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Analyzing the Interconnectedness Between Space, Place, and Human Interaction with the Natural Environment: "Ecological Reawakening: Organic DNA and Evolution"

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ANALYZING THE INTERCONNECTEDNESS BETWEEN SPACE, PLACE,
AND HUMAN INTERACTION WITH THE NATURAL ENVIRONMENT:
ECOLOGICAL REAWAKENING: ORGANIC DNA AND EVOLUTION

By

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INTRODUCTION

What is our place as human beings within this world? How do our needs as a species fit into the spaces that this planet has available for us? While human beings—*Homo sapiens sapiens*—are the dominant species on Earth, in terms of our control over many other species, we are still members of Earth's global ecosystem. We are genetically related to and both biologically and physically reliant on the natural environment. For two hundred thousand years, we have utilized the planet's resources for the development of our society. Over centuries, humans have depleted resources, destroyed environments, and altered naturally occurring ecosystems through our technological and urban development. We have built spaces and places for subsistence in which we feel physically, mentally, emotionally, and spiritually connected. In doing so, we have degraded natural landscapes and become removed from and unaware of our intrinsic connection with the natural world. It is not until recently that we have begun to comprehend the consequences of our actions. Whether it is the result of insufficient information or a refusal to accept the limitations of reality, many human beings have not improved their relations with Earth. For these reasons, we are rapidly approaching Earth's carrying capacity for sustaining our species. While we do not know our future as a species, prevalent environmental trends advocate for a transformation of human beings' interaction with planet Earth. They suggest that by comprehending our interconnection to the natural world, as well as our inherent need for comfortable, human-made and naturally occurring spaces and places within our lives, humans will become inspired to improve our relationship with the natural environment. In such a way, we can initiate a paradigm shift from living on the land and destroying it, to living *with* the natural environment: respecting our interdependent relationship.

Are we to expect that the reshaping of our relationship with the natural environment will occur? While I have a background in environmental analysis, there remains a lack of widespread literature discussing environmental concerns, as well as limited comprehensive research on ecosystem processes. Therefore, many individuals are not prepared or inclined to partake in an environmental paradigm shift. There is a small population of environmentally educated individuals. Throughout academic institutions, environmental programs are becoming prominent departments. Similarly, concepts of environmental design—the method of incorporating natural processes into human-made structures—are increasingly being used among professional

designers. The aforementioned population, though, is small. This suggests that only those interested in investigating the environmental realm of consciousness are motivated to pioneer change. More individuals need to be addressed, informed, and encouraged to comprehend the vitality of the biotic community. With more knowledge, we could tend towards respecting all of earth's species—in the sense of understanding their importance and utilizing that awareness to positively interact *with* the natural environment. Doing so would preserve humankind *and* planet Earth, for without Earth, human beings cannot subsist at all.

Land Art is a phenomenon that strives to educate a large population about pertinent environmental concerns, while also stimulating them to improve their interactions with the planet. Stemming from many movements of the 1960's, Land Art began when artists decided to question, alter, and overcome certain art traditions. Through earthworks, art in nature, and ecological art, Land Artists began creating site-specific, sculptural installations located out of doors. The public art installations possessed the ability to reach broad audiences with powerful messages of environmental dilemmas. In the works, Land Artists explored the concept of phenomenological experience—the study of individual consciousness and experience of spaces and places. They determined that viewer interaction and interpretation of the works was vitally important for awakening individuals for environmental awareness. In addition, they employed the use of the limen—a threshold marking the transition into a new space for experience. Accordingly, Land Artists focused on creating physical spaces that allowed viewers to enter, experience, and interpret the work of art. By appreciating art spaces through their own eyes, public citizens were encouraged to envision themselves in relation to the issue, even as part of the space. The works aspired to evoke sensual experiences of the installation, in order to present a theoretical space in which viewers could reflect on their personal experience. Land Artists attempted to create aesthetically attractive and intelligently stimulating environments, within the natural environment, in order to produce comfortable spaces in which individuals can learn, reflect, and comprehend the vitality of the biotic community. Acting as partially didactic artworks, they awaken awareness of nature. Beyond educating humans about environmental degradation, and reawakening their comprehension of the beauty and intricacy of the natural environment, some Land Artworks have also begun to heal some of the harm done to the natural world. The Land Art phenomenon represents a fundamental advocate for and contributor in improving humankind's relationship with the natural environment.

