabs' racial superiority, violent clashes broke out between the Arabs and the "Fur," the largest single tribe of farmers in the country. An estimated 3,000 Fur died in these clashes and hundreds of villages were destroyed. The source of the conflict was the desertification leading to extended periods of drought during the latter part of the twentieth century. As a result, Arab tribes in Darfur migrated with their livestock to the agricultural lands of established farmers. Increased competition over the limited land available for agriculture developed into full-blown violent conflicts. In response, the black Darfurs rebelled and sought assistance from the Sudanese government. Then-President Omar Al-Bashir provided arms and financing to specific Arab tribes so that they could attack civilian populations that supported the rebellion of Black farmers. A mass exodus took place as two million people set up camps in Darfur and more than 200,000 people took refuge in East Chad. What was unfolding was a combination of ethnocide and ecocide. Severe shortages of wood and water in Chad were a strain on the environment and increased the risk of conflict between Chadians and the refugees. Competition for these scarce resources had led to attacks on refugees. The roots of these ethnic conflicts can be traced back to the droughts Darfur had experienced as a result of the disruption of African monsoons, possibly caused by global climate change.

In Nigeria, rising temperatures and drought led to the forced migration of Fulani herdsmen, who would then clash with agricultural communities. A changing climate has exacerbated the tensions between Fulani Muslims and Christians in these communities. Since 2010, about 6,500 people have been killed in these clashes.

Syria is another example of a relation between ecocide and genocidal intentions. The civil war that began in 2011 was preceded by an extended drought. As a result, "This migration exacerbated existing tensions with the ruling Alawite regime headed by Bashar Al-Assad. Protests—which were based on anger towards the government—became more intense; most protests were in areas affected by drought; the government started to massacre civilians, particularly in cities that were now overpopulated . . . the protests and crackdown by the government boiled over into a civil war, with escalating mass atrocities on all sides. With the destabilization of Syria, multiple armed factions emerged, the most well-known being ISIS . . . ISIS started a

campaign to wipe out the Yazidis, which the U.N. Human Rights Council has declared a genocide."[12]

NOTES

1. Simon L. Lewis and Mark A. Maslin, *The Human Planet: How We Created the Anthropocene* (New Haven: Yale University Press) pp. 181–82.
2. Willard Gaylin Hatred, *The Psychological Descent into Violence* (New York: Public Affairs, 2003) p. 195.
3. Albert Memmi, *Racism* (Minneapolis: University of Minnesota Press, 1999) p. 52.
4. Ibid., p. 185.
5. Ibid., p. 194.
6. Peter Singer, *Animal Liberation* (New York: Harper, 2009) p. 7.
7. Charles Patterson, *Eternal Treblinka: Our Treatment of Animals and the Holocaust* (Brooklyn: Lantern Publishing, 2002) p. 25.
8. Ibid., p. 27.
9. Ibid., p. 49.
10. Ibid., p. 112.
11. Timothy Pachirat, *Every Twelve Seconds: Industrialized Slaughter and the Politics of Sight* (New Haven: Yale University Press, 2011) p. 9.
12. Robert Kiel, "The Looming Accelerant: The Growing Links Between Climate Change, Mass Atrocities and Genocide, Platform on Global Security, Justice & Governance Innovation," July 9, 2019, https://www.platformglobalsecurityjustice governance.org/the-looming-accelerant-the-growing-links-between-climate-change-mass-atrocities-and-genocide/.

Chapter 5

The Irrational and Destructive Aspects of Capitalism

The destruction of the climate on a global scale developed in relation to the movement of capital. There are two contradictory movements of capital. On one hand, historical growth in what first appears as a life enhancing activity equated with the formation of markets. On the other hand, capital expands to the extent that it is no longer associated with its civilizing activities. Since capital is driven to accumulate it is manifested as an accumulation which undermines and destroys life on a planetary scale. The historical take-off of how what appears to be life enhancing and ends up being negation of life unfolds in the Industrial Revolution. This life and death unity of capitalism begins on a national scale in the United Kingdom and moves outward throughout the globe in an uneven manner. In many years as the preconditions for the English revolution coalesce what is taking place is the transformation of social relations. What emerges is a social system which transforms all interactions in terms of the profitable bottom line. It means labor power is transformed into a commodity for sale. In addition, capitalists are bound by the dictates of the market to produce commodities which are to be consumed. Social relations are structured so that they are subordinate to the goal of creating capital accumulation. Labor is subordinate to this process by the selling of labor power as a commodity. Capitalists in turn, purchase the labor power in order to ensure that productive process leads to the maximization of profit toward the generation of capital.

The historical context of this process appears in the western world as England begins to industrialize. A prerequisite was the transformation of the countryside which had the effect of creating the material basis for competitive production. This meant it was essential to create an industrial sector that was productive which could support a much larger non-agricultural workforce which in turn serves as the foundation for the development of industrial capitalism. With the formation of agrarian capitalism there emerged a workforce

removed from access to the material means of production and left with no other option but to sell labor power as a commodity. This transformation of social relations combined with the material resources made available was setting the stage to propel England not only towards an industrial revolution and to climate change. The climate change takeoff during the Industrial Revolution derived from the dependence on fossil fuels in particular with the extensive burning of coal. With the aim to increase productivity industrial capitalism is also degrading the environment through technological means. With the introduction of the steam engine coal was being used as the fuel of choice. What followed during the use of cotton leads to have a greater accumulation of industrial capital in the form of the factory system. In combination these elements defining the takeoff of the English Industrial Revolution and as it moved forward it was with the idea that with greater efficiency in production would in turn yield advances towards a more civilized society. This goal overlooks the ever-greater subordination of labor to the discipline of the factory.

As never before, this industrial revolution is the starting point for a conquest of nature, to alter nature regardless of the consequences to nature by technological means. The lifespan of capital is extended as its objective existence works to diminish the existence of labor by the increased length of the workday, unsafe work conditions and along with it, the byproducts of coal production: air land and water pollution. As the relentless drive to accumulate capital continues in part by overthrowing previous modes of production it unleashes at the same time destructive forces which are under cutting the harmony of the environment. In order to maximize the production of surplus value there is an increase in the exploitation of labor which has the result of diminishing the quality of life of the laborer.

Capitalism is obsessed with removing any barriers to accumulation without regard to the environment and amounts to destruction in service of expansion. Industrial capitalism grows in relation to two revolutions one in technology and the other and how production is organized. As a new form of social existence labor is now under the tyranny of the time clock and the idea of mass production associated with mass consumption as the continuing economic shift is taking place from agriculture to manufacturing. This amounts to the sum total of a social system embracing ongoing perpetual change in the manner in which social relations are organized. What disappears as the advance of a new way of life and civilization this dynamism which has the potential to enhance the quality of life overlooks the underlying social environmental impacts. Closely associated with the rise of industrial capital driven to accumulate and motivated by a drive to maximize the use of cheap labor. This social organization of labor as for the goal of maximizing labor productivity. Along with it is the social harm inflicted on labor: “. . .some textile factories

drove the workers 16 hours a day, Saturdays included. Traditional festival days when rural workers had taken time off came under attack as the new factories fined workers for unauthorized absences. Finally, factory jobs exposed many workers to new physical dangers, such as dust from textile fibers, accidents in the coal mines and many maimings by the fast-moving—usually unprotected—machinery."[1]

There is to be no restraint in the ongoing expansion of the productive process as the outward expression of permanent change puts in place organization of the factory and other branches of production increasing the population of British cities and ever-growing working class and a small but growing capitalist class. Such unchecked growth is built into industrial capitalism. It is a social system of grow or die as ongoing innovation is driving the entire process. This obsession with greater efficiency, greater productivity in the context of a market dictates the goal of perpetual change. All the time it amounts to removing any obstacles which might hinder the expansion of capital. As industrial revolutions were developing elsewhere and differed from the English model they shared some common features.

Unfolding in response to extensive technological and organizational transformation which fundamentally redefine class relations, the nature of work, growth of cities, the role of agriculture, and the essential feature of a capitalist market geared towards the production of surplus value. It is evident that in sum total, industrialization, has on its face, been life-affirming. They were advances made due to the advent of industrial capitalism. In moving forward capitalism has overcome some persistent forms of human suffering. These include greater advances in science and medicine in the treatment of various diseases. The curtailment of infant mortality made possible by increases in productivity has also led to the improvement in the availability and reliability of food supplies. With an increase in population and urbanization, civilized life appeared to move forward. These advances were positive and are part of the forward movement of industrial capitalism.

Consider what has made this increase in the quality of life possible the social activities are tied to the conditions which made the reproduction of capital more efficient. This advance in the quality of life made possible because there was also a market value placed on civilized life. The value of a civilized existence in a capitalist society is measured by the value assigned to market relations. This translates into making all life activities as marketable commodities which must be supportive of the production of surplus value. In-service of this goal there are no moral considerations made only activities which create conditions for capital accumulation. It is a fixation with the immediate short-term accumulation process while seeming to advance life-affirming activities in contradiction with these activities as capital accumulation leads to policies which harm the environment. To borrow from

Ernest Becker's *Denial of Death***,** capitalism functions as a social system in the absence of a fear of death. Capitalism in the pursuit of surplus value embraces policies that threaten to undermine the life cycle of the physical environment. Capital accumulation, regardless of the environmental impact, amounts to a denial of the delicate and harmonious balance of life as capital diminished the reproductive life cycle of the environment, producing a dying planet.

Marx describes this process in an article written about the British cotton trade for the *New York Daily Tribune* in September 1861 of the English revolution was made possible due to the use of cotton along with the use of slave labor imported from Africa to the Americas. What Marx is referring to is how the exploitation of labor reshapes the environment. This combination of labor exploitation and a radical restructuring of the environment unleashes the destructive capacities of capitalism. It is also a part of the contradictory movement of capitalism expressed in terms of creating life affirming activities and then as capital accumulates, leads to activities undermining life.

Expansion of capital in order for it to accumulate leads to this destructive process giving it an unstoppable momentum. Consider capitalism in terms of this contradiction between its compulsion to expand which appears to enhance civilized life but at the same time this expansion increases the wholesale destruction of the planet. Degrading the environment on an expanded scale since the spread of the Industrial Revolution is taking place as nature is to be taken over in order to service the accumulation of capital. This also involves the conquest of space on a planetary scale. As more space is required for the accumulation of capital the delicate balance of a harmonious nature is in the process of being undermined.

Time is of the essence for the turnover of capital essential to the expansion of its value. It means there is an overriding imperative to speed up the turnover of capital is it confronts specific limitations of space and time. To accumulate capital according to the fix law of capital accumulation means having to take into account any means in order to call overcome spatial barriers. As capital seeks to take over nature this takeover of empty space does not take into account the environmental impacts on the environment. Capital seeks to construct a specific form of space. To alter space to function for the purpose of capital accumulation it must be transformed in such a way not to impede capital accumulation. It means to shift the purposes of what Lefebvre refers to as the takeover of absolute space towards specific space. The specificity of space in contradiction to absolute space of the environment must be so altered in order to suit the needs of capital. Lefebvre, in writing *Rhythmanalysis*, describes how the harmonious, in balance rhythm of nature is disrupted as nature is in the process of being altered by fossil fuel extraction. This

natural lifecycle of nature is being replaced in service of accumulation by the artificial life of capital. "Capital blows . . . It kills around it on a planetary scale. Capital does not construct. It produces. It does not edify it reproduces itself. . ."[2] Lefebvre describes the rhythm of capital as generating an artificial life form and as it enlarges it will lead to planetary destruction. Reproduction of capital overall in terms of a series of rhythms in space and time re-create this destructive process. What has overtime contributed to the assault on the environment is the global reach of capital which generates a negative impact on the environment. Capital moves forward in search of novel global space from one location to the next. This global movement is evident since the first Industrial Revolution.

