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Oecumenicus: Our Global Inheritance

Jacob Wareham

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OECUMENICUS: OUR GLOBAL INHERITANCE

A Thesis
Submitted to the School of Graduate Studies and Research
in Partial Fulfillment of the
Requirements for the Degree
Master of Fine Arts

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May 2019
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What are the issues that define our global society? The exhibition *Oecumenicus: Our Global Inheritance* identifies these issues. The world is faced with two dire crises, one environmental and one humanitarian. Excessive carbon emissions created by the mass consumption of fossil fuels is causing climate change that is leading to a global-scale temperature increase that threatens the balance of Earth’s ecosystems. At the same time, nationalism is stymieing the integration of the international community by promoting unnecessary trade conflicts, and xenophobic agendas. Extraordinary progress has been made toward international cooperation in the 20th century, and all of the solutions to our present dilemmas exist today. This exhibition presents a vision of our world today, and a future vision in which these solutions have been implemented.
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CHAPTER I
INTRODUCTION

The paintings in my MFA thesis exhibition, *Oecumenicus: Our Global Inheritance*, concern the global regimes that comprise our international civilization. The term “global regimes,” refers to the systems of habitation, transportation, and technology that humanity has constructed. This series of paintings explores the conditions that define our globalized society, specifically, the overconsumption of natural resources, anthropogenic climate change, over-urbanization, and national separatism. My intention is to raise awareness of these symptoms, which are exacerbated by our modern lifestyles. Furthermore, a vision of a future for humanity is presented through the work, suggesting that global unity and prosperity can be achieved if the international community would work to enact solutions to these problems. Some of these solutions are already available to us, such as cleaner forms of energy production, and the adoption of egalitarian viewpoints. Others are more speculative, like the colonization of other planets. Rather than presenting a utopian manifesto, my work seeks to project a harmonious future vision for the planet by highlighting practical solutions to issues that arise from the complexities of global regimes.

In order to establish this global perspective, my paintings depict the world from an aerial point-of-view. Satellite images are a uniquely modern way of looking at Earth and provide an unobstructed view of its surface and the sprawl of human civilization. To imply the Earth’s image from this angle, I use pouring techniques, and earth tones. As the ink sits and dries on synthetic, plastic paper, it congeals into formations that are strikingly similar to that of the planet’s surface. The hand-painted grid patterns that are superimposed on the surface are symbolic of human-made constructs. Rosalind Krauss once described grids as a unique symbol
of modern art (Krauss 52). I see grids not only as a symbol of art, but also as a symbol of the order of Modern society in general. Grids both large and small surround us, and satellite images reveal these from above as the entire visible structure of human society takes the form of a vast, interconnected system of grids.

Artist Piet Mondrian also interpreted the essence of the modern world as a grid in his paintings. An idealist, he believed that human society was destined to achieve affluence both materially and spiritually. I cautiously share this belief. Whereas his enthrallement came from the structure and vitality of modern life, my interest is in the sheer scope of modern human activity. Today, more and more people are becoming aware of the interconnectivity of global society. In 2005, David Christian, a historian who coined the term "Big History," wrote a concise account of the history of all humanity, the planet, and the Universe in a single volume. This sort of feat is possible only because a great deal of global data is now readily accessible. Due to the compilation of knowledge that we have accumulated up until the present, a true global perspective is now conceivable. Through my work, I seek to promote such a perspective. I believe that if more people would adopt a global viewpoint and combine that with values that seek to uphold the rights and dignity of all people, world peace could truly be achievable.

The exhibition is presented as a grand visual narrative of civilization beginning in the present and progressing into the future. The works that concern the present depicts various issues that face global society today, such as the mishandling and rapid depletion of fossil fuel reserves, the effect of human activity on climate change, division and hostility between nation-states, and the urbanization of Earth’s surface.

The second phase of the exhibition, the future, depicts proposed solutions to the global symptoms of the present: clean energy alternatives like solar and wind power, the building of
trust between peoples and nations so that international unity is possible, and the efficient coordination of systems of ever-increasing complexity. A vision of a distant future is presented in a few paintings in the show, a future where humankind has overcome its material and behavioral difficulties and has gone on to explore the cosmos.

I do not believe that a vision as proposed by this exhibition is wishful thinking. Humanity can overcome its problems of consumption and separatism if it can begin to act as a unified group and apply practical solutions. Journalist/author Richard Wright once pointed out that if one looks at history from a long-term perspective, one sees that individual civilizations fall, but overall human civilization continues to flourish and grow in complexity (Wright 108). Like a phoenix from the ashes, new orders always pick up where old ones leave off. It is exactly this complexity—the kernel that never fails to regrow—that inspires my vision for my thesis exhibition.
CHAPTER II

PHILOSOPHICAL INFLUENCES

Since the advent of the modern world, the complex systems that humanity constructs have become planetary in scale. By this term, “modern world,” I am referring to the interconnected global society that arose through intense mechanization and global accords during the 20th century. It is debatable as to when the first system that can truly be described as “global” germinated. The beginnings of the processes of globalization can be set as far back as prehistoric times, to the agricultural revolution, during which, over the course of thousands of years, techniques of plant and animal domestication gradually spread across the world’s sparse population, and changed the majority of humanity’s lifestyles from nomadic to settled. Stricter theories of globalization put the real beginning at the point when Western European powers linked the world in trade during the 16th and 17th centuries. The eventual transformation of European societies from a feudal system to a capitalistic one allowed markets to become globalized as well as sovereign territories.

Industrialization, an event comparable to the scope of the agrarian revolution, rapidly encompassed the globe during the late 19th and early 20th centuries, catalyzing the growth of global markets. The energies of the modern revolution greatly boosted the areas at the hubs of the growing global network (Christian 406). Thereafter, modernity spread across the world as “a kind of secularized missionary activity” (Albrow and King 155) that has brought us to the interconnected, international society that we live in today. The capitalist system that permeates nearly the entirety of this international society at present is not without its faults. The pressures caused by this system, in which materialistic values flourish, fuel the many social revolutions with which we are familiar. These are groups that operate independently from national entities,
namely the environmentalist movements which are groups concerned with the conservation of Earth’s climate, flora and fauna, and humanitarian movements which consist of anti-war, anti-racist and anti-sexist groups (Wallerstein 167). These groups have zeroed in on the major symptoms of modernity, and seek to implement antidotes that are inclusive, and beneficial to all people.

The various groups that comprise the global environmentalist movement consist of individuals who recognize the fact that humanity’s present consumption of fossil fuels cannot be maintained at its present rate for much longer, yet still their use increases exponentially year by year. This use produces carbon emissions caused by the burning of these fuels which enhances the greenhouse effect, causing climate change and a rise in sea levels (Spier 309). Concerns about these phenomena arose in the 20th century, when scientists noticed trends in increasing global temperatures, and melting sea ice. Present global regimes have yet to provide an adequate response to the environmental crisis, though the unity among environmental activists is strong due to the concrete scientific evidence behind their concerns. A notable environmentalist group is Greenpeace, which is a non-governmental, international initiative that is primarily concerned with preserving Earth’s ability to nurture life. Some member-states of the international community have set goals for themselves to achieve a certain level of clean energy consumption in the coming decades, such as Costa Rica, which intends to be carbon-neutral by 2021, and Sweden which has the ambitious aim to eliminate all fossil fuel-generated electricity by 2040 (“Follow the Leader…”). From the perspective of human history, the environmental crisis is relatively new, and is the reaction against anthropogenic climate change caused by excessive carbon emissions, and the rapid depletion of Earth’s natural resources by the demands of a global, industrialized civilization.
Humanitarian concerns also rose to a global scale during the 20th century. As a reaction to the disasters of the second World War, the international community formed the United Nations (U.N). In a declaration issued in 1948, the U.N. outlined a bill of human rights to be implemented among all of its member-states. The bill obligates all member states to protect and uphold the dignity of all members of the human race for the sake of freedom, justice and peace. Several subsequent conventions throughout the late 20th century saw the adoption of additional civil, economic and political rights to the bill, reflecting an evolving sense of human rights among the majority of the world’s nations. Despite the U.N.’s infamous sluggishness in enforcing these international laws, it provides a medium through which sovereign states can cooperate, coordinate, and keep each other in check. It is a novelty of the post-war world, that upholding human rights defines the legitimacy of nation-states.