With a college background in creating site-specific, sculptural installations, a dual major in studio art and environmental analysis, and interests in pursuing a career in environmental design, I have chosen to create a Land Artwork as my senior thesis art project. Entitled *Ecological Reawakening: organic DNA*, it derives inspiration from prominent Land Artists Robert Morris, Nils-Udo, Patrick Dougherty, Andy Goldsworthy, Michele Brody, Patricia Johanson, Jackie Brookner, Helen and Newton Harrison, and Mary Miss. It is installed out of doors in the gravel yard associated with the Florence Rand Lang art building on the Scripps College campus. Emulating a DNA double helix in its form, its three-dimensional structure exists as a space in which viewers can enter into the work. The work was created using all-natural, organic, and intricate materials of dead plant matter. It seeks to didactically inform and awaken individuals to the vitality of the biotic community. Through its style, form, and medium, *Ecological Reawakening* intends to engender questions considering, but not limited to, the methods in which we design and create three-dimensional structures, the interactions between humans and the natural world, and, ultimately, the place of human beings within the global ecosystem of the twenty-first century.

In order to address the aforementioned concepts, I have organized this paper into four chapters: “The Environmental Situation,” “Space and Place,” “Art and the Natural Environment,” and “Creating Work of My Own.” Chapter 1 explains human beings’ intrinsic interconnection to the natural environment, outlining why humans should be concerned about the current degraded state of the natural world. Chapter 2 discusses the concepts of space and place. It analyzes how human beings interact with and experience spaces, developing their sense of place—within physical, theoretical, and spiritual realms. It finally illustrates the importance that spaces and places have in humans’ lives. Chapter 3 describes the Land Art phenomenon: its development, the different forms within it, and artists producing Land Artworks. The forms and artists included are those that have been inspirational for the development of my own work. It also emphasizes Land Art as a fundamental form for improving humans’ relationship with the natural environment and the new realm of eco-feminism that resonates with Land Art ideals. Chapter 4 recounts the development of my art throughout my college career. It describes my work as site-specific, sculptural installations that use natural materials. It also states why this format is the most effective for my senior art thesis project. Focusing mainly on *Ecological Reawakening: organic DNA*, it explains the mentality in designing, creating, installing, and

completing the work. Overall, Chapter 4 emphasizes the work's two main goals: to demonstrate a new avenue for comprehending humankind's place *within* earth's environmental spaces, and to advocate for an environmental paradigm shift during the twenty-first century. Finally, Chapter 5 describes the transformation of *Ecological Reawakening: organic DNA* as it developed over time during the spring honors senior thesis course. It details my mentalities in adding living plant matter to the structure, incorporating a stool into the piece, and creating *Evolution*, the digital photography composition that documents *Ecological Reawakening* and was included in the Scripps Senior Art Exhibition in the Ruth Chandler Williamson Gallery from May 1 – May 17, 2009.

CHAPTER 1: The Environmental Situation Why Should We Care?

How are humans connected to the natural environment? Should humans be concerned about the current state of the natural world? Humans are intrinsically interconnected with the biotic community through our inherent genetic structure: DNA. DNA is the abbreviation of deoxyribonucleic acid, a molecule; a molecule is a group of atoms; and atoms make up everything in the universe.ⁱ In fact, humans share 98% of their DNA with the species of chimpanzees, 85% with the zebra fish, and 36% with the fruit fly.ⁱⁱ DNA is the blueprint of life throughout all species, suggesting an intrinsic interconnection between all living entities on this planet. We are also inherently reliant on other living organisms. We are linked through processes that ensure the proper functioning of natural systems. Without a healthy and functioning global ecosystem, to which we are connected, humans would not be able to subsist as a species.

By explaining the biological ecosystems necessary for humans to exist, I will suggest that we should be fundamentally interested in preserving the natural environment. Specifically, by analyzing the technological and urban development of developing countries, I will illustrate how, for centuries, humans have actually been tending otherwise. I am focusing my discussion only on developed nations because, as Silver explains, “The earth’s inhabitants do not exert equal pressure on the environment. Each person in an industrialized country uses far more natural resources and generates far more waste throughout his or her lifetime than a person in a developing country.”ⁱⁱⁱ Therefore, I am solely considering the current environmental situation of developed countries and their building development—the method of building human-made structures, normally in expansive developments.