Capital does not adhere to Francis Bacon's statement that nature is only overcome by obeying her. Instead, capital redefines nature to obey only the dictates of capital. The natural world in contrast to the goal of capital which creates exchange value seeks to produce only use values. Capitalism alters the relation of humans and nature from what it had been prior to the development of industrial capitalism, a cooperative interaction to one of domination. The be-all end-all of capital maximization of profit alters the environment, ". . . as it creates a scarcity of needed resources, impoverishes the quality of those resources not yet devoured, breeds new diseases, develops a nuclear technology that threatens the future of all humanity, pollutes the entire environment that we must consume in order to reproduce and in the daily work process and threatens the very existence of those who produce the vital social wealth."[3] Throughout the global movement of capital the physical environment is up against the inner logic of capital expanding its effort to be unbound from spatial boundaries, towards an ultimate goal of being without space, what Marx referred to as the universalizing tendency of capital. The uneven development of global capitalism falls short of this goal.

Global unevenness and global competition amongst capitalist nations devalues the total amount of surplus value and further intensifies conflict between capital and labor. In addition this increases the tendency towards an accumulation crisis impacting the environment occurs as capital scrambles to obtain new resources. The physical environment is captive and transformed as capitalism attempts to span the entire globe. This global movement of capital especially within the dominant highly developed centers of production extract on an accelerated pace the fossil fuels needed to further create surplus value. In the short run this is driven by the movement of advanced capitalism towards the goal of achieving a higher rate of profit. Advanced capitalism monopolizes control and in so doing so increases detrimental environmental practice which are dysfunctional to the environment. While this is taking place, less advanced capitalist nations are focused on catching up, attempting to gain access to natural resources required for primitive accumulation. The

resulting increase use of fossil fuels by advanced capitalism coupled with the mimic desire to do the same by underdeveloped capitalism only serves to increase degrading the environment. The cumulative impact of climate change is associated with the global drive to accumulate capital. ". . .the volume of greenhouse gas in the atmosphere is the highest it has been for hundreds of thousands of years. Changes in biospheric integrity. It has been estimated that species and I are going extinct at the rate of about 1000 times greater than in preindustrial times. Bio geo chemical flows . . . as much as 50% of nitrogen ends up in lakes rivers and oceans where can cause abrupt ecosystem changes such as the notorious dead zone in Mexico. Stratospheric ozone depletion. In the 1970s scientist learned that widely used chemicals will destroy the ozone the blocks harmful radiation from reaching the surface of the earth. Ocean acidification. A proportion of CO_2 emissions dissolved in seawater making it more acidic than in preindustrial times. This can interfere with the growth and survival of corals many shellfish and plankton causing the collapse of essential food webs and drastic reduction in Fish eye Marine mammal population. Freshwater use. Heavy withdrawals for agricultural and industrial uses are depleting major aquifers while melting glaciers are illuminating the source water of many rivers. Land system change. About 42% of all ice-free land is currently use for farming: that land formally supported 70% of the worlds' grasslands 50% of savannas and 45% of temperate deciduous forest. Laws of this land reduces biodiversity and has negative effects on Earth's climate and water systems. Atmospheric aerosol loading. Most of what is cold air pollution consist of microscopic particles and droplets called aerosols. Inhaling them causes about 7.2 million deaths per year. Introduction of novel entities. There are over 100,000 chemicals and plastic polymers in commercial use today. For almost all very little is known about the individual or combined effects on human or ecosystem health."[4]

These are some of the visible indicators of how capital accumulation generates this life and death cycle in the environment. The abnormality of capitalism is manifested as its overall dysfunction in terms of the periodic breakdown and crisis of accumulation. The social effects of capitalism as a dysfunctional social system can be understood in relation to Marx's fetishism of commodities as an example of money as the ultimate objective measurement placing value on people and things. As a byproduct of capital cumulation money functions as it arbitrarily assigned value and importance in terms of what the market will bear. In a strict psychological sense this fetishism narrows the human personality so that it overly emphasizes material needs at the expense of larger social needs.

From the *Economic and Philosophical Manuscripts*, Marx presents the idea of labor as the fulfillment of basic and social needs. His idea of social needs are those collective needs which are necessary. The development of

social needs is to be understood as unalienated labor, which is in control of the productive process. Labor power purchased as a commodity and used to produce surplus value beyond the wage needed for subsistence sets the stage for the alienation of labor followed by the monetary fetishism. A decline in profits increases the tendency to ramp up the production of surplus value.

In principle, democracy is at odds with a capitalist economy, as Erich Fromm discusses in *Escape from Freedom*. The culture of capitalism embraces this escape from having responsibility for social freedom in favor of authoritarianism. As Fromm explains, "The feature common to all authoritarian thinking is the conviction that life is determined by forces outside of man's own self, his interests, his wishes. The only possible happiness lies in the submission to these forces."[5] Especially in an accumulation crisis, an emerging form of authoritarian capitalism increases the tendency of capitalism to self-destruct. Capitalism is powerless to effectively resolve its inherent contradictions, confronting the environmental limits to capital accumulation but continues to extract resources which function to undermine the life of the environment. Capitalism diminishes the global quality of life and increases the movement towards greater global destruction. In its Hobbesian version of a war of all against all the culture of capitalism as Pacman (eat or be eaten), nature is regarded as something to conquer and exploit. It leads one to question the very sanity of a capitalist social system and what could be in Fromm's words a sane society: "A society in which no man is a means towards another's ends, but always and without exception an end in himself; hence, where nobody is used, nor uses himself, for purposes which are not those of the unfolding of his own human powers; where man is the center, and where all economic and political activities are subordinated to the aim of his growth. A sane society is one in which qualities like greed, exploitiveness, possessiveness, narcissism, have no chance to be used for greater material gain. . ."[6] As a less than sane social system, capitalism moves forward with the sole obsession towards accumulating capital. Through the process of accumulation, the power of capital strives to overcome and overwhelm barriers to accumulation, reducing the quality of life to a more primitive, barbaric state.

Through the process of accumulation on a global scale, as Amin refers to it, " . . .this accumulation always takes place to the advantage of the center it is not the advanced countries that supply capital to the underdeveloped ones but vice versa."[7] Throughout his writings on colonialism Marx pays attention to a similar process of capital accumulation on a world scale as accumulation resulting in the removal or disposition of the resources of other nations. Industrial capitalism and all its various manifestations was not a product of the ". . .capacity to just generate a surplus. National and international capitalism develops in relation to the means of accumulating by seizing what is needed for accumulation. Overtime as a global process this essential part

of what becomes uneven development means . . . the perpetual search for natural resources of high-quality that can be pillaged for surplus and surplus fire production has therefore been a key aspect to the historical geography of capitalism."[8]

This is not the entire story as nations on the periphery of development understand the need to work with the dominant capitalist nations in order to have control over their own surplus. The downside of this alliance is an acceptance of the stunted development of peripheral economies. Unlike western industrialization formed from an industrial base, nations on the periphery have exported resources necessary for them to develop their industrial base. This appropriation of surplus value by capitals countries inside and outside national boundaries serves to alienate labor by separating labor from control over the productive process as reproduction knows no limits and will continue to reproduce itself regardless of the environmental consequences. On a global scale this irrationality of capitalism as Marx argues seeks to overcome any possible boundaries by the elimination of space and time constraints. This inability to comprehend the limits of capital continues to be a fundamental part of capitalism's irrationality. For capitalism it is not just a matter how to overcome what stands in the way of capital accumulation. It is also for capitalism simply a matter of ". . . the creation of a physical landscape conducive to the organization of production in all of its aspects."[9]

With an eye toward short-term gain, environmental considerations are secondary. What continues to contribute to the degrading of the environment is the inherent tendency given the efficiency of mass production to over accumulate surplus capital. In order to overcome overaccumulation, capitalism must transmit this surplus capital sending it elsewhere to various parts of the globe in an attempt to add to the value without degrading capital which left to its own devices will degrade overtime. This would mean in the developing world a greater exploitation of labor and putting into place a market in order to receive this exploited capital. Class struggle becomes an essential part of this process and leads to reshaping as well as undermining the physical environment. Profit margins are determined by the extent capital can become dominant. When capital dominates market relations, capitalism will move to drive wages downward but in so doing reduce the purchasing power of labor. When labor makes gains, profits will diminish and decrease the rate of accumulation. The resulting contradictions which if they ought to be resolved by an effort to rationalize the irrational as capitalism temporarily displaces class struggle, which appears to be a rational solution. This includes social welfare state policies meant to limit the social cost of the market taming labor unrest by reorganizing the workplace. At best, these temporary solutions allow for class struggle to continue to fester beneath the surface.

Ongoing displacement of class struggle impacts the environment. Inside and outside national boundaries, capital is motivated to expand its productive capacities by generating conditions which would increase accumulation. This includes increasing labor productivity by the inclusion of new technology at the workplace. Increasing periodic unemployment would have the effect of reducing labor costs as labor competes for fewer jobs. Generating increase demand for commodities allows for a greater realization of surplus value. It also serves to create overwork debt and the necessity of the two wage family unit. It appears as rational in the short run but becomes irrational as capitalism extends its global reach into new regions through which globalization of capital exports. In so doing, an enlarged global market for the export of goods has the effect of ". . . the production of cheap and rapid forms of communication and transportation in order that 'the direct product can be realized in distant markets in mass quantities' . . ."[10]

Reshaping the physical environment in service of this goal means capital would be represented in terms of fixed physical structures appearing as an ". . . immovable form of transport facilities, plant, and other means of production and consumption which cannot be moved without being destroyed."[11] While these structures appear to have a permanence they are only useful so long as they serve as the means for capital accumulation. No longer useful in service to the capital production sites, they are left behind, leaving in their wake land and water pollution. This effect should be understood in the context of a crisis of overaccumulation of capital as it impacts the environment. Overaccumulation is to be resolved by increasing consumption. Driven to produce and consume more commodities in order to address a declining rate of accumulation capital response by seeking to expand indefinitely. In contrast the earth has finite resources.