The environmental and humanitarian crises are, or should be, the gravest concerns of humanity today. The reason that these crises are paramount, is because they are the primary negative symptoms of the entire global system that humanity has created. They are the problems that define the present state of the world. National politics may make the situation seem very complicated, but it is actually simple if looked at from a holistic perspective. The humanitarian crisis is the oldest of the two, and arises out of our ancient, self-destructive habits. The history, and pre-history, of humanity is rife with wars and conflicts of all kinds. There has, of course, always been a reaction against violence and oppression, but only during modern times have national and international organizations been able to coordinate police forces to quell crime on a mass scale. Throughout most of history, humans have generally only been sympathetic to their close kin and friends, yet recently the average range of an individual’s empathy has enlarged to include entire demographic groups, and even the entire human race. In his book The Better
Angels of Our Nature, Stephen Pinker cites literacy as the cause of the great expansion of human empathy. Literacy boomed with the introduction of the printing press to the Western world in 1439. The subsequent mass dissemination of knowledge through books and periodicals, not to mention the popularity of the realistic fictional novel beginning in the 19th century, allowed people to learn of others’ suffering, and see through the eyes of another like never before. In the 20th century, cinema and television, and the Internet in the 21st, have made both fact and fiction immediately available to consume. It is no coincidence that the previous 150 years has consequentially seen more humanitarian reforms than any other period in history. (Pinker 175-177)

Science is another unique development of modern society. Of course, since the antiquated times of Aristotle, many outstanding historical figures of all cultures have striven to think and analyze rationally and logically. It wasn’t until about the 17th century that the efforts of such notable people compounded into a system that grew to be widely used. The scientific method is a system of garnering knowledge that is exclusively allied to objective observation, and leaves no room for personal superstitions and cultural myths. Its usefulness cannot be overstated, and the adoption of scientific thought by human societies has manifested several benefits, especially in medicine and technology. Such advancements have increased the life expectancy and the living standards of billions of people. Because of its inherent objective nature, science is a medium through which all cultures can work to achieve positive results. This is not to diminish the people of pre-modern times, whose societies were bound together by more subjective agents like culture, language and religion. These aspects are by no means obsolete due to the existence of science, however, in our modern, international system they can easily become stark barriers to cooperation and integration. The uniform nature of the grids in my paintings is inspired by the
pre-eminently scientific and socialistic modes of thinking that have displaced the old world order, which was based primarily on religion and elite cultures. These new, secular, universal ideologies challenge the reign of exclusive national cultures and identities (Held et al. 328).

Science, if cultivated for the benefit of life and dignity, provides a peaceful and unifying outlet for human effort that other paradigms cannot provide. On the other hand, when it comes to morality, or a sense of what is right and wrong, science falls short of providing us with answers. Chemists and physicists have not only provided humanity with advanced medicine and efficient energy production, but have also produced weapons of terrible destruction such as the nuclear weapons. This fact shows us that there are principles outside of science that we must adhere to if we truly desire to uphold and maintain our international society. The teachings of many religions emphasize harmlessness and compassion. Though the spiritual aspect of human nature did not arise in a way that can be described as scientific, there is a logic to those systems that cannot be dismissed. The dogmas of human religions, though problematic to modern societies in many respects, are conducive to order. One should not kill others. One should not steal. One should not cause harm in any form to others. One should care for people who are in need. Humans do not find themselves in the same situation as a hungry lion in the field who must kill to survive. Our evolution has brought us to a much more structured and civilized situation in which caring for neighbors can actually be beneficial to an individual’s survival. The exclusivity of religious institutions, however, is untenable in a diverse international society. Discrimination and intolerance based on religious beliefs is below the rights and dignity of individuals, as outlined by the U.N’s Universal Declaration of Human Rights. The best qualities of humanity’s spiritual aspirations have taken on a new form in the modern world. Humanism, an idea that champions the human spirit and seeks to uphold the rights and dignity of all people, is a new form of
spiritual thought that is compatible with the new ideologies shaping the world. The present international community predominantly shares an interest in upholding human interests, values and dignity without placing importance on being a member of a specific religion. While there is no humanist religion that exists, the tenets of humanism find their roots in the teachings of compassion, grace, mercy and enlightenment of the ancient human religions. The important difference is that modern humanism is universal in its application, rather than being exclusive to members of one group.

In fact, neither science nor religion cares that much about the truth, hence they can easily compromise, coexist and even cooperate. Religion is interested above all in order. It aims to create and maintain the social structure. Science is interested above all in power. Through research, it aims to acquire the power to cure diseases, fight wars and produce food. As individuals, scientists and priests may give immense importance to the truth, but as collective institutions, science and religion prefer order and power over truth. They therefore make good bedfellows. (Harari 199)

It is a common notion that religion and science directly oppose one another. In actuality, they do not. They are both tools that humanity has developed to control a system that is prone to falling into chaos. I digress on this false dichotomy between science and religion to illustrate the point that control is the key to maintaining a society of ever-increasing complexity.

My work does not detail any specific religious beliefs or scientific theories, but I do allude to science and religion as being fundamental to society’s structure. The central cruciform shapes in Metropolis, and Martian Terraforming Initiative, signify a core spiritual aspiration behind humanity’s endeavors to multiply and expand. The astronomical and astrological symbols that can be seen in Cosmopolis and International Lunar Complex also point to this aspiration and
merges it with the scientist’s aspiration to explore and gain knowledge. Both the spiritual and scientific institutions are catalysts for the growth and improvement of human civilization, and the deepening of its complexity.

Complexity is a phenomenon that scholars struggle to define. The three forms of complexity, as described by Fred Spier, are inanimate complexity, biological complexity and cultural complexity. Each of these forms is governed by differing regimes of order. The order of inanimate complexity is outlined by the laws of chemistry and physics. Non-biological molecules and elements regiment themselves according to the basic laws of the universe.

Biological complexity, or life, somehow arose at some point in our planet’s history from inanimate complexity. Life is far more complex than any single inanimate object. The brain of a tiny animal is far more intricate than, say, a large boulder. This is because the amount of fundamental parts that comprise an animal’s brain is much higher than those that make up a rock. Yet, life is totally dependent on inanimate regimes to maintain itself. Without food, water, light and other necessities, all life would die and decompose back into inanimate matter. The center of life’s order revolves around the mechanics of DNA molecules. These amazing, naturally occurring constructs contained within every life-form store genetic information in sequences, and this data is passed on to every subsequent generation.

The last form of complexity is cultural or artificial complexity. Humans, by far, have the greatest capacity for creating artificial complexity than any other life-form on Earth. Ants construct their colonies, bees make their hives, and humanity, so far, has created a planet-wide international society. Human complexity is unique from other forms of complexity because all of the artificial objects that people create are made with some sort of pre-meditated intent. It is also unique that humans are the only life-forms that create objects that can be powered by external
energy sources, such as engines. What makes humanity’s complexity very special, though, is that we can manipulate natural conditions in order to maintain our complexity. If we were all still naked in the wilderness, there certainly would be no civilization. Ever since mankind began to make tools and harness fire for warmth and protection, we were not only simply surviving, but also, we were creating certain desired conditions so that we could have the freedom to make even more forms of complexity. Tents came next, and then buildings, marked pathways, and so on. The two terms “artificial” and “natural” are used to distinguish that which is human-made and that which is produced by nature. One would not use the term “artificial” for an anthill or a termite mound, nor would one expect ants to invent their own tiny little wagons to transport their food any time soon. An ant’s ability to carry a large load that weighs several times its own body weight arose purely out of natural selection. Humans, however, simply invented the wheel. Though this did admittedly take tens of thousands of years of tool development, this simple invention bypassed millions of years of natural unfoldment. This example demonstrates that the vast jump in complexity from simple life-forms to human life is just as extreme as the difference between inanimate and organic matter. In all of my paintings, the intricate, composite forms of grid patterns reflect the complexity of human society.