Through unsustainable building actions, we have significantly degraded natural landscapes. Humans have caused widespread habitat loss, species and biodiversity loss, wasteful consumption of water and overuse of fertilizers, the over filling of landfills, and the depletion of natural resources. These concerns, while widespread, are all related to, but not limited to, humans’ unsustainable building processes and expansion. Examining the concerns and their results should indicate a need for more sustainable building ethics. It is important to understand that building development is not the only cause of environmental degradations. There are many

other factors resulting in habitat, species, and biodiversity loss. Agricultural development and grazing also bring about these forms of loss. However, agricultural development is intrinsically connected to building growth because, as population increases, building and agricultural growth must also increase to sustain our species. While additional actions degrade natural environments, for the purpose of this paper, I am only analyzing the existence of these dilemmas as the result of building development. The resulting deterioration of our planet, while the impact is not completely known, might result in hindrances to sustaining the human species or even extinction. While an extreme outcome, it suggests that, because of our reliance on the natural environment, we should be concerned with the current state of the natural world. This chapter, accordingly, seeks to highlight areas in which our urban development could improve in order to alter humans' relationship with the natural environment, changing our role to a positive, symbiotic one in favor of sustaining humans *and* nature.

Aldo Leopold—a conservationist, forester, philosopher, educator, writer, outdoor enthusiast, and as many considered him, the father of wildlife management and the United States' wilderness system—was the first person to prominently propose a symbiotic relationship existent between humans and nature. He developed four main principles in his *Land Ethic*: 1) Everything is connected to everything else, 2) Everything must go somewhere, 3) Nature knows best, and 4) There is no such thing as a free lunch.^{iv} Throughout his career, Aldo Leopold contended that because we—humans and the entirety of nature—are all members living on and within planet Earth, our existence is dependent on each other. As Clive Ponting points out in *A Green History of the World*:

All human societies have been, and still are, dependent on complex, interrelated physical, chemical and biological processes. These constitute the essential foundations for the way in which the various types of plants and animals (including humans) form complex, interdependent communities. They do not exist independently, [but rather] are part of ecosystems.^v

Instead of existing as a dissociated species *on* the land, we are actually a species intrinsically interconnected to the entirety of the natural world. We are living *with* the land.

When one member of the ecosystem is harmed or removed, there are ramifications throughout the entire network of life. As Eban Goodstein explains in *Fighting For Love in the Century of Extinction*, “Loss of biodiversity generally weakens the ability of nature to deliver ecosystem services.”^{vi} The breakdown of services occurs because every organism and aspect of

Earth plays a vital role in sustaining the planet. Through proposing the Gaia Theory, James Lovelock and Lynn Margulis specifically expound the existence of and need for biodiversity on planet Earth. In the introduction to *Gaia: A new look at life on Earth*, James Lovelock presents Gaia as a complex entity that involves the Earth's biosphere, atmosphere, oceans, and soil. He explains that the Earth's entities work in a totality constituting a feedback or cybernetic system in order to establish an optimal physical and chemical environment for life on this planet.^{vii} Lovelock suggested that through intrinsic communication and control systems, the physical environments of planet Earth function by means of interconnection with one another.

Decades of experimentation and further analysis advanced the Gaia Theory to the field of Earth System Science, which states that all of life on Earth is working together to function. Jon Turney quotes *Earth System Science in Lovelock and Gaia: Signs of Life*:

‘The biosphere is ultimately what ties the major systems of Earth together...The functioning of the biosphere and each of the individual physical spheres, [geospheres and biogeochemical cycles,] of the planet involves continuous and strong interactions, making all parts of the earth system dependent to some degree on all the other parts.’^{viii}

We are all reliant on each other. In the *Global Biodiversity Assessment*, fifteen hundred scientists declared that “biodiversity represents the very foundation of human existence.”^{ix} Humans would not exist without the many other species that assist in powering Earth's natural systems. However, as Silver mentions, “With longer human occupation and greater population density, the influence of humans on other parts of the earth system grows.”^x Our growth as a species has resulted in our dominance over other species. In *Something New Under the Sun*, J. R. McNeill states, “In their relationship to the ecosystem... humans are the only species to have spread into every terrestrial ecosystem and then, through the use of technology, to have dominated them.”^{xi} With domination over other species, humans have begun to overpower the connections within Earth's systems. While Ponting points out that “all plants and animals tend to modify the environment as they compete and cooperate with others to survive and flourish,”^{xii} humans' domination over nature is not just modifying the environment. We have begun to damage the processes described by Earth System Science, which maintain our species. Habitats are disappearing, other species are becoming extinct, natural resources are being depleted, and natural landscapes are headed toward becoming non-existent. These occurrences are the result of our attitudes and ignorance, coupled with our massive growth as a species.