Once again, the outward rational façade of capitalism reveals as it functions an underlying irrationality as profit maximization prevails over degrading the environment. This irrationality built into the functioning of capitalism unfolds as an obsessive drive to accumulate capital regardless of the environmental impact of what Marx refers to as a fundamental break or rift between human beings and the earth. This metabolic rift is a consequence of capital accumulation as it destroys the functional harmony of the planet. Capital fails to comprehend the earth as a rational system of interrelated parts instead the overriding concern to accumulate leads to the disruption of functional harmony which in turn develops as the earth is appropriated giving up finite resources for capital. The goal is how to best extract resources without taking into account environmental impacts. As planetary harmony breaks down, the pace of this disintegration coincides with capital's imperative to grow faster. This obsession to grow regardless of the environmental costs is an indicator of just how irrational capitalism is. There is no rational assessment which

would make capitalism reassess its relation to the environment which is not destructive. For capitalism can only function on the basis of short term gain. It is this contrast between earth time and capital time which is in contradiction. An earth system which measures time over millions of years is in sharp contrast to capital time which is short-term time. So long as profit margins increase quickly and the earth's resources are removed efficiently, environmental damage is not a serious consideration. This contrast is all the more apparent in the damage caused to the carbon cycle which for millions of years had efficiently regulated the temperature of the planet keeping the temperature neither too cold or too hot.

Fast forward to the age of fossil capitalism and to the present. In a short period of time, through the increase in global temperatures, capitalism has upset the delicate balance of CO_2 which took nature millions of years to create. The disruption of the nitrogen cycle is another example of how market-oriented agriculture extraction from the soil occurs by all the fertilizing by the use of nitrogen fertilizer so as to increase crop growth leading to an increase in ocean dead zones, depletion of fish, stocks, water pollution, groundwater contamination, and depletion of the ozone layer. Fossil fuels were and continue to be the means by which capitalism can disrupt the environment making the environment increasingly dysfunctional.

A key indicator of capitalism functioning as an irrational social system is the extent to which capitalism undermines the environment, and corresponds to the diminishment of the quality of life. ". . . Climate change and its impact on hunger and communicable diseases are currently responsible for 400,000 deaths a year in the worlds' poorest countries. The poorest people are bearing the brunt as climate change exacerbates pre-existing conditions that make them more exposed to the risk of food insecurity."[12] The social harm capitalism is causing the climate increases the global division of have and have-not nations. Advanced capitalist nations will be impacted by climate change and yet will continue to maintain a monopoly of control over finite resources, using force and violence to keep large numbers of people in developing countries from crossing their borders.

Additional evidence of irrationality is a willingness to destroy along with it and increased indifference to human suffering. "Hundreds of millions have already been pushed to the outer edges of the global economy and beyond denied access to the minimum requirements of life and life to survive the deteriorating global environment on their own. Excluded from the fossil economy they have become its primary victims."[13] For Marx it is evident that capital accumulation reaches a limit as to how much labor is needed for capital accumulation. Creating a discarded surplus population who then exist on the margins of society.

Capitalism perverts the functions of nature which are supposed to be life enhancing. Capitalism has made nature a means to an end—accumulation of capital. The life enhancing properties of nature are increasingly diminished as nature continues to be exploited in service of capital. So as capital continues to accumulate on a global scale it simultaneously oppresses labor and nature by regarding both as objects ripe for exploitation. They are oppressed with a corresponding decline in the quality of life while enhancing death and destruction and reducing the life-enhancing qualities of the environment. The global movement of capital involves reproduction of the process of capital accumulation as a perverse process of accelerating the ever greater exploitation of the planet.

Capital accumulation alters and disrupts the environment and expresses cognitive dissonance, transforming the life of the planet and separating itself from the results of its process. Capitalism cannot resolve this contradiction. The reproductive process moves forward without concern over how this reproduction takes place, with the result that capitalism grows by destruction. In essence, the driving force that propels capital accumulation is for it to prey upon the environment taking what is needed to accumulate capital and is incapable of taking into account the environmental consequences. Life enhancement, which appears to be the starting point as the growth of capital, leads to the production of its byproduct in the accumulation process, a functional destruction. It also means capitalism first appears as a rational movement of capital and then moves towards an irrational result: the diminishment of life. It is also as Marx understood it as a break, or divorce from humanity's harmony with nature and a social organization of labor which in the class struggle between capital and labor as capital controls the social organization of work continues to alienate labor from nature. This cognitive dissonance built into the functioning of capitalism continues to be expressed as a contradiction between what is rational and what is irrational. There is this inability to associate destruction of the environment as irrational. To degrade and undermine the function of the environment is rational since this contributes to accumulation of capital.

There are profits to be made from the global division of developed and developing nations. As climate change accelerates there is an increasing scarcity of resources. There is an acknowledgment of climate change as the have nations are seeking greater control over those resources such as water, which offers new investment opportunities for profit making. As capital works to generate new markets in order to acquire water rights there is an increasing privatization of water. With the speed up of capital accumulation and along with it global destruction the expanding life enhancing appearance of capital is secondary to various activities which destroy parts of the environment in service of profit.

In service of greater accumulation, the use of technological innovations has been consistent from the dawn of industrial capitalism. What is presented as environmentally friendly technology is simply a means to pave the way for capital accumulation. The result is to allow capital to continue expansion throughout the planet making use of technologies that assist in the rapid turnover of capital.

As the lifecycle of capitalism continues, the rational means to accumulate becomes a lifecycle of irrational activities eroding the lifecycle of the environment. These contradictory movements are at odds with each other as capital enlarges its exploitation of nature. As nature is degraded, it is also limiting capital's ability to accumulate. The reproduction of the environment is that odds with the reproduction of capital. The global environment is created and re-created over the course of millions of years and has responded to climate disruptions prior to the advent of industrial capitalism often slowly and all the time making adjustments in order to restore harmony to the environment. From the Industrial Revolution to the present the goal of capital is to take resources from the environment in rapid succession without restoration and fails to take into account how this undermines the reproduction of the environment.

Capitalism regards the resources of nature as commodities to be purchased and used and will make use of various technologies in order to obtain various resources. Any spatial barrier has to be overcome in order to secure important resources. In so many ways this irrationality of capitalism is as an ideology presenting a false narrative of how reality is to be understood in terms of the abstract power of commodities shaping monetary relations. Ongoing wholesale assault on the environment understood in relation to an irrational capitalism is evident through the mass marketing of commodities as consumption for the sake of consumption provides the means for the realization of surplus value through consumption.

The entire foundation of advertising as a form of propaganda is designed to socialize would be consumers to embrace the fetishism of commodities ". . . Propaganda it is felt forces us to think and do things in ways we might not otherwise have done had we been left to our own devices. It obscures our windows on the world by providing layers of distorting condensation. It suggests the triumph of emotion over reason in a bureaucratic struggle by the machinery of power for control over the individual. It is a dirty trick utilized by hidden persuaders mind manipulators and brainwashers."[14] In essence, propaganda is often the repetition of the big lie and expresses itself as lying by omission. Such use of propaganda is deliberate in order to convince people to commit an act in a specific manner. To be effective, propaganda must convey a consistent message through technical needs. The science of propaganda is exercised in order to dominate. For propaganda to be effective, it has to

be total and consistent, repeating the same message over and over again. Propaganda utilizes technology to reach a mass audience. By its nature, it must exclude competing and especially contradictory messages. To function with maximum efficiency propaganda will result in the total takeover and domination of the thought process. To reach a mass audience, propaganda must be public and overt if it is to be affective. An aim of propaganda is to make people serve an end. There is, as Jacques Ellul writes, the conception of propaganda as integration works towards creating mass conformity, ". . . a self-reproducing propaganda that seeks to obtain stable behavior to adapt the individual to his everyday life, to shape his thoughts and behavior. . ."[15] Propaganda is disseminated top-down from corporations that have the technological means to get the messages to a wide audience. The use of propaganda requires a concentrated media. In order to bind people to propaganda, the messages must appeal to the emotions in such a way that a set of prejudices and beliefs are rationalized.

For capitalism to make the transition from production to consumption, advertising must function as propaganda. Advertising has as its goal mind share to target a mass audience to form a tie to specific commodities. This includes defining one's identity in terms of a definition of specific products. The propaganda implied by advertisers involves the manipulation of emotion. Various advertising techniques are employed such as repetition through repeated commercial messages. The emotional appeal to group conformity is made by the bandwagon. It involves the suspension of reason as advertisers stress pressure tactics designed to make people choose to purchase a product quickly. Another emotional appeal is to make products desirable by an association with desirable things. As the British philosopher Berkeley wrote, to be is to be perceived. The emotional attention span has to be long enough to focus attention towards specific products. The power of advertising to shape behavior is evident in any commercial advertisement filled with a mini plot of heroes and heroines appealing to sexuality, a halo effect of humor, and the product's payback for consumption with success. Reaching into our conscious and subconscious minds, advertising centers on a desire to mimic celebrities who purchase particular products. To reach the subconscious mind, advertising seeks to target perceived insecurities, and positions the product as a problem solver that makes us better people. In order to reproduce consumption, advertising markets to children with the intention of socializing them into consumers. To manipulate and distort the emotions of consumers of all ages fits well into the process of capital accumulation. Consider the reliance on the manipulation of heartstrings, the depicted scenes of togetherness and family fun, the feel-good factor, the use of music and excitement and the omission of any negative traits. Stuart Ewen, in *Captains of Consciousness,* describes advertising as the mobilizing of instincts in terms of ". . . control of actively

channeling social impulses towards a support of corporation capitalism and its productive and distributive priorities."[16] With consumption completing the cycle of capital accumulation, as capitalism continues to grow, the result is "The struggle between Eros and death or between the instinct of life and the instinct of destruction as it works itself out in the human species."[17] Freud's remark is applicable to the limits of capitalism as it can no longer just promote civilization as a life-enhancing activity as it then moves in the direction towards undermining life. Freud 's analysis applies to capitalism which does not repress the destructive instinct as this instinct is enhanced in association with the consumption of commodities. Essential to the realization of capital as consumption is the liberation of any restraints on consumption, without such restraints, civilized life is being undermined. It is through consumption that capitalism cultivates the pleasure principle. Marcuse makes reference to the consequences of capitalism which knows no limits to consumption, as ". . .the unrestrained pleasure principle comes into conflict with the natural and human environment."[18] As a result, there is no reality principle regarding consumption patterns in a capitalist economy.

Capital works all the time in order to overcome an accumulation crisis so as to restore unimpeded accumulation. As capitalism temporarily overcomes a crisis, the ongoing process to accelerate accumulation occurs in the absence of any repressive modification or sublimation of the pleasure principle. This unrestrained consumption functional in order to realize accumulation of capital increases a death instinct associated with the reproduction of capital. While labor is repressed at the workplace through its alienation outside the productive process, the masses are socialized to consume without limit, necessitating labor beyond the need to acquire commodities necessary for existence. In relation to climate change capitalist civilization can only survive by ongoing growth and expansion while at the same time creating an instinctual de-fusion as part of the process of capital accumulation allowing a death instinct to gain ascendancy over capitalism's initial life instincts. In many ways the life and death aspects of capitalism shape the life and death of the planet. Capitalism represents this unity of life and death functions.

As the natural world functions to preserve and extend life as well as at times the necessity to limit life, in nature there is no contradiction between these functions. On the other hand, capitalism exists in contradiction to its life and death functions. It can allow for civilized life while the growth of capitalism subverts life and generates a movement towards death. The consumption phase of capitalism which is manifested as commodity fetishism is disconnected from how the expanded use of commodities is killing the planet. This system of mass marketing creating needs which increase the taking of resources from the planet is contributing to the acceleration of climate change. For capitalism knows no limits as it continues to take resources while

unable to take into account how the lifecycle of the planet is being altered and threatened. As capitalism takes what it wants from the environment what is broken is humanities need to exist in harmony with the environment.