As complexity increases, the amount of energy needed to maintain that complexity also increases. The energy required to maintain the lifestyles of early humanity was rather modest (Spier 185). It consisted mainly of making fires, creating stone tools, and hunting/gathering food. All of this energy was produced by the humans themselves who performed these activities. In the present, the situation is very different. Since the industrial revolution, the amount of energy needed to maintain our civilization is staggering compared to earlier times. During the agrarian period (the time between the Stone Age and the modern age) people invented many new
machines and contraptions to improve efficiency and output, yet the progress was still relatively slow and the energy sources used to power them still came from human, or animal, muscle power and from wind or water-powered engines.

When the Industrial Revolution began, new technological innovations required a new energy source—fossil fuels. The internal combustion engine, which powers nearly all modern modes of transportation (Christian 443), requires oil to operate. Coal was the predecessor to these oil engines for transport and is still used to create electric power. The power and efficiency that fossil fuels create for human society today is incredible, and these power sources drove the major technological changes that occurred during the modern revolution. The two largest paintings in my exhibition, Oil Spill and Oil Pumps, concern the extraction of oil from the environment. Oil Pumps, through a depiction of pumpjacks and an oil derrick, emphasizes the vast, mechanized effort that modern society makes to collect fossil fuels. The barren, desert landscape that the machines occupy on the left of the piece contrasts with the green, unoccupied landscape on the right. Oil Spill represents the result of the mishandling of the mass extraction of fossil fuels. The offshore platform at the bottom of the piece is dwarfed by the huge swathe of crude oil that blankets the blue ocean surface. It is a metaphor for the catastrophic scale of such disasters, which cause huge damage to the surrounding environment.

The rate of consumption of fossil fuels increased very rapidly since the discovery of their usefulness. Certainly, it did not immediately occur to the booming capitalistic, industrial societies of the early-to-mid-twentieth centuries that these resources are limited and non-renewable. Contemporary estimates predict that, at the current rate of consumption, the planet’s reserves of fossil fuels could last for at least one or two hundred years (Prantzos 26). Considering the scope of human history, this is not a long time at all. The consumption of fossil fuels just in
the last century has increased the amount of carbon dioxide in the Earth’s atmosphere dramatically, which has a direct effect on the climate of the globe. The greenhouse effect, which is caused by increasing amounts of molecules that absorb sunlight (such as carbon dioxide) in the atmosphere, is to blame for the relatively rapid average increase in temperature in the planet’s climate. A cold winter is enough to convince most people that this shift in temperature is not occurring, but most people do not understand the difference between weather and climate.

Weather is the daily occurrence of such things as temperature, humidity levels, wind-speed, and cloudiness from one region to another. Climate is the generally prevailing weather conditions of a large area. The main difference between weather and climate, is that climate is averaged over a series of years, while weather is simply the day-to-day record of events.

The global interconnectedness that modernity has created has allowed meteorologists from all corners of the world to monitor the average climate of the entire planet, and the results have shown a marked increase in temperature during the 20th century (Diamond 493). This increase is only by fractions of a degree Celsius by each decade. Yet, even an average global temperature increase by only one degree would have drastic effects on the environment. Such a change governs the amount of annual polar ice-melt. The liquid water generated by these melts presents a threat to all of the regions of the world that lie at sea-level. That includes every single coastal region in the world. If contemporary societies continue to treat these environmental issues as marginal, and simply ignore them or deny their existence to bolster the economy in the short-run, very large sums of money (and people) will be lost in the long-run. Unfortunately, the majority of the world’s current political establishments prefer to rely on the same technologies that continue to harm the environment. Despite the development of electric cars and solar cells, the major fossil-fuel-driven industries continue to run in full force, and show no interest in
decreasing their consumption. The fate of the planet’s environment depends on humanity collectively realizing that, at present, we are on an unsustainable course and that major changes must be made to our lifestyles in regards to our consumption of resources and the emissions that they create. In 2015, the United Nations reached an agreement to combat climate change, urging all member-states to reduce their carbon emissions to a level at which global temperatures will not rise two degrees Celsius above pre-industrial levels (“What is the Paris Agreement?”). 185 member-states have ratified the agreement since then. However, the United States, one of the largest contributors to global carbon emissions, opted to withdraw from the agreement in 2016. Much of the world’s polities still remain in the treaty, but it is yet to be seen if the promises of the signatories to this accord will produce results.

What makes our current course unsustainable is population growth. While the world’s population will not grow indefinitely, in this century it is set to double in size. We know that it will not grow indefinitely because the most developed nations’ population growths have stabilized (Christian 477) due to a decrease in both death rates and birth rates. Modern medicine can be credited for this, as it increases the life expectancy of elderly people who, in turn, do not feel the need to have as many children because their living standards are above the world’s average. This may seem counter-intuitive, because one would think that affluence would allow for the support of more children, but one must remember that in pre-modern times infant mortality rates were much higher than today. The lack of public welfare institutions in those days was an incentive to have a large family, since a family in those times was the only support an elderly person could have. The situation in poorer countries today is different. The introduction of modern medicine to these societies occurred more recently, and so their average birth rates remain high, while their death rates are declining faster. The increasing population of third-world
nations accounts for most of the global population growth in the 20th century and will account for even more in the 21st (Christian 476). Of course, it is a very good thing that people in poor countries are living longer, and that their quality of life is increasing, but there is another side to the coin. When the population of today is doubled, then the rate of consumption will also be doubled. In *Metropolis*, a sprawling structure of grids grows out of a central form, and spreads over the surrounding land area. This is representative of the increasing urbanization of Earth’s surface due to population growth. In *Cosmopolis* and *Megalopolis*, the grids completely cover the organic landmasses.

Fortunately, a global awareness of ecological crises such as global warming, over-deforestation and the effect of fossil fuel consumption on the environment is growing, and the environmentalist movement is not hopelessly marginal on the contemporary world stage. As early as the 1970’s, scientists realized that the chlorofluorocarbon emissions created by certain household appliances were thinning the ozone layer of Earth’s atmosphere. As the actual physical evidence of this phenomenon mounted, by the late 80’s the United Nations, after many meetings over several years, developed a plan of action to reduce CFC emissions. The plan included aid to poorer countries that required assistance in making the needed adjustments. More developed nations put in millions of dollars towards the third world’s needs in meeting the requirements of reducing their emissions. As a result of these accords, global CFC levels were reduced by almost 90%, causing an actual regression in the size of the hole in the ozone layer that appeared over the South Pole. The international response to the CFC crisis demonstrates that global cooperation is possible in dealing with the environmental problems that humanity faces. In this particular case, the issue was taken to the highest level of international authority, and was resolved with the utmost seriousness, due to the fact that it was scientifically proven that the
problem was real and had dire effects to Earth’s ecosystem. It is crucial that the political bodies of the world’s leading nations recognize that global warming, along with other environmental crises, is real and poses a threat to the entire global community. Economic prosperity will seem like a passing luxury if the ecology of our planet decays. If nothing is done, in the coming years temperature levels will rise along with sea levels, and the nations of Earth will slowly but surely both feel and see the truth of the present ecological situation.