In *Something New Under the Sun*, McNeill discusses the environmental history of the twentieth-century and explains the major changes causing the current situation of the environment. They are the result of our economic, population, and energy booms that occurred throughout much of the world during the twentieth-century. McNeill argues that because the three areas of development occurred simultaneously and with an increased matter of scale and intensity than they ever had before, they are the direct cause of massive environmental degradation.^{xiii} Ponting states, “Humans are the only species capable of endangering and even destroying the ecosystems on which they depend for their existence.”^{xiv} Human beings were not the only cause of environmental change, but through our great scale of growth in the economy, population, and energy use during the twentieth century, our species introduced new developments that were detrimental to many of Earth’s other species.

The twentieth century followed the Industrial Revolution of the late 1800’s, which was stimulated and perpetuated by a greatly increasing technological knowledge and literacy throughout the world. As Mark Herstgaard explains in *Earth Odyssey*, “A given technological development increases humanity’s ability to extract a higher level of comfort from the natural world, but it does so at the cost of greater environmental damage.”^{xv} Technological advances such as manufactured goods, medicine, and coal burning for electricity, to name a few, allowed humans to increase the amount and number of products produced and traded, as well as the lifespan and lifestyle of individuals. As Cheryl Simon Silver mentions in *One Earth One Future*, “Between 1950 and 1987, the global population doubled from 2.5 billion to 5 billion. This increase in the space of less than 40 years equaled the total increase in the world’s population from the time the human species first emerged until the middle of the century.”^{xvi} Our population was able to grow and, synchronously, the amount of goods we produced and the land we overtook to maintain the population grew. While such technological advances improved standards of living for human beings, they came at a cost that humans did not anticipate: widespread environmental degradation and harm to other species.

Presently, we are facing some of the most crucial environmental problems to date: global warming, loss of biodiversity, widespread forest denudation, overextended landfills, and a decreasing agricultural carrying capacity. All of these occurrences combined are causing widespread uncertainty about the state of the world. In his *Epilogue*, Hertsgaard explains how incalculable the situation of the twenty-first century is shaping up to be, “The outlook is

uncertain, the hour late, the earth a place of both beauty and despair. The fight for what's right is never ending, but the rewards are immense."^{xvii} The twenty-first century has arrived and is awaiting our action to counteract the negative cycles that we have instigated. Similarly, in *Eating Fossil Fuels*, Dale Allen Pfeiffer explains the Olduvai Theory—that there exist only enough energy resources for a technological species to survive for one hundred years—and how important action is to dissipate this concept:

The worry is that there *is* a point of no return, where [we have] wreaked too much havoc with our economic system, our agricultural and food distribution system, and our manufacturing base—a point of no return beyond which the total collapse of civilization can no longer be prevented or even mitigated.^{xviii}

While a somewhat exaggerated outcome, ongoing human existence seems questionable under our current living conditions. We have reached a state in which we must examine our current living tendencies so that we do not completely destroy the ecosystems on which we rely.

Increased technology for economic, population, and energy booms both enabled and required building expansion to sustain our species. As David W. Orr states in the “Foreword” to *Ecology and Design*, “Society continues to sprawl, pave, and pollute.”^{xix} With an ever-growing population, there is a desperate need for more housing, food, and built spaces. In addition, technology has provided human beings with the capability to establish large cities and suburban areas. Suburban sprawl has fundamentally destroyed previously existing natural environments and landscapes. In *Design with Nature*, Ian L. McHarg illustrates this concept in discussing how a highway is built: “The highway is an example of an assertion of simple-minded single purpose and indifference to natural process—indeed an anti-ecological view... Highway commissioners go ‘give us your beautiful rivers and valleys, and we will destroy them.’”^{xx} Development is the result of a vision that is normally intended to solve one single purpose; therefore, it does not address additional concerns that are intrinsically connected to the project.