The fundamental difference between capitalism and the environment is that the former unlike the latter functions over extended periods of time to be in harmony. Capitalism on the other hand is unconcerned with long-term harmony with the environment seeking only short-term gain. Capitalism functions in relation to the environment as just a commodity used to produce exchange value. If capitalism fails to acquire essential raw materials from the planet it cannot grow. As capitalism experiences periodic crisis which is in many ways built into the inherent limits of capitalism, there is also a resulting ecological crisis. For in order to temporarily speed up accumulation, this puts greater stress on the environment. Capitalism knows how to exploit the environment but as the environmentalist Barry Commoner knew, capitalism does not understand the basic rules of ecology. In a natural world, everything is related and nature functions in accordance to a harmony of interrelated parts. Nature is a functioning system pursuing its self-preservation over time. In sharp contrast to the functions of nature, capitalism is anti-ecological and has the following characteristics which cause harm to the environment. "The only lasting connection between things is the cash nexus. It doesn't matter where something goes as long as it doesn't re-enter the circuit of capital. The self-regulating market knows best and nature's bounty is a free gift to the property owner."[19]

Marx understood the contradictory life and death functions of capitalism. His well-known phrase in the *Communist Manifesto* of all that is solid melts into air is in part a reference to capitalism moving forward as a battering ram of perpetual change of transforming human existence as it also is unconcerned with anything that is of lasting value. Without any sentiment to preserve as Marshall Berman describes capitalists as ". . . the most violently destructive ruling class in history."[20] Marx presents a vivid image of how the appearance of the life enhancing power of capitalism appears. He makes reference to capitalists as modern sorcerer's invoking what seems to be magical powers to transform reality. While capitalists possess the power to conjure up like the sorcerer powerful spells used in order to control the world, they also unleash the power to destroy. The source of this power is unleashed by waving the magic wand of technology. Lewis Mumford refers to how capitalism makes use of technology during and after the Industrial Revolution by means of technological innovations from the time clock to the factory system and the application of modern science, applied as a means of social control. Technology advances the accumulation of capital by overcoming natural resistance of space and time to speed up the taking of resources from the environment. Capitalism serves the goal of profit maximization.

As technology becomes more advanced it is no coincidence the destruction of the environment increases. Seeking ever greater conversion of energy by the greater application of sophisticated technology, there is also a technological compulsiveness. This moves in the direction of a cultural emphasis of technology for the sake of technology. Machine culture expands into what Mumford makes reference to an appearance of the mega machine. Expanded extraction of natural resources necessitates using these mega machines. This has the effect of unleashing destructive impulses inherent and capitalism like the monster created in Mary Shelley's Frankenstein once created demands a life of its own.

Nietzsche provides insight explaining the movement of capital as it accumulates for the sake of accumulating is ultimately being devoid of meaning as the endless action of commodities results in a nihilism of values. To borrow from Nietzsche, capitalism accumulates as an expression of a will to power and in so doing can realize this will to power over people and things resulting in ". . .the will to destruction is the will of a still deeper instinct of self-destruction, the will for nothingness."[21] The essence of capital reproduction moves to break down barriers of space and time throughout the globe, in order to effectively accumulate by the exercise of absolute power over the environment. Nietzsche explains the psychology of appropriation as, "a desire to overwhelm, a forming, shaping and reshaping, until at length that which has been overwhelmed. . ."[22] It is, in essence the defining feature of capitalism as this imperative to grow without limit. Tied to this built-in feature of capitalism of continuous growth is a recognition of an evolving environmental crisis, but only in terms of how climate change could best serve the interests of capital accumulation. For example, geoengineering is proposed as a substitute for realistic actions to mitigate climate change. Another proposal carbon pricing as a trade off as resources are extracted setting agreed omissions limits. Given uneven development it is unlikely that nations would collectively agree on acceptable limits to greenhouse gas emissions. The obvious shortcomings of market-based approaches to climate change are determined by judging how profitable a remedy is. So under the banner of green capitalism it amounts to having it both ways: continue with the global expansion of capital along with the dominance of the fossil fuel industry while appearing to be environmentally sensitive by proposing ad hoc solutions.

At best, marginal green capitalism is a fig leaf covering over the irrational accumulation of capital on a global scale which continues to endanger life on the planet. In writing their book on climate change, Wright and Nyberg assess strategies by corporations on how to best navigate climate change taking into account to what they refer to as physical risk, regulatory risk, market risk and reputational risk. Putting aside all the pitfalls of this approach, climate navigation preserves climate destruction along with it the conquest of nature and

service of capital accumulation. What is contributing to essentially an overall failure to fully address the change in climate is how to have it both ways. They have made use of two approaches. One is to promote themselves as good corporate citizens who participate and contribute ideas on climate change, most notably as advocates of green capitalism. A second model is represented by those who are in denial of climate change, major fossil fuel corporations such as Exxon-Mobile and Koch Industries, industry groups, industry-funded think tanks and front groups, such as Americans for Prosperity. Unlike the green capitalists, who seem to be concerned about the environment, the denial crowd supports policies which accelerate climate change to increase use of fossil fuels as well as inventing new technologies which are destructive, such as hydraulic fracking and the extraction of tar sands. Both the green and denial capitalists operate within a global framework of scarcity.

As the planet continues to suffer from the effects of a change in climate a destructive social product of unrestrained capital expansion is the increase on a planetary scale of unrest and violence. "In an era of climate change, as societies confront diminishing resources and population dislocations, and as conflict and warfare are seen as increasingly viable solutions or reasonable responses, social, religious, ethnic and national cleavages can all too easily facilitate the development of the genocide impulse within the context of wider conflict and war."[23] Climate change does not directly cause violence and genocidal practices, but is indirectly a cause as climate change is contributing to further deterioration of peoples' lives. Pre-existing conflict or heightened inequality increases making it more likely to search for and find a minority to scapegoat and target for extreme violence. In parts of the world, water is a precious resource essential for civilized life, but the earth is running out of usable water. In addition, major populations live on the driest part of the planet. Hundreds of millions of people throughout the world cannot access clean water. Billions of people lack the infrastructure to process waste water. They must make use of water resources that are polluted and contaminated and that transmit diseases, such as cholera, typhus, and dysentery. With the changing climate putting ever greater stress on the world's limited water supply it is fair to say that there are examples of nations now willing to go to war of access to usable water.

Water and land use are also interrelated, as they are affected by a warming planet. There are various ripple effects as the earth continues to warm. A warmer planet affects crop yields of corn, rice and wheat which require enormous amounts of water. Aquifers are being used up faster than are being replenished by rainfall. Some nations will as the planet continues to warm receive insufficient water as other nations have too much. Throughout the globe, coastal areas which experience increasing population densities are

expected to confront a combination of higher tides, periods of flooding and the impacts of ever more extreme weather events.

A global pattern is clearly underway which will only accelerate the global division of uneven capitalism throughout the planet. Uneven development which has been characteristic of the movement of capital will continue to impact what has now become a planetary movement of people. With an increasingly altered environment decreasing the quality of life in the developing world resulting in higher poverty rates, food shortages and violence, people are on the move globally. Population displacement as mass migration continues to impact less developed nations because they lack the resources to adapt to climate change. As this displacement increases over time in response to the chronic problems plaguing the developing world, there will also be an ongoing decline in agricultural production as droughts, soil salinity and desertification accelerate. Governments seeking to compensate in order to address such problems by raising revenue do so in part by inviting foreign capital to invest with the resulting increase in the use of fossil fuels, further compounding air and water pollution.

Violence is an inevitable consequence of climate change. This combination of imperialist intrusion into developing nations by developed nations sets up the structure of colonizer and colonized supported by a segment of the colonized which collaborates and reaps the benefits. Direct and indirect appropriation of a surplus from developing nations by colonizers increases the already wide gulf between the haves and have-nots. A byproduct of climate change in developing nations and part of the colonial legacy has led to the development of these nations in combination with environmental degradation, which in turn, set in motion the outbreak of genocidal wars. Populations seek refuge from such wars, arriving in large numbers at the borders of developed nations, and become easy targets of social segments seeking to scapegoat and demonize those seeking escape by manipulating fear of them. Conditions of global scarcity are produced as capital continues to expand throughout the globe and the concentration of capital further widens the gulf between the few in the many. As a result ". . . populations will become much more receptive to punitive attitudes and policies that increase the risk of repression and various forms of collective violence against groups perceived to constitute a threat or as a drain on valuable resources."[24] A change in climate altered by the continued expansion of capital increases repression. Capital continues to search for novel investment opportunities in order to accumulate, putting in place conditions for nations to indulge in the authoritarian politics of militarism, racism and xenophobia. Advanced western capitalist nations have the means to take what they need from developing nations, putting in place regimes in developing countries that assist Western nations in extracting essential resources, i.e., fossil fuels, which increase climate change. This process does

not resolve the inherent contradiction of a capitalist system which undermines the environment and is another indication of the irrationality of capitalism. ". . . It cannot advance from destruction nor progress from waste however catastrophic the results. The more it unlocks the powers of productivity, the more it must unleash the powers of destruction and more extends the volume of production, the more it must bury everything on the mountains of suffocating waste."[25]

As developed capitalist nations continue to prey upon developing ones, during this unfolding ecological crisis, there is no resolution to capitalism's tendency to self-destruct, and in so doing, generate on a global scale waste and destructiveness. After an overall decline in the quality of life throughout the planet, the environment will begin to impose limits on the irrationality of capitalism. So as capitalism continues to degrade the planet, the limits of capitalist expansion will eventually be reached. It is simply not possible to continue to plunder the earth without reaching an environmental limit. As this environmental crisis continues to unfold, there is also a corresponding decrease in how capitalism can accumulate additional capital. Part of the process of capital accumulation is the necessity to overcome the time barrier. Destroying the environment decreases the time available to accumulate. In turn, this will put greater pressure on the system and leads to an inevitable accumulation crisis.

Capitalism seeking a temporary resolution of this contradictory development steps up control over the developing world so as to maintain this relentless drive to move forward and expand. Capitalism in its own irrational pursuit of accumulation accelerates climate change and will force humankind to confront a survival crossroad. As the forward movement of capital continues, seeking to seize the necessary ingredients for accumulation, it is simultaneously destroying the planet. Capitalism will be reaching a global limit over how much it can expand and as result fall into crisis as the rate of profit will decline. A social consequence of declining profits is the increase in the rate of labor exploitation. For the function of capital as it pursues the domination of nature and the labor process cannot resolve what amounts to a dysfunctional process. As capitalism seeks to expand throughout the globe, it reorganizes and reshapes what had been the harmony of nature, making nature increasingly dysfunctional. A destructive use of fossil fuels can only conflict with the harmonious function of nature, which is in the process of breaking down. Nature is being disassembled. As climate change continues to wreak havoc, the consequence is the simultaneous devaluation of life on a planetary scale.

As nature is broken apart into marketable commodities, humankind has become alienated from nature. As nature during climate change is in the process of being devalued as life enhancing, there is also a simultaneous devaluation of human life as the quality of life on the earth continues to decline.