As the rate of humanity’s energy consumption rises, and the reserves of non-renewable fuels inevitably fall, it is certain that we will be forced to turn to other forms of energy production. Fortunately, there is one very large source of energy that we can use for our modern needs, and indeed it is the original source of nearly all the energy that we and all other life-forms have ever used—the Sun. With its light and heat it causes all plants to grow, including our crops, and it sustains all life on Earth in one way or another. Even the energy contained within fossil fuels originated photosynthetically, or from the Sun’s energy. Using modern technology, humans have devised a way to directly harvest energy from the Sun for electricity with solar panels. The Sun Farms is a piece that represents the potentiality of solar power. It depicts a mass of solar panels in the center of a desert landscape. Building solar panels in desert areas would maximize their potential, since those areas of the planet’s surface receive the maximum amount of sunlight.

In the 1970’s, NASA researched the prospect of putting solar panels in low orbit around the planet, where unobstructed sunlight can be collected. This was the brainchild of the American physicist Peter Glaser (Pranztos 28). The orbital solar panels, which would span nearly 60 square kilometers, would transmit the energy that they absorb via microwaves to a large antenna on the Earth’s surface. Several of such apparatuses could power an entire country. Operations like this are in no way unfeasible, and could be maintained with less manpower today.
that what was imagined in the 70’s. The major factor that deterred this plan from adoption was not cost, but vulnerability. A major orbital power plant is completely exposed to attack from rival nations, with no means for defense.

Nuclear energy is an extremely powerful source of energy production, and is clean compared to fossil fuel consumption. The main concern with nuclear energy, and it is a large concern, is that there is a potential chance of a catastrophic meltdown of a nuclear reactor. A meltdown is extremely dangerous, and can send out radioactive particles into the environment. In most cases, meltdowns can be contained within a reactor due to safety measures taken in their designs. In the infamous Chernobyl accident, the reactor did not did not have a containment structure, which was the reason the radioactivity escaped and contaminated the surrounding area. Despite the danger of a meltdown, nuclear energy is surprisingly environmentally safe when running normally, and does not constantly release byproducts that cause long-term damage to the atmosphere. However, as with fossil fuels, nuclear energy depends on a non-renewable resource—Uranium. Uranium reserves on Earth are expected to last at least twice as long as those of fossil fuels (Prantzos). After those are depleted, we find ourselves in the same situation. Where will we get our future energy from?

The Moon is a potential location for garnering power. From a large solar power station placed at one of the lunar poles, energy could be transmitted via a chain of satellites to Earth. Also, the lunar surface contains helium-3, a substance that does not naturally occur on Earth, but could be used in creating energy from nuclear fusion reactions. The nuclear power that is used today comes from fission reactions, which involve the splitting apart of atomic particles. Fusion reactions involve the fusing of hydrogen or helium atoms, which creates vast amounts of energy. The current problem in creating a safe, contained fusion reactor is that the fuel components that
can be found on Earth release too much radiation. However, when helium-3 is used in the reaction, very little radiation is emitted. There are deposits of helium-3 spread across the entire lunar crust due to solar particles bombarding it over billions of years. If scientists do eventually develop a stable fusion reactor, the need for such a resource may take us back to the Moon and would require permanent settlements there to harvest it. Any settlement on the Moon would need to be self-contained and self-sufficient in regards to creating air, water, food, and energy.

Oxygen can potentially be chemically extracted from the metal oxides that are found in abundance on and under the lunar surface. Water is present on the Moon in the form of ice at the lunar poles, and food could be produced via bio-spheres. *International Lunar Complex* depicts a human outpost on the lunar surface from a satellite perspective. The circular grids that are grouped by color signify the international collaborative effort to explore and study space.

Another painting, *Martian Terraforming Initiative*, depicts a theoretical outpost on the surface of Mars. Of course, the colonization of extra-terrestrial worlds is speculative and may seem farfetched, but none of it is beyond what humanity has already achieved technologically. The main deterrent is the cost, which would be astronomical, but one could argue that the current defense budgets of the world’s superpowers are also ridiculously high.

It is tragic that real solutions to the environmental crisis exist, yet the governments of the world feel that they must concentrate the bulk of their spending on military endeavors. Presently, the primary concern for most of the governments (and individuals) of the world, is to produce capital, which requires a spirit of competition amongst the players in such games. Economic competition has brought nations to war in the past, and lives have been lost because of it. This is the major flaw of capitalism. What is stopping a global collaborative effort to solve the energy, environmental, and humanitarian crises? The answer, I believe, is the extremely competitive
nature of the Capitalist mindset. Science offers countless solutions to the problems that humanity faces, yet we continue to adhere to nationalist agendas, which keep us bound to global-scale competitions in which certain nations earn power and prestige for producing the most capital. In *The Ancient Game*, I depict a situation in which one society is separated from another by a hard border. Although the grid forms on each side share the same basic structure, one side is colorful and vibrant while the other is grayscale, devoid of color. The border prevents the two systems from integrating.

Although the international community continues to integrate, it is still divided into nation-states. The world’s nations represent barriers of autonomy, and are historically significant. Many people identify with their particular nationality. Nationalism, however, thrives on a perceived separation from, or opposition to all other nationalities. This is not conducive to cooperation. In order for global unity and peace to be further achieved, people of all nations should primarily identify as simply human.

Identification is all the words you use to describe yourself in your relationship to ideas, objects, things or people. Identification takes place when you think of a person, thing or idea as a part of your essential nature. The moment you say “my race,” it instantly becomes a thing to be defended and cared for. Identifications of the other and yourself (the “me” and the “not me”) are legion, innumerable, but yet always the same, as an outcome of the repetitious words of the psychological process. The identification process occurs when you say, ‘It is mine, and this is a part of what it means to be me.’ (Baskins 17)
What is yours is much more than your nationality, race or gender. What is yours is the essence of your human consciousness. Your inheritance is not limited to your family, nation, language or skin color. Your inheritance is global, along with everyone else’s.

A common misconception about how humanity rose to be the dominant species on the planet is that we arrived here purely through intellect and toolmaking. These two factors were indeed very important in establishing humanity’s dominance, but if humans had not learned the invaluable skill of flexible cooperation, then we would not have gotten very far (Harari 18). As stated before, certain insects like bees and ants also cooperate with each other and have been doing so for much longer than humans have, however their systems of cooperation are very rigid compared to ours. Other mammals like lions and primates also cooperate, but only within close family groups. Humans are capable of cooperating even with complete strangers, and because of our ability to communicate with sophistication and symbolism, we can coordinate all sorts of plans and arrangements with each other. Cooperation is a key ingredient to the cultural complexity that we create. However, now we find ourselves in a modern world that is, of course, exceedingly complex, yet the system that controls its growth or decline, capitalism, is antithetical to a high degree of cooperation. While there certainly is a high degree of cooperation within large corporations and national governments, in many respects cooperation between nations is hampered by economic competition, and worse. Still, national entities do cooperate to a degree, but only on the promise of material gain. The global cooperation that we see at present does have its positive effects, yet it is heavily influenced by the hand of the market. “Capitalism has thus sanctified a voracious and chaotic system that grows by leaps and bounds, without anyone understanding what is happening and whither we are rushing.” (Harari 219). A pro-capitalist would say that we are rushing towards prosperity if the wealth of businesses and individuals
grows, but is that really true? Perhaps a handful of entrepreneurs and corporations will prosper while most of the people struggle to make a living. The mass consumption that capitalistic society promotes has put the entire planet on the road to a major ecological meltdown that would reverse all of the so-called progress made during the modern era. Capitalism has served a purpose in lifting up a portion of the world’s nations out of perpetual sickness and poverty, but its core values are insufficient in providing the rest of the world with relief. When the effects of the ecological and humanitarian crises are sufficiently felt in the daily lives of ordinary people, then they will support real and true measures to implement solutions.
CHAPTER III
ARTISTIC INFLUENCES