Within building development, the method of building human-made structures normally in expansive developments, many environmental problems have arisen. A building requires a parcel of land where it can be installed. The parcel is selected, usually with complete disregard for already existing life within that area of land, and the building is built on top of this land. If any form of ecosystem previously subsisted, it will most likely be destroyed and not replaced. This process results in habitat loss: the procedure of demolishing areas in which plants and animals live. A. R. E. Sinclair explains this procedure in an article entitled “Biodiversity and the

Need for Habitat Renewal”: “Humans have altered the balance [of natural habitats] by accelerating the decay rate directly through urbanization, farming, and other activities.”^{xxxi} By conducting technological development, we often harm any and all habitats in our way.

Humans have the ability to destroy natural habitats, which results not only in habitat loss, but also in the loss of species and biodiversity. Species and biodiversity loss is the process of eradicating a group or many groups of plants and/or animals either in a specific location or in a more widespread area. Sinclair later points out, “Biological diversity can only be maintained by preservation of habitats.”^{xxii} As habitats are destroyed, the number of plants and animals living within those habitats are, consequently, annihilated. Expanding our cities results in many species lost. As a study on invasion in native California grassland species explains, “A century or more of heavy grazing may have either extirpated native perennials or have so greatly reduced abundances from a large proportion of their range.”^{xxiii} As a direct result of human interference, plants that once existed no longer maintain life. Similarly, Goodstein indicates:

Species extinction is proceeding now at a rate one to ten thousand times higher than the natural rate... The number of wild lions has dropped 90 percent, from 200,000 to fewer than 23,000. Two-thirds of the world’s turtles and tortoises are threatened with extinction. Chimpanzee populations have fallen from 2 million a century ago to 200,000 a decade ago, to fewer than 110,000 now.^{xxiv}

While these numbers do not represent the damage caused solely from building development, converting land for alternative uses plays a role in the loss of habitat, species, and biodiversity.

As mitigation for habitat blighting in some building developments, designers may decide to include a form of natural environment within the newly built environment. In *Gardening with a Wild Heart*, Judith Larner Lowry explains how developers are “required” to take such action: “The term *mitigation* refers to the legal requirement to make reparation for harm done—for the developer who builds a shopping mall on a wetland or condominiums where vernal pools once [were] to create equivalent wetlands or vernal pools.”^{xxv} I put *required* in quotations because, while this legal requirement should be implemented in all building developments, I have not found evidence suggesting that this law is readily followed or supervised. Should the developer instigate such an element into their design, it is difficult to completely recreate that which has been destroyed. Lenore Fahrig discusses this concept in an article on habitat loss and fragmentation in which he analyzes patches, which are isolated habitat areas: “When the number of patches increases by the breaking apart of habitats we find that both habitat loss and

fragmentation are involved in the decreasing size and increasing isolation of habitat patches.^{»xxvi} As sections of habitats are removed and relocated—in the sense of recreating them elsewhere—the number and isolation of habitat patches increases. This in turn will not perpetuate biodiversity, but will actually increase its rate of decay. As Wenche E. Dramstad explores in *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning*, “Patches, however, do exhibit a degree of isolation, the effect and severity being dependent on the species present.”^{»xxvii} Some species utilize isolated patches to sustain life. However, Dramstad continues to explain how “several dynamic processes cause this isolation and [habitat] loss over time: *fragmentation, dissection, perforation, shrinkage, and attrition.*”^{»xxviii} All of these methods involve the fracturing of already existing habitats, and in correlation with Fahrig’s argument, suggest that mitigation efforts will not completely recreate or perpetuate habitats but further destroy them through development.

Beyond habitat, species, and biodiversity loss, destroying and recreating natural environments does not always consist of literally replacing each individual species that was initially removed. Some developers do incorporate native plant gardens with plants endemic to the region, but many demolish natural landscapes and replace them with continuous lawns of turf. The installation of turf lawns degrades the environment in two ways: first, it eliminates many plant species that local animals such as birds, bees, raccoons, deer, and insects require for sustaining life. Second, it consumes copious amounts of water and fertilizer to allow it to grow. The U.S. Environmental Protection Agency posted this fact on their website: “More than half of the outdoor water used in America is devoted to watering lawns and gardens. Nationwide, landscape irrigation is estimated to account for almost one-third of all residential water use, totaling more than 7 billion gallons per day.”^{»xxix} Dale Allen Pfeiffer puts this amount of water into perspective:

Only 0.77 percent of all fresh water—or less than 0.007 percent of all the water on the Earth—is available for human use... The Southwest receives only 6 percent of the country’s available water as rainfall, but its large irrigated farms and growing urban areas account for 36 percent of the nation’s water use. California also consumes more water annually than the state receives in rainfall.^{xxx}

Not only are lawns consuming an exorbitant amount of water daily, but they are also contributing to the over-extension of water use in the United States. Because human beings require freshwater for drinking purposes, large water consumption for lawns is an unsustainable practice.