Another outcome as this unfolds is the intensification of class struggle. The better-off members of the upper class are more capable of weathering the effects of a changing climate in contrast to other classes. In association with climate change, there is greater competition for desired commodities. The result is the functional equivalent of consumption which goes hand-in-hand with destruction of the planet. In her assessment of the future of capitalism, Rosa Luxembourg concludes that there is a choice to be made between an alternative social system, socialism and the continued reproduction of capitalism, which will result in barbarism. Left to its own devices, capitalism adheres to the viewpoint of seventeenth-century scientist Frances Bacon, who proclaimed that the goal of man is to master nature.

Evident in Marx's writings tied to his view of the labor process is an understanding of the historical unity of human beings with nature and the fact that the labor process does not have to be inevitably opposed to a harmonious interaction with nature. The labor process in the absence of class relations allows labor to coexist with nature, while shaping the relation to nature without destroying it. In the *Economic and Philosophic Manuscripts* and in *Das Kapital*, Marx's analysis centers on how capitalism distorts the relation labor has with nature. Throughout the manuscripts, he describes how labor can survive and flourish by working in a cooperative relation with nature. As a socially conscious activity, the labor process develops over time to both ensure survival and the creation of a socially necessary surplus.

The obvious benefit of a surplus beyond survival ensures a more ordered existence and allows for the development of a division of labor. While a permanent surplus makes it possible for humans to be free from the constraints imposed by nature, it also forms the basis of a social division of labor between those who engage in productive labor and a segment divorced from the productive process but which appropriates and exercises control over the surplus. This division functions as the basis for the formation of class divisions. The essence of this division is the separation of labor from control over the labor process. This results in labor having to sell its labor power. Its value is determined in terms of labor time in that segment of the workday necessary for the physical survival of the worker. The essence of what makes capitalism a social system amounts to the extension of the workday beyond the needs of labor and according to the dictates of those who control production extending the workday to include additional surplus labor time. The owner of the surplus makes use of parts of the surplus value toward recreating more value, which becomes capital. It is this built-in imperative into the social structure of capitalism creating this inherent irrationality which in turn leads to this assault on the environment. There is no assessment as to how this affects the environment for it is, as Marx states, accumulation for the sake of accumulation. The impact on the environment is self-evident as capitalism must

roam the planet in order to prey upon the environment. It is this perpetual search to acquire natural resources as capitalism hunts for raw materials. Capitalism relates to nature in a non-cooperative relation without regard to the effects on nature. The developing climate crisis is illustration enough of this self-destructive tendency. Capitalism regards the planet only in terms of how the planet can be integrated into one vast market made to conform to the purposes of accumulation. Capital roams the globe, drawn to areas which provide the most advantageous prospects for accumulation. The goal is to effectively reshape all global space to make it equally available to capital. This amounts to a spatial fix serving as an outlet for overaccumulation.

In the quest for spatial fixes, on a planetary scale, capital behaves like a hoard of insects that invades a location and devours it, then moves on to devour another location. Such destructive irrationality begs the question of what kind of rational social system would not destroy the environment. The imperative for humanity is to move towards a rational social system that would make it possible for this social system to live in harmony with the earth and allow the earth the capacity to regenerate itself towards a non-destructive stable harmony. Capitalism advances through a metabolic rift which breaks apart the harmony of the ecological system. A primary goal of such a rational social system would be to move humankind toward metabolic restoration. In part this translates into policies which would re-create environmental harmony. To remain in a social system in which all actions are geared towards the valorization of capital can only serve to let loose on the planet a process which is uncontrollable especially as the limits of capital accumulation are reached.

This raises the question of a possible viable alternative social system which is not destructive to the environment. A rational social system which would be one which could overcome the social crisis of capitalism eliminate the production and reproduction of capital as Marx refers to laborers as freely associating. Contributing to the irrationality of capitalism is how the market is framed to shape social relations in an authoritarian manner. It frames reality primarily in terms of the acquisition of commodities. Irrationality in capitalism is also expressed as social relations are defined through the lens of narrow self-interest. Another dimension of just how irrational are the functions of capitalism consider that this is a social system driven by its reproduction to cause harm to the planet. Without a moral compass, when capital reaches a time when accumulation encounters barriers through a falling rate of profit, it is labor that suffers. This is manifested as unemployment and the reorganization of labor into various labor segments, such as temporary and contingent labor. It is a social system which overall functions to cause harm.

In its contemporary form of monopoly, capitalism has increased and exercised greater control over labor and has failed to better organize consumption

patterns. As efficient as capitalism became towards producing surplus value, in so doing there is a tendency to overproduce, creating commodities so quickly that the market for consumption cannot absorb all the additional commodities. Underconsumption can result from an economic slowdown due to a lack of growth and a resulting increase in unemployment. Surplus absorption can be achieved if there is an increase in consumption or additional means are found to invest the capital so that additional surplus is not wasted. In order to resolve this problem there is the export of excess capital elsewhere, assisted by policies that support militarism which in turn pave the way for corporations to put in place new markets so as to absorb this additional capital. Militarism contributes to both a wasteful use of resources and an increase in global pollution. At best, this displacement of excess capital can only temporarily be resolved through the use of overseas investment, which ". . . has to be considered in light of the political and social uncertainties associated with foreign ventures. These uncertainties have markedly increased in the age of imperialism, wars and national and social revolutions and the resulting riskiness of capital exports greatly reduces their attractiveness to possible inventors."[26]

Global competition in world markets is another contributing factor making overseas investments risky. Exercising military power in developing nations is an option and a short-term solution. Empire building and maintenance requires long-term commitment of military forces and resources as export capital moves overseas which can in the long run also limit capital accumulation in the nation state. This constant drain of capital along with the shift of productivity overseas undermines capital accumulation within the nation's borders. What is evident by its visibility is that while capital pursues infinite expansion, the earth is not infinite. As this imperative to strive for infinite growth continues it is inevitable this pursuit will continue to disrupt the ecological system. While it is accumulation for the sake of accumulation capital accumulation functions according to the desire to speed it up. Irrationality built into this process of accumulation moves forward in order to overcome limitations of time. This irrationality is of a social system that cannot recognize any limits to its growth. While capitalism moves to overcome time, seeking timelessness, nonetheless nature is time limited "Nature's cycles operate at speeds that have evolved over many millennia—forcing them in any way inevitably destabilizes the cycle and produces unpleasant results. Fertile land is destroyed, forests are clear-cut, and fish populations collapse, all because capitalism needs to operate at speeds much faster than the natural cycles of reproduction and growth."[27] The drive toward unlimited growth at the cost of the environment is a contributing factor to the functional irrationality of capitalism. The outward expression of a forward-looking social system, which strives to be modern is an expression of a rational façade exposed by

the underlying tendency to undermine modernization as the quality of environmental and human life diminishes.

Among both climate change deniers and climate change reformers, there is a failure to recognize the iron law of capitalism. The deniers continue to advance the necessity of growth disconnected from the planetary global consequences. At the same time, enlightened or green capitalism emphasizes coexistence of capitalism with the environment. Green capitalism advocates growth with clean technology. But so-called green technology is green in name only because it depends on unchecked growth, which will continue to deplete the earth's resources. It is unlimited growth that contributes to climate change. It is questionable as to what extent such green technologies associated with, and assessed in terms of profit margins, would be viable in the long run in a capitalist economy. Any use of cleaner energy is subject to the cycles of capitalism. As investments in these technologies may increase as the economy experiences an upswing, they would decline during periods of overproduction and overconsumption. As with other commodities, access to these technologies, given the uneven distribution and unequal access, results in scarcity of use. It is a mistaken assumption that capitalism in the long run would ever accept or could exist with limited options for growth. Capitalism seeks unrestrained growth. Seeking to create a green economy would in the long run be limited to the margins of an economy driven by rapid growth rapidly by any means necessary. The most rapid route to growth is through the use of fossil fuels. Efforts to decrease growth with green technologies cannot succeed in displacing an economy driven by the use of fossil fuel. No green technology can mitigate the damage wrought by capitalism's reproduction process, which is irrevocably tied to increasing both production and consumption on an ever-expanding scale. This means green technology is incapable of decreasing production and consumption to a level which does not wreak havoc on the earth. Green growth is still growth capitalism making use of fossil fuels. Without fossil fuels there is no green growth. Together, the combination of green and fossil fuel capitalism will not decrease the carbon footprint. These dual energy sources in combination will not significantly reduce carbon emissions. It would be dysfunctional to capitalism to decrease production and consumption.

Presented as an alternative to the green coexistence of capitalism and the environment, a no-growth or degrowth economy at least reflects a social understanding of the shortcomings of capitalism based on unlimited growth. The degrowth theorists acknowledge that the continued growth of capitalism harms the environment. For a theory of degrowth to become a reality, it would mean a downsizing of production and consumption which would in turn contribute to maximizing the quality of life and protecting the environment. To some extent the degrowth theorists are providing a critique of capitalism

and understand how capitalism is motivated to grow in order to accumulate capital. Degrowth takes issue with the endless consumption of commodities arguing there is material plenty. A new mindset according to degrowth would include adopting various lifestyle changes, this would include, ". . .working less, home provisioning, fixing things rather than replacing them, low energy leisure activities using low energy transportation methods and in general using more low energy strategies to take care of personal needs and household chores."[28] Other reform measures designed to shift from a growth to a no-growth economy would include ". . .significant carbon taxes that would go along with a declining annual cap on carbon emissions and allocating emissions on an equal per capita basis globally, abolishing fossil fuels subsidies, divesting from the fossil fuel industry, rapidly switching to community-based renewable energy, work sharing, reduced working hours, basic and maximum incomes, consumption taxes, reduced advertising, citizen debt audit, zero interest rates, abolishing GDP as an indicator of economic progress."[29]

Simply put, an obvious overall shortcoming of this approach to climate change is a fundamental failure to take into account the ability of capitalism to resist a proposed degrowth economy. Capitalism does not and could not function if such measures were put in place and, with its a monopoly of economic and political control, it would not be long before an ideological mobilization was mounted against such reforms. To propose degrowth without understanding the class struggle aspect of capitalism is politically naïve. Capitalism is capable of undermining alternative energy forms by demonstrating they are not profitable. Degrowth cannot coexist within the framework of a capitalist economy. The ideology of capitalism would work to delegitimize a concept of a no-growth economy, especially in the absence of a broad-based social movement supporting it. Capitalism has proven itself overtime to be very effective in absorbing movements for social change especially those that are reformist in nature. Most of all, the absolute shortcoming of a no-growth model is that it would exist within the context of a capitalist economy. If a no-growth model remains a marginal aspect of a capitalist economy without moving toward an overall system change it seems unlikely that no-growth would succeed. The concept of the growth would be possible only in an alternative social system.