It is not yet common practice among average people to concern themselves with the global regimes that comprise our international civilization, nor does it seem practical to them. It requires a certain degree of knowledge and compassion to look at Earth and the global society in a holistic way. Contemporary artists who explore the conditions that define our globalized society possess these traits. These conditions include, but are not limited to, the overconsumption of natural resources, anthropogenic climate change, the ever-increasing complexity of civilization, and the humanitarian crisis. The works that discussed were not just created to give a grim look at society’s present, but also with the intention to raise consciousness of various issues in the hope of finding solutions to them. A more abundant awareness of major global issues would allow a more coordinated mass action against them, and thus work toward prosperity in the future. As mentioned before, the solution to some of these problems are already available to us, such as cleaner forms of energy production and adoption of more egalitarian initiatives in governing society. Making art about important global issues is inherently an activist’s task, since presently there still exist groups that wish to downplay, and at times outright reject the existence of such obvious global phenomenon as climate change, and specific humanitarian crises that occur around the world. Artwork concerning such issues is not only poignant, but urgent. Each of the following five artists address the largest obstacles that face humanity today. Their works are not only beautiful, but also educational, and conducive to the creation of a global-minded society.

Franz Ackermann is a contemporary German painter who works in Berlin, though he travels frequently and makes work in several different locations at a time. (Schwabsky 16) He
employs architectural forms combined with a colorful and expressionistic abstraction. His paintings evoke the sense of being engulfed by rapid urbanization. Population growth in the modern era has brought with it huge expansions of metropolitan areas, some of which now support hundreds of people per square kilometer. Cities act as hubs for nearly every aspect of the global scene, facilitating industry, trade, commerce, tourism, and recreation, to name a few. The urban “jungle,” as it is sometimes colloquially compared to, comprises gargantuan, towering skyscrapers, a myriad of lesser buildings, and streets that are packed with automobiles day and night. The constant noise, the plethora of flashing lights and the labyrinthine pathways of metropolitan areas are bewildering, especially to one who does not call one of these places home. On the other hand, cities can be places of many diverse discoveries for both inhabitants and visitors. Ackermann’s work captures all of these elements, combining flat color field patterns with areas of perspective, in a somewhat Cubist fashion, to create extra-ordinary spaces that range from the grandiosity of a city skyline, to the mundanity of a commercial billboard, to the intimacy (or claustrophobia) of an interior space. These can all occur in one composition. The warped nature of the space, the colors utilized, and the motion of the lines give a sense of even the invisible forces that make up the urbanized world like electricity, radio signals, and the Internet. All of these aspects combine to dynamically depict the frantic energy of cities.

*Helicopter XVI (the invitation)* contains two hurricane-like forms that are spirals made out of jagged, saber-like shapes of color. The two spirals comprise the two main subjects of the picture, and are set against a black background. The colors in the painting are all cool, blue tones except for some stripes of yellow tones in a few of the arms of the spirals. Imposed upon the spirals are distorted spaces of perspective. On the left spiral are two cityscapes from a bird’s eye perspective, each emerging from the same left-hand arm of the spiral from the center, giving the
sense of an emerging, or growing city. The center of the spiral contains a downward angle of an interior space. The combination of interior and exterior spaces alludes to how each individual has his or her own personal mental map of their local environments that includes images of both inside and outside. The right spiral contains another cityscape from above in its center, as if to show a cyclone of energy emitting from the huge buildings. The negative space in between the spirals, which consists of the margins of the painting and part of the center, is littered with junk painted in perspective. The painting gives a sense of the centrifugal momentum of the city, and indicates that the human energy generated within these metropolitan hubs comes from the spaces within the buildings, and is not the buildings themselves.

In the painting *New Building*, Ackermann depicts a fantastical architectural space that emerges from a kind of seascape. In each tier of the building, one can see parking lots, concrete support structures and aerial views of green, park-like spaces, all contained within their own strips of surface space. All of these two-yet-three-dimensional strips trail into a flat rainbow pattern near the top of the painting, where the building looks closest to the viewer. From this height, nondescript commercial signs hang at yet another three-dimensional angle. *New Building* evokes at the same time the jubilance that a select few might feel at the opening of some new corporate resort, and the mundanities of every cityscape that each citizen experiences. Ackermann began to make works like this one and the previous at the turn of the 21st century. They are informed by the triumph of capitalism following the fall of the Soviet Union and the dismantling of the Berlin Wall just a decade before. Being from Berlin, the artist experienced these events first-hand. Capitalism expedites the processes of urbanization by promoting growth and expansion. This phenomenon is occurring all around the world at this time.
My painting *Metropolis*, also depicts the phenomenon of urbanization, and the centrifugal energy of urban zones. Cities usually find their beginnings as hubs of activity. Most of the time that activity is trade, or in the case of capital cities it is governmental activity. Some cities bear a special historical significance, like Rome being the center of Christendom for some time, and Mecca being an important Islamic hub to this day. *Metropolis* depicts a mass of multi-colored grids emerging out of a central grid that contains a “+” symbol. This symbol represents the original, central theme around which the city was built. The grids stand in stark contrast to the natural landscape surrounding it. Of course, the modern versions of cities that were founded in antique times have gone far beyond their original purposes. Another painting, *Cosmopolis*, depicts an urban zone that takes up almost the entire picture plane with grids, with the exception of a river flowing through it. Three astrological symbols form a triangle in the piece. Mercury symbolizes the human mind, Uranus embodies innovation and change, and the symbol for Gemini represents communication. *Cosmopolis* seeks to communicate the fact that all cities today, though each unique in their histories, all serve the same purpose in contemporary times, which is to act as vibrant hubs for all sorts of human activity.

Daniel Zeller is a contemporary artist based in New York City who creates work that is inspired by viewing certain scientific images, such as satellite photos, topographic maps and also microscopic imagery. His process of mark-making can be described as contradictory, in that it is both spontaneous and systematic. His method is work-intensive, and involves rigorous execution of repeated patterns. These artistic strategies result in forms that are exceedingly intricate, referencing many systems that occur both naturally and artificially. They evoke a sense of wonder at the vastness, complexity, and interconnectedness of all aspects of the universe.
Satellite images are a uniquely modern way of looking at Earth and provide an unobstructed view of its surface, and the sprawl of human civilization. We can surmise, though, that humanity began to have a visible impact on the planet’s surface during the agrarian revolution, around 10,000 years ago (in Mesopotamia). During this time, people first found which edible plants were suitable to grow systematically (Spier 220). This no doubt required a long process of experimentation to arrive at, during which early farmers slowly discovered which plants could grow in certain locations at certain times of the year. Eventually, after centuries, they learned which parameters they had to work with until new innovations came about that allowed them to cross previously insurmountable boundaries. Interestingly, Zeller’s artistic process, as he describes it, is similar to this natural evolution of an artificial system:

On the most mundane level, the method is dynamic and direct, like calligraphy, where the gestures are repeated until they become almost automatic. The activity then becomes a fluid series of spontaneous choices governed by self-imposed rules and conditions. … Rules are flexible and serve to mediate and mold what might otherwise result in chaos. The tension (or perhaps contradiction) between spontaneity and predictability is central, facilitating the discovery and generation of new vocabulary and new rules which can then be incorporated into the process, allowing it to continually expand and evolve. (Zeller)

He allows himself to be spontaneous, but only under certain self-applied rules. These rules are malleable, and change when different circumstances arise in the composition. The result is an intricate blend of the natural and the artificial.