In addition, fertilizer use on lawns causes not only soil degradation, but also water pollution—decreasing the amount of clean freshwater even available for drinking purposes. Pfeiffer states, “Pesticide runoff is also a major source of water pollution. The US Environmental Protection Agency has found 98 different pesticides, including DDT, in groundwater in 40 states, contaminating the drinking water of over 10 million residents.”^{»xxxix} Beyond water pollution, pesticides contaminate the entirety of the environment. As Paul Hawken explains in *The Ecology of Commerce*, “The world used 4.1 billion pounds of pesticides a year and in 1986, the waste created by the top fifty products of the chemical industry was 539 billion pounds of toxins and hazardous substances discharged into the environment.”^{»xxxix} If Hawken’s data measures the fertilizers consumed in 1986, the amount presently consumed 22 years later must be even more. These chemicals serve as a disastrous source for causing disease in both humans and other life forms from contaminated drinking water, while also greatly devastating the soil in which they are used. In addition, because clean, drinkable water is becoming such a scarcity, humans do not have the luxury to adulterate the little we still have available for our own survival.

The final impact of building development is that of overfilling landfills and depleting natural resources. Humans are currently in the process of identifying alternative locations for landfills because the current areas are reaching their capacity. For example, there is debate regarding a potential landfill to be embedded within Joshua Tree Nation Park in California, as Mary Moore (Scripps College, Class of 2009) is discussing in her senior theses. The major component in filling landfills is that of consumption. Hawken specifies, “Every American consumes about 136 pounds of resources a week, while 2,000 pounds of waste are discarded to support that consumption.”^{»xxxix} How does 136 pounds of consumed resources generate nearly 15 times more waste? The multiplying factor is that of manufacturing, building, and shipping. These procedures require significant amounts of natural resources that are manipulated into solid objects and then discarded because they are not recyclable.

Unsustainable building development is a large factor in creating non-recyclable wastes. In his chapter entitled “More People, Bigger Cities,” McNeill explains, “Growing cities needed timber, cement and brick.”^{»xxxix} While made from natural materials, these products become trash once a building has been demolished mainly because the chemicals utilized in creating the final products are not biodegradable or safe for the environment. Ponting lucidly explains, “The early

chemical industry made large quantities of sodium carbonate for use in glass manufacture: an unwanted by-product was a huge amount of highly corrosive hydrogen chloride, which was vented out of the chimneys with no effective controls over emissions.”^{xxxv} With limited knowledge regarding the impact of our technological advances, building development has caused instrumental amounts of pollution and harm on the environment. In the “Living Building Challenge,” Jason F. McLennan states, “At the present time it is impossible to gauge the true environmental impact and toxicity of buildings we create.”^{xxxvi} Building development is necessary in order to sustain human life and our constantly growing population; however, it is overfilling landfills and creating widespread environmental pollution.

Sustainable building practices, on the other hand, lower the amount of waste produced from construction, limiting the depletion of Earth’s natural resources. The “Living Building Challenge” conveys a positive trend for recycling building materials, rather than wasting them, in the ninth prerequisite to their materials section: “Leadership in Construction Waste.” A table from this document indicates that on average, 92% of all “construction waste must be diverted from landfills.”^{xxxvii} Such a requirement, if applied to all building projects, would greatly reduce landfill space requirements. Furthermore, it would not be polluting our natural environment with harmful substances, nor would it be depleting Earth’s natural resources at such a rapid rate. As Silver alludes to the concept of an industrial ecosystem put forth by Robert Frosch and Nicholas Galopoulous, “Like its analog in the biological ecosystem, an industrial ecosystem would optimize consumption of energy and materials, minimize waste generation, and use the effluents of one process—whether fly and bottom ash from electric-power generation or discarded plastic containers from consumer products—as raw materials for another process.”^{xxxviii} By utilizing closed-loop systems in our building methods, we could begin to build with the natural environment in mind. Yet, sustainable building development is not utilized for all projects, suggesting that many non-recyclable materials are still being used and discarded today.