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Chapter 6

Rationality of Socialism

Albert Einstein once remarked if I had an hour to solve a problem I'd spend fifty-five minutes thinking about the problem and five minutes thinking about solutions. If one were to apply Einstein's five-minute solution to irrational capitalism, the result would be rational socialism. In less than fifty-five minutes of thought, the broad outline for the theoretical specifics, which constitute rational socialism, can be understood. Rational socialism is an idea that has yet to be fully realized globally. When writing about socialism, Marx was careful not to provide a fixed blueprint that would apply in all places at all times. He described what socialism would look like in general terms. His overall conception is that socialism solves the problems that capitalism is incapable of solving. Among the problems that socialism can address is the ongoing social crisis built into capitalism as a social system grounded in class conflict. The accumulation of capital as it continues to grow exploits both labor and the environment. Marx was also well aware of how capitalism is destructive but also inventive, ever searching to overcome the various contradictions inherent in the drive towards accumulation of capital. He characterized, in general terms, the political transition to socialism as the embracing of a new form of politics. It would mean in practice a truly democratic working class in the forefront, constructing an alternative social order and who would monopolize decision making at all levels of society. Marx understood that the working class given specific historical social conditions can develop a political consciousness which overcomes the class structure of capitalism. "Without the overall strategy of *progressively transferring the power of decision making to the assorted producers* (that is to say, transferring it at all levels, including the highest of them) the concept of participation has no commendable rationality."[1] This means taking into account the issue of historical timing in relation to the unfolding of ideal conditions as to when labor could possibly achieve this goal. Marx emphasizes the necessity of labor, assuming the role of dominant decision-makers so as to overcome the dominance of capital.

The social crisis of capitalism is at its root core a political crisis of labor ruled by the objectified reality of capital. Capitalists are the agents of capital. Capital is reproduced as class divisions are reproduced. The inherent rationality of socialism as an alternative social system can be understood in terms of overcoming the dominance of capital which alienates labor as an abstract force which in the transition to Socialism the social function of labor would become rational. This acquired rationality by labor is a process of obtaining conscious control over the reproduction of social existence. It becomes a process of labor truly working in common in which the aims of the productive process are for the benefit of labor, ". . . work itself is *universalized,* consciously involving every single individual, and, on the other hand, the potentially most generous fruits of the individuals' positive dedication to their productive objectives are *equitably shared* out among all of them."[2]

In the transition to socialism, the functions of labor in the productive process are to be understood in terms of a common sameness as associate producers who are made into free producers. They produce out of necessity and make decisions as to what is necessary for existence. The underlying rationality of socialist social planning derives from a contrast with the short-term profit in capitalism, instead it is a rationality expressed as labor thinking through what needs to be done in the present and the future. The anarchy of a capitalist system is replaced by labor which has the power to make decisions in the absence of the imposed order of capital. This means a form of planning that takes into account future human needs. Without the artificial needs created by consumer capitalism, labor can clearly articulate its genuine needs. At best, a capitalist social system only allows for partial rationality. Labor's rationality in a capitalist social system is limited by those needs beyond survival, which are market-oriented only toward the reproduction of capital. In contrast, On the other hand, a social system geared towards human needs without the imposition of generating capital allows for a comprehensive rationality.

The acquired rationality in a socialist system is formed in the context of historical time. Human needs are assessed in terms of specific material conditions. This is in contrast to capital which continually degrades labor time. In capitalism, available labor time beyond what is needed for survival must only serve the interests of capital reproduction in production and consumption. Capital gives credence only to time measured as valued in terms of the productive use of time for capital. Time is only valued in capitalism when used in service of capital expansion. To grow rapidly over time, this has the corresponding effect of destroying the environment in order to regenerate capital. In the process of creating more capital, the other destructive byproduct is waste. Any value must be equated to what is useful in order to accumulate. Remove the drive to create capital and what results is useful time

in socialism directed towards human needs where labor thinks through and defines specific human needs. Under a socialist social system, the purpose of the rationality of consciousness is to produce only what is needed and to avoid waste and activities destructive to the environment. This means a social system that must accept its limits while capitalism seeks to expand capital by rejecting all limits of space and time. Marx outlines a socialist society that makes decisions on the basis of a kind of social utility. Under socialism the social organization of labor allows for well thought-out necessary time essential to the fulfillment of human needs. This is what Marx meant by socialism, which allows for labor freed from the tyranny of productivity beyond necessary labor time and service of capital.

As capital expands, it lacks a rationality which would halt the ongoing destruction of nature because this destructiveness is self-serving to the interest of capital. This self-expansion of capital assumes ". . .cancerous growth leads to a complete disregard for safeguarding the elementary conditions of human existence."[3] The global threat presented by capital continues to accelerate overtime. This global climate crisis as it continues to accelerate makes it all the more important to consider a rational alternative to the irrationality of capitalism. Marx did not consider socialism inevitable. He did not rule out capitalism surviving and becoming increasingly authoritarian. In assessing the current state of global capitalism, as the environment continues to be under ever-greater stress presenting a limit to the accumulation of capital, there are tendencies towards greater authoritarianism within capitalist societies. As this global search continues in order to step up acquisition of fossil fuels, its destructive byproduct is climate change. What will continue to cause various contradictions in capitalism unfolds as capitalism continues to seek unlimited growth. An apt metaphor for the contradictions of capitalism is Oscar Wilde's *The Picture of Doran Gray*, the story of a young man seeking eternal youth. Knowing that his beauty will fade, he sells his soul in order to ensure that his reflection in the mirror retains its youthful appearance. Dorian is thus able to pursue a life of ever greater excesses while his portrait starts to eventually age, recording all his misdeeds. In the same vein, capitalism appears to be a rational social system, disguising an underlying ugly irrationality in pursuit of eternal existence.

At best, the corporate interests and policymakers propose measures that appear to be innovative solutions to the changing climate, but upon closer inspection, the implementation and effects of these measures would result in dire consequences, further contributing to global warming. While there is recognition of a changing climate from capital, the proposed solutions amount to a continuation of capitalism's destruction of the environment. One such proposal, geoengineering, is consistent with capitalism's reliance on technology. Geoengineering is presented as the single best option to address the

damage that continues to unfold against the environment. Policymakers have invested in geoengineering as a form of carbon removal known as ocean fertilization. International interest from the UN was expressed in the Convention on Biological Diversity and the agreement known as the Lincoln Agreement. Geoengineering has been on the agendas of both the 2015 Paris Accords and the International Panel of Experts on Climate Change in 2021.

Technological modification of the environment is nothing new. The Cold War politics of a nuclear arms race and the event that started it, the dropping of atomic bombs on Hiroshima and Nagasaki, are examples of a violent intrusion against the forces of nature, placing no value on human life. A segment of the scientific community has shown an interest in geoengineering. In many ways, geoengineering deals with removing carbon dioxide after it has been released into the atmosphere. Among the proposed greenhouse gas removal/carbon dioxide removal (GGR/CDR) technologies, are some that seek to change the chemical balance in the oceans in order to accelerate carbon dioxide uptake. Other forms make use of technology designed to capture carbon dioxide at the source of the emission and place it underground.

When assessing the various shortcomings of geoengineering, the possible implications of its use indicate a naïve optimism that borders on science fiction. For starters, the global scale of it, once deployed over time could have a variety of unintended consequences. They include technological breakdowns, human error, the inability to assess the short-term in combination with long-term effects, which could unleash unforeseen environmental chain reactions. Once initiated, the implementation on a global scale could be irreversible. There is the difficult problem of determining who controls geoengineering and how that could further intensify global political divisions, creating a world divided into more effective and less effective users of geoengineering. If this technology does not deliver on its promise and if geoengineering continues to be used, its failure could actually accelerate climate change.

The mindset of geoengineering is tantamount to allowing capitalism to have its cake and eat it too. With geoengineering as a useful afterthought, polluters have an excuse to continue to pollute and to develop other polluting technologies. As global tensions increase as the climate continues to change, geoengineering becomes a useful tool to be used by nations that aim to control the Earth's thermostat. As more science fiction than science fact, geoengineering creates an unfortunate distraction from doable global reforms that represent shifts away from fossil fuel consumption. Such so-called solutions indicate that capitalism has not yet been forced to advocate solutions that are non-reproductive of capital. It isn't surprising that capitalism is considering technological solutions to climate change. After all, capitalism has made use of technology to wreck the environment; thus capitalism sees technology not

as the problem but the solution. In part, these various reforms would be an attempt to slow down what began as "The Great Acceleration," which began after 1945. Its environmental impact starting in 1945 was characterized by a massive human impact on the environment, with extensive increases in CO_2 emissions appearing at that point. The idea that humans could use the most destructive technology to pervert the atmosphere is evident with the detonation of the first atomic bomb in the New Mexico desert on July 16, 1945. "The Great Acceleration" impacts all parts of the global environment: oceans, land mass and the atmosphere. The aftermath of World War II produced many new technologies adapted to a more efficient use of fossil fuels. This post-war phenomenon coincides with the rise of global capitalism. One example conducive to the global reach of capitalism, the General Agreement on Tariffs and Trade (GATT) appears in 1948 with the goal of removing barriers to capital accumulation caused by trade, tariffs and other protectionist policies. With capitalism locating profitable markets in Europe and the developing world, the infusion of capital had the benefit of raising living standards, which in turn, led to a dramatic rise in global human population. This, in turn, led to greater energy use, propelling forward "The Great Acceleration." The increase in food production led to greater water and fertilizer use, resulting in greater utilization of nitrogen used in fertilizer. Agricultural runoff from fertilizer found its way to freshwater and coastal systems. Greater agricultural production associated with the acquisition of more land results in a net loss of trees. An example of changing land use is the shrinking of the Amazon, an ongoing loss of a critical ecosystem and its biodiversity. As wild animal populations decrease, and humans take over more land, the rate of animal extinctions accelerates.

The evidence for this accelerated assault on the environment is contained in various geological findings, from samples of glacial ice, stalagtites and sediments taken from lakes and the ocean floor. These samples reveal chemical changes in the carbon and nitrogen cycles, as well as new gases that do not appear in nature, such as chlorofluorocarbons (CFCs) no longer in use, having been replaced by another refrigerant hydrofluorocarbons (HFCs) which has also been phased out. Another powerful greenhouse gas, Sulphur hexafluoride (SF) was in use until 2008.

As discussed earlier, the dropping of the atomic and hydrogen bombs released radioactive Carbon 14 in addition to plutonium 239 and plutonium 240, both of which are linked to an increase in the incidence of certain cancers. "The Great Acceleration" graphs published in 2004 and updated in 2015 illustrate an ominous global trend, indicate ongoing destruction of the earth's systems from increases in carbon dioxide, nitrous oxide and stratosphere ozone, leading to increases in surface temperature, tropical forest loss, domesticated land loss, the release of methane and ocean acidification.

Clearly, Earth cannot continue to sustain these increases. "'The Great Acceleration,' in its present form, cannot last for long. There are not enough big rivers left to dam up, enough oil left to burn, enough forests left to fell, enough marine fish left to catch, enough groundwater left to pump up." When will this limit be reached? McNeill and Engeke do not know. If what they say is true, humankind faces a stark choice if capitalism continues in this quest to accumulate capital by wrecking the planet. A less stark choice would involve an historical movement away from capitalism and toward ecosocialism. A runaway capitalism will seize diminishing resources and in so doing will further undermine the quality of life on planet Earth.

Unlike the science fiction of geoengineering, there are a number of reformist and non-reformist reforms that do not contribute to the reproduction of capital and the resulting ecocrisis. Reforms that could be implemented right away, given the political will to do so, are global, national and local energy policies such a serious reduction in energy consumption through the use of strategies designed to result in zero waste. National planning toward an overall restoration of ecosystems on a global scale must include:

- Mutual cooperative agreements between developed and developing nations.
- A fundamental alteration of lifestyles of excessive consumption.
- A goal of providing one hundred percent of energy at the state and local levels from renewable sources, such as solar and wind.
- Local strategies to employ farming practices that use ecologically sound methods.