In *Delusional Encapsulation*, one sees at first what is surely a satellite image of a riverbed and its surrounding area. A dark, winding line flows from the bottom to the top of the image, becoming thicker as more tributaries flow into it. Softer, lighter lines, certainly roads,
wind in the countryside around the stream as different altitudes and terrains are defined by contrasting areas of value. However, upon closer inspection of the piece, a shift of perspective quickly occurs. Seen in detail, the entire composition becomes one great, interconnected, biomorphic system that resembles networks of internal organs, and microscopic cellular organisms. What once could have been a city or town is actually an organ, and what once looked like a series of streams and bridges becomes veins weaving in and out of each other. It is a fascinating transformation that brings to mind the interesting similarities between life on the exterior and in the interior.

In *Vatican / Masjid al-Haram*, Zeller uses the same technique, but this time uses references to specific works of architecture. In the top right, the outline of St. Peter’s Cathedral as seen from above emerges clearly out of the winding, connected, road-like lines. Just downriver from St. Peter’s appears another large complex—the Great Mosque of Mecca. Both of the structures’ geometric, artificial qualities stand in contrast to the organic countryside surrounding them. Both of these locations are the epicenters of their respective faiths, and are points of mass pilgrimages for followers of those religions. Interestingly, the winding forms that so naturally interconnect with one another seem to cluster and become denser as they approach closer to the two main structures. This could be a comment on the Marxist view of history, in which complex societies emerged out of class struggles that were perpetuated, in part, by the religious elite. Or the intended meaning could be less literal, and more ironic or humorous. Whatever the case, the presence of these two grand structures loads Zeller’s complex systems with meaning, turning the piece into a civilization of its own.

Like Zeller, I present a consistent visual language throughout all of my paintings in this exhibition, which is comprised of grids that are superimposed over a naturalistic landscape. This
technique, in general, conveys the contrast between naturally occurring systems and human-made systems. I convey natural forms through pouring techniques. The ink that is poured and dries on the surface, somewhat in the same way that molten rock dries on the surface of the planet, congeals into forms that are strikingly similar to forms that occur in nature. The forms that I use to represent man-made systems are, correspondingly, made by hand. Rosalind Krauss in her essay *Grids*, describes grids as uniquely symbolic of modern culture. Grids, by their nature, push away all things that could be conceived as naturally occurring. They are a product of humanity’s will to organization. Look at any city map, whether ancient or modern, and it is clear. Look at an area of farmlands from a satellite’s perspective, and they are there too. Any area that is touched by human habitation and activity is permeated with grids. They begin in the mind as logical ways of organizing space, and they manifest as a unique form that is very different from the way natural and inorganic forms manifest in nature. Through these naturalistic and artificial forms in my paintings, I want to convey the complexity of the balance between nature and civilization.

Yann Arthus-Bertrand is a French photographer, director, and environmentalist who specializes in aerial photography. From above, he captures beautiful landscapes from all around the globe. He uses this wide, all-encompassing viewpoint to bring key environmental issues to the viewer’s attention. He includes narration as well, to educate the viewer on the vastness of geological time and the history of life itself on Earth. Viewing the planet from such an angle makes the million-year processes of erosion and sedimentation visually apparent, and also the effects that humans have had on the environment. Perhaps the most significant element of Bertrand’s work is that he visually demonstrates the effects of anthropogenic climate change through his footage of arctic zones over time. He is also conscious of the struggles that people
around the world face on a day-to-day basis, and conducts interviews with diverse people from all walks of life who describe their life experiences directly to the camera.

Home is a feature-length film that is totally comprised of aerial shots made by helicopter. By juxtaposing grand images both natural and human environments, one can clearly see the balance of nature and how human activity affects that balance. The film shows the extent of humanity’s effort to cultivate nature. The imagery encompasses nearly every environment imaginable on the planet, from the arctic to the desert, and from small farming villages to giant metropolises. The main point of the film is to demonstrate that nature has limited reserves of resources, and that it is imperative that humanity recognizes that fact. In the next one hundred years, the growing population of Earth faces a shortage of not only natural gas, oil, and coal, but also drinking water and fish, not to mention trees. It also brings to attention the growing gap between poverty and affluence in the global society today. Home is a very poignant environmentalist work that visually demonstrates the state of the natural world today as it has been affected by anthropogenic changes. The film strikes an optimistic note towards the climax, pointing out that humanity is slowly becoming more educated on environmental issues, and is taking gradual, small steps to reverse the damage that it has made. Many governments today are prioritizing renewable energy such as wind power, solar energy and hydroelectric energy.

Bertrand’s 2015 film Human, as one can tell by the title, delves into the human condition. It consists of many interviews with people from all around the world who speak about subjects such as love, women’s rights, unfair working conditions, poverty, war, and many other issues that affect the lives of the majority of people who live on the planet today. Interspersed throughout the interviews are aerial shots that show the world’s most impoverished areas and the way that people live and work in those terrible conditions. The film displays a very holistic,
personal, and honest depiction of the hardships that much of humanity have to live through. While *Home* focused purely on the environmental issues that we face today, “Human” looks at the personal struggles that people face both economically and emotionally, against others and within themselves. Both of the films carry similar messages that, although we as a species have created many problems for ourselves, it is possible for the human spirit to prevail and overcome them. Whether it’s the climate crisis, or the crises of war or hunger, there exists a common viewpoint that transcends national and racial boundaries that can face these problems for what they are—products of human folly that can be mended by human enlightenment.

Through his work, Bertrand shows, in a very realistic way, what I am trying to convey through abstraction. He has a clear view of the big picture of society, and in showing it through his films and photographs, he puts no blinders on its flaws. Despite these flaws, Bertrand remains optimistic for the future of humanity, and keeps faith in the human spirit. While my work does not probe into the individual struggles of people, it does attempt to portray the larger scope of the direction that humanity is headed in, and where it could go if we solve our present major dilemmas.

The paintings of Lisa Reindorf focus on the conflict between human-made, artificial systems and natural systems. Since artificial systems will inevitably somehow block the processes of natural ones, nature will always seem to strike back against man-made objects. She is an environmentalist, and is concerned primarily with climate change, and the effects on the environment by the human use of land. In many of her compositions, one sees rigid grids, geometric shapes and curvy road patterns that interact with areas of natural blues and greens. She takes liberty with her color palette. The hues that make up a section of a city can range from unnaturally bright and vibrant, to more gray tones that are more accurate to life. Her style is
expressionistic. She intersperses drips and splatters amongst the interaction between humanity and nature’s constructs. Having earned a degree in architecture, Reindorf truly understands how much energy the development of buildings and infrastructure consume. (Ascherman) She knows that if our society is to continue to grow at such a rapid rate, climate change must be addressed or else it will lead to an environmental disaster.

Glaciers and ice caps all over the world are melting. The visible ice and snow at the tops of the highest mountain peaks is receding, and is only a fraction of what it once was in previous times. This melting causes a rise in global sea levels, which means every low-lying, sea-level area in the world is threatened by irreversible, future flooding. (Diamond 50) One of the many areas threatened is the U.S. East Coast, particularly the state of Florida. The delicate ecosystems of this unique state are threatened not only by climate change, but also by blockage of natural waterways and run-off from agricultural zones. Reindorf addresses all these dire ecological situations in her series of paintings, “Building Into Water.” She uses her visual language of architecture and landscape as seen from an aerial view to address very specific, environmental issues. The use of the view-from-above seems conducive to a wide, holistic perspective on the global environmental crisis. The resemblance of these paintings to maps also gives the work a scientific feel. Maps are usually neutral information-bearers, but “Building Into Water” displays maps of future (and present) ecological disasters. The patterns of expressive grids as they interact with the land and water show tension between the natural and the artificial. The colors are both vibrant and ominous, as muted greens and browns invade areas of healthy, bright colors.