By taking Earth’s natural resources as the basis of our development, but not replenishing what we have extracted, Earth’s global ecosystem is rapidly diminishing. The dilemma is that the technology required to recycle materials has only recently been invented. Therefore, for centuries, humans have been unsustainably depleting that which Earth possesses. Should we continue to live with these unsustainable practices at the forefront of our development, we are likely to consume all of Earth’s natural resources shortly. In his introduction, Hertsgaard

explains, “Scientists have discovered that the Amazonian rainforest is being destroyed twice as fast as previously thought—ominous news, considering that the current global rate of loss will, if unaltered, leave the planet with no rainforests at all by 2050.”^{xxxix} Rainforests are just one example of an important natural resource that our development is diminishing. In terms of other resources, though, it is complicated to determine when near total depletion will occur. As Frank Press mentions, “Scientifically, the ability to predict future changes in the environment requires an understanding of the physical, chemical, biological, and social processes that govern the earth, and of the interaction of these processes throughout the earth system.”^{xl} While we have developed the technological knowledge for recycling, the inter workings of Earth’s processes are very complex. We must comprehend how our development affects the physical, chemical, biological, and social processes of the Earth in order to begin to understand how to live with the natural world, rather than against it.

Is it possible for humans to reestablish a positive relationship with planet Earth in order to maintain the vital ecosystems that keep us alive? Aldo Leopold suggests that “we abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”^{xli} If we become more intimately aware of our interconnection with the natural world and if more people realize that we are dependent on Earth’s sustainability, we may gain the necessary broad-based desire to preserve the planet that is sustaining our existence. To do so, we will have to acknowledge the environmental degradation that our economic, population, and energy booms have caused and continue to cause. Finally, we will have to find a way to live *with* nature, rather than *on* it, in a sustainable process of respecting, embracing, and utilizing the natural world throughout our lives.

CHAPTER 2: Space and Place

Understanding How Humans Interact With and Experience Environments

Within the world there exist many environments, in the sense of expanses that incorporate the natural and physical aspects of life. Each environment possesses its own identity, which humans address by using the established concepts of *space* and *place*. In terms of our developed understanding of *space*, there are many distinctive realms encompassing spatial identity. E. Relph, in *Place and Placelessness*, outlines eight different concepts of *space*: pragmatic or primitive, perceptual, existential, sacred, geographical, architectural and planning, cognitive, and abstract spaces.^{xlii} The eight identities that he explains illustrate the complexity of the concept of *space*. *Space*'s complexity could be the basis for an entirely different paper. If we assume that the complexity lies in the different human experiences achievable through interaction with a space, though, *space* can exist as an environment with which humans interact. As David Morris points out in *The Sense of Space*, "Our sense of space is not constituted by cognitive or neurobiological structures that are merely on our side of things; our sense of space is enfolded in an outside, in a world that crosses our body."^{xliii} Not only do human beings experience a *space* through individual interpretation of the environment, but it is the physicality of a *space* that creates a dialog with the human body. Relph mentions, "It is the personal experiences of space that are the basis for much of the meaning that environments and landscapes have for us."^{xliv} Relph's space identities highlight different streams of consciousness developed from such interactions with spaces. And, the identities emphasize the various notions that are awakened from experiences with spaces. Yet, *space* remains a fundamental environment—whether physical or theoretical.

The importance of establishing both physical *space* and theoretical *space* exists because theoretical *space* provides an avenue for individuals to interpret that which they are experiencing in physical *space*. In *The Experience of Nature: A Psychological Perspective*, Rachel Kaplan and Stephen Kaplan proclaim, "The perceptual process is sensitive to the relative openness and spatial definition of the setting."^{xlv} Not only do the physical characteristics of a setting influence its meaning, but it is an individual's interpretation of such characteristics that establishes a more developed sense of space. Similarly, Relph clearly explains, "The most immediate form of awareness is that of 'perceptual space'—the egocentric space perceived and confronted by each individual. This is a space that has content and meaning, for it cannot be divorced from

experiences and intentions.”^{xlvi} Perception interprets that which is sensed through experiencing the physical, but must be comprehended in a separate space of thought. Therefore, I will utilize the term *space* as a physical or theoretical environment with which human beings can interact and reflect on their experience of a space.