John Bellamy Foster has developed a list of non-reformist reforms that provide a road map toward a possible global transition to ecosocialism, which include the rapid phase-out of the fossil fuel energy infrastructure; diversion of military expenditures to use for ecological restoration; the transformation of agribusinesses into agroecology, focused on social ownership of sustainable, small farms; stricter regulation of the emission of toxic chemicals; and the institution of measures that prevent the buying and selling of fresh water.[4]

A climate crisis is likely to trigger a social crisis in Western capitalism. As the climate erodes the quality of life, the question is whether capital will be forced to consider various options that limit capital accumulation or will it resist any such policies? In order for such limitations on accumulation to succeed, labor would have to execute a greater push toward economic democracy. Questions also remain as to whether an ongoing ecological-social crisis in combination with a push toward economic democracy and social ownership of the means of production would be sufficient to achieve rational socialism.

Adopting policies and structures to confront the climate crisis would necessitate a shift toward socialized production. This would not at first appear to officially end capitalism, but as the new social order developed, capitalism would necessarily decline. This shift unfolds as an imperative in which humankind will come to understand this alternative or face the prospect of perishing in the unfolding ecological crisis. In confronting the ecological crisis, humankind has the opportunity to move toward a more rational system, which is the single alternative to the irrationality of capitalism.

A key factor in addressing the climate crisis over the long term will include the rollback of empires. Global capital expansion could not have happened without the critical support of militarism. Once freed up, the social and economic resources required to sustain militarism could be shifted to support more sustainable climate policies. This is not out of the question. Recorded history provides many examples of empires that eventually decline and fall.

In his recent book, Wolfgang Streeck makes the case that capitalism is already disintegrating due to its very success in its ability to conquer the environment. He identifies three long-term causes, which in total contribute to the demise of capitalism:

> The first is a persistent decline in the rate of economic growth, recently aggravated by the events of 2008. The second, associated with the first, is an equally persistent rise in overall indebtedness in leading capitalist states, where governments, private households and non-financial as well as financial firms have, over forty years, continued to pile up financial obligations. Third, economic inequality, of both income and wealth, has been on the ascent for several decades now, alongside rising debt and declining growth.[5]

Streeck argues that while capitalism is dying, there is no new alternative to take its place. Marx's insight is that the roots of a new social order lie within the existing one. An argument can be made that these new social forces may seem invisible at first but may become visible as the ecological crisis accelerates.

According to Machiavelli, politics is the means with which societies confront the unforeseen. Humanity may be forced to choose between self-destructive capitalism and an alternative and non-destructive socialism. The challenge, by no means a small one, would require that social systems evolve non-capitalist economice, in turn, leading to development that would equalize relations between developed and developing nations. Global movements will play a critical role, acting like ecosocialists but not necessarily calling by this term. Such movements will appear once there is sufficient evidence that capitalism is on the demise. This becomes a matter of historical

timing. These movements will call into question the capitalist idea of indefinite expansion against a finite supply of natural resources.

The shift of global capitalism to slow or even no growth will not just be another element contributing to its decline, it will, in the short-term, trigger more desperate measures, including increased use of militarism, that are designed to increase capital accumulation but will ultimately delegitimize support for capitalism. Declining capitalism offers humanity a long-term historical lesson on how to overcome the limitations of capitalism. This is what Marx meant when he stated, "Mankind always sets itself only such tasks as it can solve, we will always find that the task itself arises only when the material conditions for its solution already exist or at least in the process of formation."

The beauty of a socialist social system in contrast to a capitalist social system is not this irrational quest for eternal existence. Instead, socialism would function to bridge the present to the future as a rationality that develops as a social political consciousness among various social segments. In a manner that Marx characterized as an inter-related process of a social and political transformation from bottom to top in which the social conditions redefine the process of societal reproduction. As this process continues to unfold, the masses will redefine social existence, launching a movement to reject the irrationality of capitalism's definition of social existence. The socialist society that emerges is worker-run and has as its goal the elimination of a process that reproduces capital. Without capital reproduction, which is hell-bent on global growth, the result is a reproductive process that works in harmony with the environment, liberating the environment from the destruction of capital and creating genuine freedom for the worker. At best, capital only appears to liberate as it expands. ". . . It both creates the family and destroys it, both produces the economically independent young generation with its youth culture and undermines it, both generates the conditions of potentially comfortable old age with adequate social provisions and sacrifices them to the interests of the infernal war machinery. . ."[6] Left to its own devices, capitalism is incapable of resolving these contradictions. Socialism as a viable social movement would have to address existing differences among various social segments and supersede these differences by inclusion of the excluded. Such a movement rejects the limited usefulness of people and resources that are only valued in relation to the production of capital.

In many ways, capitalism reproduces its dysfunction as it expands by discarding whatever is not useful to capital. Controlled only by the law of capitalist accumulation, capitalism roams the planet out of control. This law of capital reproduction does not allow for any substantive reforms that would alter this process. This explains why green and no-growth capitalism cannot succeed in the face of the obsessive reproduction of capitalism. By its

very nature, capitalism pushes back against attempts to limit its reproductive process. Labor alone is the social force that can prevail over the dominance of capital, by organizing to overcome this process of capital accumulation. Labor's ultimate purpose is to realize a vision of a systemic alternative to capital's control over the social system with the end result being a total restructuring of the social order. "The alternative to capital's mode of social metabolic control must likewise embrace all complementary aspects of the societal reproduction process from the direct productive and distributed functions to the most comprehensive dimensions of political decision making. . ."[7]

The rise in the political consciousness of labor is the development of a rationalism calling into question what is irrational in the alienation of labor and the perpetual fetishism of commodities. Labor would also arrive at the rational realization that there is a collective alienation of labor from nature. For labor to arrive at this realization requires an understanding of how capital dominates labor time. Socialism would make for a fundamental shift to labor time organized according to labor's social needs. In contrast, capital dominates labor time, placing labor under the control of abstract forces, such as the fetishism of commodities. Capitalism is always in confrontation with time, seeking to realize the impossibility of timeless accumulation. Socialism understands the limits of time, making use of it as necessary and only to satisfy labor's needs. The corresponding effect on a socialist social system results in a harmonious relationship to earth time. Resources are extracted from nature with care so as not to violate earth time. Socially oriented labor time eliminates the necessity of ravaging and plundering the planet according to the objective requirements of capital accumulation. This reconciliation of a socialist society in harmony with the environment has been theorized as eco-socialism, whose essential feature is a social system in balance with nature. The wastefulness of capital is contrary to humanity which seeks to be in balance with, and in a non-destructive relation, to the environment. As such, the functional rationality of eco-socialism is that it maintains an ecological balance between humankind and the environment. Eco-socialism is also rational in that it is derived from an idea of humanity and the ecosystem as interdependent. Capitalism, in its pursuit of resources in order to accumulate, is incapable of taking into account this inter-dependency between human beings and nature. Eco-socialism is derived from a social transformation of society creating a shift from exchange values towards use values. It is an understanding that all living things can coexist with each other in the context of social and eco-systems. The forward movement of civilized existence means coming to grips with this basic principle, that the social system must be in harmony with the global ecosystem. Ultimately, eco-socialism measures the overall quality of life in terms of what enhances human life and the life of the planet.

A transition to a socialist social system does not eliminate humanity's interactions with the environment through technology. The question is how rational are the techniques that will be used to extract most effectively what is needed from the environment. In a capitalist social system, machine-based technologies become simply a means to capital accumulation. The utility of various techniques is evaluated in terms of speed and efficiency in relation to capital turnover. The obvious shortcoming in using a range of techniques to extract resources from nature is a short-sightedness in not realizing that techniques cannot entirely conquer nature. The most rapid and efficient techniques are destroying the physical world.

With the acceleration of climate change, the science points to the limits of environmental adaptation to this forceful and destructive extraction of resources. Time-oriented technology becomes the measure of how efficient capital accumulation is. The expression "time is money" applies to how profit maximization can be increased by increasing the efficiency of machine technology. The artificial life of capitalism's machine culture is used in opposition to the natural life of the environment. The power of machine technology to overcome any physical barriers presented by the environment makes this technology the basic means for the expansion of capital by this destructive reshaping of the environment.

In capitalism, technology's sole purpose is to be used to reproduce capital. Technology's role in capitalism is object fixation expressed as the ever-increasing production of commodities within a specific time-frame. In contrast, a technology that does not function for this sole purpose could address a changing climate. Within a socialist framework, technology in the absence of capital reproduction is a technology that takes into account human needs in accordance with a reorganization of production and consumption patterns, and away from endless consumption that does not satisfy human needs. Innovative technology in socialism would consist of inventing the technical means for humanity to exist in harmony with nature. Socialist technology would be defined as democratic technology because it is no longer privately owned. Social ownership translates into democratic decisions regarding the production and distribution of technology. There is plenty of room for innovation in worker control over the uses of technology. Seeking remedies to confront and reverse climate change without further destruction will require innovation.

To borrow the concept utilized by Mumford, megamachines as technologies of scale seize finite resources over large areas of physical space functions to regenerate capital. From the dawn of industrial capitalism, the goal has been for technology in the form of ever-bigger machines to extract more resources over greater distances. The ultimate measure of these megamachines is the value attached to the appropriation of finite resources on ever-expanding

scales. This contradiction arises when extraction by technical means without limits encounters the finite resources of planet Earth. Built into this process to reproduce and expand the reach of capital is an obsession with continuously inventing more megamachines. In capitalism, more technology is falsely equated with the advance of human civilization. It is an ideology that equates ever-expanding technological innovation with human progress. This has the planetary effect of accelerating climate change. Technology is created and re-created over time without much questioning of its social functioning other than being an agent of greater efficiency. The usefulness of new technology becomes a means to manufacture consent for ever-increasing mass consumption. Inadequate and wasteful use of available resources promotes the compulsion to grow and seize additional resources.

In contrast, socialist technology, which aims to be in harmony with the planet would imply a shift away from production and reproduction of megamachines. A reduction in the size and efficiency of techniques away from forceful extraction is what is needed. It involves policies that deemphasize technologies used to conquer the Earth. It would also mean the development of techniques that reflect the social needs of democratic oriented labor. It involves putting in place forms of democratic planning by labor to plan and assess interactions with the environment in terms of policies not based on the wholesale extraction of fossil fuels.

Socialist social systems do not, in principle, have to reject growth. The question for socialist systems is what kind of growth doesn't cause significant environmental harm? Socialist growth can be understood as well-thought out decisions that advance civilized existence by meeting social needs that aren't driven by profit maximization. Socialist systems would create global policies that, in the absence of capital, would level differences between developed, developing and underdeveloped nations. This would involve a kind of recycling and shifting of material resources throughout the world to minimize negative effects on climate. This would sharply contrast with global capitalism which structures interactions between nations as a Darwinian struggle of survival of the fittest, where a few nations monopolize scarce resources.