In the multi-panel piece Aerial View Syrian Refugee Camp, Reindorf tackles another major global issue with her unique painting style—the humanitarian crisis. In certain areas around the world, billions of people are subject to abject and hostile living conditions as a result
of regional and national power struggles, famine, and poverty. Millions find themselves in situations in which fleeing their homes is the best option for survival. *Syrian Refugee Camp* depicts from above one of these many collective shelters. The Syrian crisis is a particularly notorious ordeal going on today due to the number of international entities involved in it. The fragmented nature of the image caused by the panels fitting together like square puzzle-pieces evokes the fractured nature of such locations. Grids of tents and other shelters appear as tiny squares that stretch on in rows of staggering length, giving the impression of a makeshift city that has emerged out of dire necessity, which is essentially what a place like this is. Dark, ominous colors surround the camp, as well as natural light hues, signifying an uncertain fate. The artist succeeds in dramatically depicting another crisis that humanity faces—that of our own cruelty towards one another. *Refugee Camp* is not the purely environmental dilemma shown in the “Building Into Water” series. It depicts the result of the humanitarian crisis, which is a collective of distress and shattered lives.

Originally from Vietnam, Tiffany Chung was part of the exodus of Vietnamese refugees that fled that country post-1975. After living in America and earning her education in the arts there, she returned to Vietnam in 2000. Her work is drawn from the statistics of war and poverty, specifically the numbers of the detained, the missing, and refugees. Her works are cartographic in nature, and represent real places on Earth that have been stricken by war. Her atlases are historical as well, drawing on past data that is layered over by the present. (trfineart.com) Multi-colored dots across the landscape represent specific demographics of that particular area, giving information on a subject that most maps never show—the devastation of war. Her maps are never color-coded by separate nations, but are colored according only to the war-torn demographics that she focuses on in each piece.
In one piece that is part of the “Unwanted Population” series, Chung depicts the whole of northern Africa, with parts of the Middle East and the Mediterranean coast. The routes that migrants take from Africa to Europe are marked with blue lines. The areas of Africa that these refugees come from are shown in shades of red to yellow, depending on the number of migrants from those regions. On the upper right is a large, deep red circle that designates the location of the Syrian crisis. The map gives a very explicit, informational view of the immigration crisis in this particular, large region. Another map in the series documents the numbers of migrant deaths at sea while crossing the Mediterranean. As events like these become more commonplace, Chung’s maps mark the toll of the lives lost as time goes by, lest we forget.

All of these artists, consciously or unconsciously, bring attention to global concepts that are common to all humanity. Urbanization, climate change, the limited resources that our planet has to offer, the problem of national and regional boundaries, and the general interconnectivity of all things are important topics to understand in today’s world.
CHAPTER IV
EXHIBITION ANALYSIS

*Oecumenicus: Our Global Inheritance* is an exhibition of thirteen ink paintings on Yupo paper, which opened at the Indiana University of Pennsylvania Museum on March 30th, 2019. Twelve of the paintings were hung in rooms A and B of the museum, and one was hung in the museum’s main hallway.

All of the paintings in the exhibition are floated on white mat board within white frames. All of the frames included glass coverings with the exception of two large pieces. The floating format was chosen to accentuate the surface of the pieces, which are totally covered from end to end with color. The white frames and matting were chosen to give a uniform quality to the presentation of the work, to emphasize the color and to compliment the space’s off-white walls.

Fig. 1. A view of *Oecumenicus: Our Global Inheritance* from room B.
The two rooms that the exhibition spans are divided conceptually between the Present Room (room A of the museum), and the Future Room (room B). The paintings in each room correspond to their designated time period. Viewers enter into the Present Room first and then proceed into the Future Room, thus creating a sense of the passage of time. The paintings all concern the global human civilization, the problems that face this civilization, and the potential solution to said problems. The transition of time between the two rooms represents, speculatively, one to two hundred years.

The five paintings in the Present room all concern the environmental and humanitarian issues that face the international community today. The one painting that is located in the main hallway is also conceptually included in this group. That painting, *Metropolis*, is the first piece that viewers will see. It is a depiction of a large urban area, represented through multi-colored grids sprawling across a naturalistic, green and brown landscape from a satellite perspective. It represents the present state of urbanization, in which the growth of cities is encroaching upon their natural surroundings.

Upon entering the Present Room, the viewer will see *The Ancient Game*, which is located on the wall across from the entrance. This painting consists of two groups of grids that occupy the same landmass, yet are separated by a border in the center. The grids on the upper, or north, half of the painting are predominantly grayscale, while the grids on the lower, or south, half are all colorful. This is a representation of the current world-wide issue of national separatism. All of the grids in the painting share a similar structure, but they are unable to integrate due to an artificial partition.

To the left of the entrance are the two largest paintings in the exhibition, *Oil Spill* and *Oil Pumps*. They each touch on the issue of the mass extraction of fossil fuels from the environment,
and the effects thereof. These pieces are unique within the exhibition, because the grids that they contain are designed to resemble recognizable objects in two-point perspective. This choice was made so that the viewer can clearly relate these paintings to current global environmental conditions. While in all of the paintings the grids represent human-made systems and constructs, the grids in these two paintings are explicitly discernible while the rest are more generalized, flat geometric shapes. *Oil Spill* depicts an offshore oil platform situated on a vast blue field representing the sea. A large, orange-black diagonal streak divides the painting from the top-left to the bottom-right. The oil rig sits at the center bottom of this streak, which signifies a massive oil spill that is emitting from the rig. In *Oil Pumps*, a desert landscape fills the left two-thirds of the painting, and a green landscape occupies the right side. Situated on the desert portion are six pumpjacks. Three of the pumpjacks are in the foreground, and three smaller pumpjacks are

Fig. 2. Detail image of *Oil Pumps*. 
situated behind and above them in perspective. To the left of the machines is a large oil derrick structure that is on the same horizon line as the smaller pumps.

To the right of the entrance, flanking the entrance to the Future Room, are the two smallest pieces in the exhibition. These two paintings are also unique within the exhibition because they are the only ones that do not contain grids. They are purely representative of natural Earth landscapes from a satellite perspective. This decision was made to accentuate the effect that anthropomorphic climate change and pollution has on the planet’s environment. *The Melt* depicts the process of deglaciation caused at the Poles by rising global temperatures, and *The Runoff* represents the pollution of streams and rivers, and also suggests the desertification of green areas. Since these pieces are presented alongside *Oil Spill* and *Oil Pumps*, the viewer can perceive a sense of cause and effect between them when seeing them simultaneously.

The paintings that are in the Future Room present a vision of a future for human civilization in which the issues that are indicated in the Present Room are being adequately faced, or have been solved. Prediction the future accurately is, of course, always speculative. The choice was made to project an image of prosperous future to suggest that such a thing is entirely possible, since solutions to humanity’s largest dilemmas do already exist in the present.

Upon entering the room, the viewer will likely notice first the three paintings on the main wall to the right. In the center of that wall hangs a piece entitled *Infinity Lab*, which depicts a large grid in the shape of the mathematical symbol for infinity against a green background. The shape of the grid structure is inspired by the scope of such structures as the Fermi National Accelerator Laboratory, and the European Organization for Nuclear Research, which are each research facilities that feature very large, circular accelerators that are used for studying particle
physics. This kind of research can lead to the discovery of extremely efficient energy sources for humanity’s growing needs.

*International Lunar Complex* and *Martian Terraforming Initiative*, which hang on either side of *Infinity Lab*, represent the possibility of human colonization of the Moon and Mars, respectively. Of all the works in the Future Room, these two are the most speculative, although a great interest in the exploration of the Solar System exists within the scientific community. A lunar base, as depicted in *International Lunar Complex*, could take several forms, such as that of a mining colony, a relay station for transmitting solar energy, or a staging area for further launches out into the solar system. A Martian colony, as shown in *Martian Terraforming Initiative* is, as the title suggests, a representation of a terraforming project on the Martian

![Image](image-url)

*Fig. 3. International Lunar Complex.*
surface. Ironically, the chlorofluorocarbon emissions that harm the Earth’s atmosphere so much would be beneficial to making Mars inhabitable for humans. If enough CFCs could be introduced to the Martian atmosphere, the temperature would rise to a point where certain plants and bacteria could survive. These biological additions would then perpetuate the process by releasing their own, natural greenhouse gasses (Pranztos 77). This would be just the beginning of the very long process of transforming the Red Planet into a green one.

On the two outcropping walls to the main wall on opposite sides are two pieces that address the future of urbanization on the Earth’s surface. These paintings, *Megalopolis* and *Cosmopolis*, each echo *Metropolis* in both title and subject matter. In both, the grids completely engulf the area of land that they occupy, completely covering the surface except for areas of water. In *Cosmopolis*, a river fork cuts through the urban grid area, dividing it into three sections. Each section contains its own central symbol around which all the grids in each section revolve. This is in contrast to *Metropolis*’s one central symbol. This signifies the evolution of cities. All cities originated with a specific historical purpose, such as acting as a trading post, or a religious or political center. Yet, these historical locations have all grown through the changes of the modern age and beyond to resemble each other as centers of communication, diversity and innovation. *Megalopolis* also depicts a city with multiple hubs, all connected with one another. The bright colors of the grid lattice capture the electrical glow of a city at night.

On the left-hand side of the room furthest from the entrance is *The Sun Farms*, which shows a mass of blue grids with white lattice work in the center that resemble solar panels. This mass of panels is connected to wire-like grids that run to the edge of the painting’s surface. Solar energy is a clean, alternative source of energy to the fossil fuels that are prominently used today. Solar panels are a more recent development that fossil fuel engines, and the current production of
solar energy is modest. However, the potential to expand it in the future is great, thus the decision to place this piece in the Future Room.

Hanging left from the entrance is a smaller piece entitled *Atomic*. A gray-white lunar landscape at the top half of the piece transitions into a green, Earth-like terrain at the bottom. The grids in this piece are constructed to resemble a model of a helium-3 atom. Helium-3 is a substance that cannot be found on Earth, but is abundant on the Moon’s surface. It can be used to create a fusion reaction that does not yield much radioactivity. If scientists were to develop a stable fusion reactor, the harvesting of He-3 would be a major incentive to mine the lunar surface. In the future, He-3 could become the key to the most powerful, clean and efficient form of energy production that humanity can harness. *Atomic* is meant to compliment *Infinity Lab* in its composition, as well as its concept—the human endeavor to create an infinite source of energy.
CHAPTER V

CONCLUSION

With all of the problems facing the global community today, it is easy to fall into an apocalyptic mindset. It seems that a world-wide collapse is imminent in the form of rampant environmental neglect, and out-of-control political conflict that leads to millions of people getting killed or displaced from their homes. It is all overwhelming to think about, and one can feel a sense of helplessness in the face of it all. A historical perspective, however, can be a remedy to this feeling. Just over one hundred years ago, all of the world’s major nations were combatting each other in the bloodiest war the world had seen to that date. Also, until about thirty years ago the world’s two largest superpowers were threatening each other with nuclear annihilation. The Cold War was truly an ideological conflict in which both sides felt that their way of life was threatened by the other, and that the threats were in no way idle. Today we still hear of nuclear threats from smaller nations like North Korea, but it is very questionable how willing they are to carry out those threats. Since Russia’s abandonment of communism, and since China has stabilized, the entire world is more or less running on a consumer capitalist paradigm. The impending major war that at times seems to be just around the corner is very likely just a phantom caused by heated political rhetoric from leaders who really wouldn’t dare threaten their nation’s economic position by initiating a global conflict. Instead, we see tit-for-tat trade wars between the major powers, and proxy wars that arise in more unstable regions of the world where radical groups are able to take hold of power. These conflicts, such as the ones in Syria, Afghanistan and potentially Venezuela, become opportunities for major powers to install supportive regimes that expand their spheres of influence. This is all very far off from the
catastrophic wars that wracked the early twentieth century, and the ideological stand-off that lingered from them until the 1990s.

This is not to say at all that capitalism has saved the world. On the contrary, runaway capitalism is the primary enemy of environmental reform. The fossil fuel industry is simply unwilling to give up their profits in order to make way for alternative, cleaner forms of energy, and neither are the major economies into which that industry is securely tied. The solution to the environmental crisis is clear-cut. Humanity must begin to end its reliance on fossil fuels, reduce its carbon emissions, and find other ways to produce energy that do not harm the planet. As stated previously, a handful of nations have set goals for themselves to do these very things. Education is the key to continuing this trend. Unfortunately, people may have to see the direr effects of climate change for themselves to alter their perspectives on the matter. It is difficult for many to empathize with a planet that we so often take for granted. The threat to Earth’s environment made by our rampant consumption is a relatively new one, taking human history into account. Once this threat is realized by enough people, greater action will surely be taken.

The solution to the global humanitarian crisis is not as clear. The political atmosphere around the world is seeing a rise in nationalist tendencies. While nationalism can be temporarily beneficial to a single nation-state, its effects are detrimental to the rest of the world. Nationalism thrives on an opposition against, or outright conflict with, a perceived other. Throughout modern history, it is common for nationalist governments to scapegoat other nationalities and ethnicities for their own problems. This leads to innocent lived uprooted, ruined, or lost. It is essential for humans not only as individuals, but also as a collective to be able to see themselves in others. It is tragic to still see ordinary peoples’ lives negatively affected by conflicts between national governments. However, as a historical trend, empathy is on the rise. Franklin Roosevelt’s New
Deal, which was a reaction to the Great Depression, enacted social programs that assisted the poor, the sick and the elderly. The Civil Rights movement successfully brought attention to the plight of marginalized groups. Awareness of social injustice against minorities is at an all-time high. Even after the attacks on the World Trade Center and the bombings in London and Madrid by Islamic extremists in 2001, no anti-Muslim lynchings or riots occurred world-wide (Pinker 388). In contemporary society, there is a pervading abhorrence of bigotry of all kinds that leads to almost every person who holds a public office to lose their job if they are heard professing any semblance of a racist or misogynistic view. Humanitarian values are definitely not dissipating. Although the political climate happens to be leaning backwards at the moment, the reaction against racism and sexism in the media has only increased in fervor.

How these crises will specifically be resolved is yet to be seen, but the situation is far from being without hope. It is important to understand the present in the context of history. Humanity has come to light of its major faults only a century or so after the modern world began to take shape. Of course, it is impossible to place the present and recent past in a historical context, but our present moment will surely be looked at as a transitional period in which the shackles of xenophobia and ignorance were gradually thrown off. Freedom and equality await humanity in a globalized world. Presently, nearly the entire world is interconnected in a web of informational, and material exchange. Few frontiers remain, and the “other” is slowly disappearing from peoples’ perspectives, revealing the fact that humanity is all indeed one large group. As can be seen by the current, unfortunate state of international politics, the tensions caused by pressure from one entity within the group will eventually be felt in some way by every member. Since the globe consists of one civilization, it will rise or fall as one. To identify as human first, before one’s race or regional affiliation, facilitates international unity. A mass
awareness of global issues would prompt the international community to face them and solve
them. This, really, is only a matter of education. Art is an excellent way of bringing awareness
and attention to the matters that it concerns. In my work, and in the work of the artists who I
have discussed, we choose to bring the kernel to the masses that can eventually grow into the
global awareness and competence that is so necessary for our survival.
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