The goal of global socialist systems is to create qualitative growth within a rational policy that prioritizes human needs and not the forceful extraction of nature's resources in service of profit. Instead, planned growth across national boundaries involves careful consideration of how to make use of nature's resources without destroying these finite resources. In a socialist social system, growth occurs within and is guided by a human development model, in which policies promote the use of resources already in place that are made more productive to provide what's needed for a moral, just society.

A fundamental reordering of priorities with politics geared toward future-oriented policies developed by labor that seek to prevent social harm.

This is where rational planning comes in instead of the irrational dictates of capital. Limiting harm to the environment means the implementation of policies that strive to eliminate wasteful technologies. Producing commodities that endure without planned obsolescence would minimize resource extraction from the environment. Longer-lasting products provide the environment with more time to replenish natural resources.

In the absence of capital reproduction, a socialist technology allows for more opportunities for invention and creativity while seeking how best to avoid social and environmental harms. This thought process, rejecting endless consumption, while emphasizing lower levels of consumption, would serve to level social differences. Extreme inequalities of wealth and class in society with lower consumption levels allows for more equitable satisfaction of social needs by eliminating the market, which maximizes scarcity. This creates a society that is more just and exhibits greater social harmony.

Given recent scientific evidence concerning the future of climate change, it is only a matter of time before capitalism will accelerate a more destructive phase. Humankind cannot continue along this path. The alternative to consider is the possibility of creating a rational alternative to capitalism's irrationality of ". . .creation of a democratic eco-socialist world system as real utopia, not just as a vehicle for creating a safe climate, but a more socially just, democratic, and generally sustainable world society as well."[8]

There is no denying that the road to eco-socialism would be a multi-generational struggle. Perhaps it boils down to whether or not humanity will over time reject the irrationality of capitalism and move toward the rationality of an eco-socialist system. It would have to assume the form of an acquired, collective rationality, which would depend on the comprehensive transformation of existing political and social institutions supported by various social segments. The acquired rationality expressed as a developing revolutionary consciousness would develop in the direction of how specific policies decrease the harm caused by capitalism. This reduction of social harm functions to empower the masses and raises expectations. It is essential for the masses to see the benefits of policies that deconstruct capitalism. These constructive policies function to reduce social and environmental harm, which while reformist, are less destructive to the environment, such as "drastic and enforceable reduction in the emission of greenhouse gases, development of clean energy sources, provision of an extensive free public transportation system, progressive replacement of trucks by trains, creation of pollution clean-up programs and, elimination of nuclear energy and war spending."[9]

While there are examples of steps in the right direction, such incremental steps would have to be followed by greater systemic changes that move toward a socialist social system. The mindset necessary for a revolutionary

transformation to socialism is the development of comprehensive social rationality, in which an understanding of the interrelationship between humans and the natural environment is integral. Ecological thought defines the interactions between ecosystems and social systems. As the climate crisis accelerates, the challenge for humanity is to grasp a universal idea, that the human species cannot maintain civilized life unless humankind exists in a harmonious balance with the global ecosystem. The challenge is for nations to realize the necessity of formulating a global consciousness that can lead to restructuring national and international political and economic structures.

The realization that capital accumulation is destroying the planet can drive human invention and cause societies to call into question the organization of concentrated political and economic power. The irrationality of capitalism with its emphasis on unregulated growth as it undermines environmental quality must be confronted by transnational solutions that transcend national boundaries. Various climate change agreements give such transnational measures half-hearted recognition. The overall shortcomings of these agreements is not just that they provide inadequate climate change solutions, but that they also serve to support the growth of capitalist economies.

Global social movements are a means to formulate specific transnational policies. These movements are beginning to address the monopoly of control exercised by elites who support capital accumulation on a planetary scale. These movements are also raising questions about uneven development and how the global spread of capital is related to the compulsion to continually create new technologies. Fossil fuel-driven capital accumulation has divided the planet along class lines. The wealthy and those who own capital are able to adjust to climate change since they have the resources needed to maintain their elevated living standard. In contrast, the victims of climate change are everyone else, especially the poor living in both the developed and developing world.

Climate change is reshaping weather patterns and increasing infectious diseases, food insecurity, water shortages and diminished crop yields. Irrational capitalism ravages the earth taking precious, finite resources, resulting in destruction and social harm. This relentless drive to accumulate engenders a moral indifference to the scope and scale of human suffering. The value of human life is measured according to who contributes to capital production. "As capitalism has plundered the world, it has made an increasingly large proportion of the population not just 'relatively redundant' but absolutely surplus to capital's profit making requires. They aren't needed as producers or consumers."[10]

Superfluous populations are discarded, abandoned and denied the basic necessities of life as capital accumulation is indifferent to human suffering. With the increase in global scarcity and increasing social divisions, difficult

life conditions in many parts of the globe create preconditions for genocidal practices.

As the climate continues to deteriorate, overcoming global divisions and moving toward a form of eco-socialism becomes an objective necessity. It is a process of overcoming destruction towards construction. It would require the reversal of actions of capital driven to commit ecocide. This is why eco-socialism must be a global movement, so that it can protect the environment without regard to national orders. But there is nothing inevitable about ecosocialism. What has been outlined here are possible preconditions. Nonetheless, to quote Nelson Mandela, "It always seems impossible until it is possible." In order for ecoscialism to develop, it must begin as a class struggle who comprehend what is at stake: the ruin of civilized existence. It can be an historical process. As Marx wrote: "Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past." Humankind lives with climate change, in a kind of suspended animation, a numbness that gives free rein to capital's violent and destructive assault on the environment.

However, it is not difficult, upon reflection, to conclude what needs to be done to arrive at a form of ecosocialism that can halt the destruction of the planet. David Harvey presents a framework for actions essential to addressing the destructive march of capital and representing the rational, moral ends for a common good associated with ecosocialism. Global social movements can develop a course of action that move toward addressing and diminishing social and environmental harm. In a coalition of class, race, and gender segments, class would operate as binding this coalition against the social reproduction of capital. The reproduction of capital is expressed as the creation and recreation of class distinctions maintains a system of domination over labor and nature. The domination of a class structure re-creates the reproduction of capital. Social movements motivated by rational moral imperatives will seek to confront climate change in part by also seeking to end class domination. An historical opportunity is possible for labor if there develops a broad understanding of the relationship of an environmental crisis to the ongoing crisis of capitalism as it seeks to reproduce capital.

What would be needed to develop among nations is a movement that could seize the historical moment as the crisis of capitalist accumulation and the environmental crisis each reach an apex. This is not to deny that more extreme destructive environmental measures will occur throughout the globe in response to an ongoing accumulation crisis. At every opportunity, a relation needs to be made between issues of ecology and what matters to labor. Greater worker control within institutional settings is necessary in order to confront climate change. Working class politics coincides with environmental

politics. What has become evident to the labor movement in many parts of the world is that labor exploitation is connected to the exploitation of the environment.

The global degrading of the environment is visible as the simultaneous diminishment of the quality of life for labor coincides with an increasingly dysfunctional natural environment. Capitalism can seem to improve upon previous modes of existence with what appears to be a semblance of greater rationality. Marx identifies this appearance of rationality as ultimately an instrumental rationality that Schumpeter refers to as "creative destruction" and what Meszaros refers to as the reverse, as a "destructive creation." Underlying instrumental rationality is the self-interest that motivates reproduction of capital.

A socialist alternative combines a humanism guided by the goal towards achieving a social system for rational moral ends. A transition to socialism as a revolutionary system change establishes the preconditions for an ecological revolution. While capitalism ignores the functional rationality that is constructive to the harmony of nature, a movement to create ecosocialism discards capital accumulation which grows at the expense of the environment. Instead, ecosocialism strives to create a system that coincides with the harmony of the natural world. This socialist harmony is manifested as the combination of reason and sentiment in the absence of class distinctions that strive to achieve common moral ends. The ecological crisis is a crisis for humanity of a capitalism that disrupts the planet's ecology and seeks to accumulate capital while experiencing periodic crises. So just as capitalism is crisis-driven, it also leads to environmental crises.

Capitalism is a system that functions to restrict reason and elevates passion to function in association with the abstract reality of capital. In contrast, socialism allows for a positive association between reason and passion by rejecting a class-based society with its instrumental rational and social Darwinism. As a result, socialism elevates reason and passion through the pursuit of common moral ends, so that they can function for a common good. The unity of reason and passion in the absence of capital and class distinctions is a positive transcendence of the alienated labor of capitalism. It amounts to a recovery of the lost humanity that occurs under capitalism. In a socialist social system, reason and passion are in harmony, guided by the goal of avoiding social harm as much as possible. In a socialist social system, unlike in a capitalist social system, labor is created as truly free labor instead of alienated labor, which is conducive to the reproduction of capital. The consciousness of free labor manifests as a recognition of its own reproductive limits which in turn, creates an understanding of the reproductive limits of nature. So long as labor and nature's reproductive capacities are not exceeded, there would exist a harmonious balance between humanity and nature, which would represent a

rational, moral process. No longer do you have the destructive, unbalanced humanity-nature interactions of capitalism in which exchange value is the ultimate measure used by capitalists to gauge profit maximization. Instead, this is replaced by an emphasis on use values. Exchange value seeks to have no limits on transcending any societal and natural limitations necessary for capital reproduction. This works against the balance of life-affirming activities in nature. This unleashes the irrational destructive forces in this obsession to remake capital, which assaults the environment. In contrast, the process of social reproduction in a socialist system through the production of use values is what can heal the fractured relation between nature and humankind. Social control and ownership of the productive process for common needs by labor is at the root core of creating a consciousness from which labor exercises social control toward creating policies not destructive to the natural world.

As capitalism develops and extends its global reach, continued growth as extraction of earth's resources without limits becomes unsustainable growth. It is unsustainable to the ecology of the planet. Ecosocialism is the opposite, motivated by the goal of creating nondestructive sustainable development. Under ecosocialism, the growth is not primarily material growth, but a materialism associated with collective needs that support civilized existence. All interactions with the environment serve to sustain it and to avoid significant harm to it.

NOTES

1. Istvan Meszaros, *The Challenge and Burden of Historical Time: Socialism in the 21st Century* (New York: Monthly Review Press, 208) p. 255.
2. Ibid., p. 262.
3. Ibid., p. 385.
4. John Bellamy Foster, "Making War on the Planet: Geoengineering and Capitalism's Creative Destruction of the Earth," *Monthly Review Online*, July 24, 2018, https://mronline.org/2018/07/24/making-war-on-the-planet-geoengineering-and-capitalisms-creative-destruction-of-the-earth.
5. Wolfgang Streeck, *How Will Capitalism End?: Essays on a Failing System* (Brooklyn: Verso Books, 2016) p. 47.
6. Istvan Meszaros, *Beyond Capital: Toward a Theory of Transition* (New York: Monthly Review Press, 2010) p. 686.
7. Ibid., p. 728.
8. Hans Baer, *Democratic Eco-socialism as a Real Utopia* (New York: Berghahn Books, 2018) p. 257.
9. Michael Lowy, *Ecosocialism: A Radical Alternative to Capitalist Catastrophe* (Chicago: Haymarket Books, 2015) p. 91.

10. Ian Angus, *Facing the Anthropocene: Fossil Capitalism and the Crisis of the Earth System* (New York: Monthly Review Press, 2016) p. 187.

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