Place on the other hand, “is a space with experience added in.”^{xlvii} Through interaction with a *space*, individuals are able to develop a sense of *place*. As Relph explains, “However we feel or know or explain space, there is nearly always some associated sense or concept of place. In general it seems that space provides the context for places.”^{xlviii} How does a space transform into a place? Human experience of a physical *space* provides information that stimulates theoretical *spaces* of interpretation. Once an individual encounters a space, their senses are awakened to comprehend and identify the space. In *Placeways: A Theory of the Human Environment*, Eugene Victor Walter states, “We call locations of experience ‘places.’ Experiences means perceiving, doing, thinking, and feeling.”^{xlix} By accessing our senses, emotions, and thoughts, *spaces* inspire individuals to form a concept of place. W. Bruce Walsh describes this phenomenon in *Theories of Person-Environment Interaction*, “The physical world can affect the individual only through his or her perceptions or experiences of it. It is the psychological environment, not the physical environment, that determines the way in which the individual will respond.”^l Humans experience not only physical *space*, but also theoretical *space*, incorporating aspects of location, environment, perception, and interpretation into their development of *place*.

Similar to *space*, *place* is a complex notion, one that examines the involvement of human beings within spaces. Phenomenology—the investigation of individual perception and experience of places—is commonly used to study the concepts of *space* and *place*. This is because the physicality of spaces possesses great importance in influencing an individual. As Morris points out, “The ecological relation between the organism and its environment constitutes the environment as having dimensions that are inherently significant.”^{li} However, an individual’s perception also greatly influences how the individual develops a sense of *place*. To what Walter alludes, “The totality of what people do, think and feel in a specific location gives identity to a place, and through its physique and morale it shapes a reality which is unique to places. Human experience makes a place, but a place lives in its own way.”^{lii} *Place* is, ultimately, an environment that is derived through human experience, interpretation, and

establishment. It occurs as a physical or theoretical environment in which we can envision ourselves existing. As Morris states, “Body-world movement generates envelopes of perception: an inner envelope in relation to the body as place, and outer envelope in relation to larger place.”^{liii} Through *space* experience, human bodies move within environments. They perceive both physical places of meaning and theoretical places of belonging. These are, respectively, regular environments in which humans live their daily lives, and metaphorical places within society, the world, and the universe in which humans feel that their existence has substance. Therefore, I will utilize the term *place* as an environment established by humans—physical and theoretical—that is derived from human experience and interpretation of *space*.

How does the connection between humans, *space*, and *place* assist in establishing personal identity and connection to environments and other beings? In *The Experience of Place*, Tony Hiss mentions, “Whatever we experience in a place is a deeply personal one. Our relationship with the places we know and meet up with is a close bond, intricate in nature, and not abstract, not remote at all: It’s enveloping, almost a continuum with all we are and think.”^{liv} Humans are intrinsically built to experience spaces and places. Our need to maintain such interaction lies not only in our ability to establish valuable spaces and places for ourselves to conduct our lives, but also in our desire to identify and connect with a greater force. In the chapter “Home, Reach, and the Sense of Place,” Anne Buttimer affirms, “It appears that people’s sense of both personal and cultural identity is intimately bound up with place identity. ‘Losing one’s place’ may often trigger an identity crisis.”^{lv} Without developed places of meaning or belonging, humans feel isolated in the world. Relph maintains that “to be human is to live in a world that is filled with significant places: to be human is to have and to know *your* place.”^{lvi} Humans rely on interaction with important spaces so that they can establish valuable places where they feel comfortable.

With what do humans aspire to connect? Morris spoke of a “larger place,” one that is either within the physical world—society—or within a theoretical world—a spiritual realm. As Maureen Korp explains in *Sacred Art of the Earth*, “The experience of *place* as something sacred is not an uncommon experience.”^{lvii} Some humans possess the ability and innate desire to connect to transcendent spaces and places. J. Ronald Engel discusses this phenomenon in “Renewing the Bond of Mankind and Nature: Biosphere Reserves as Sacred Spaces”:

Sacred spaces are not necessarily associated with organized religion or with any given worldview... [They] have a common role in providing a fixed point of orientation in an otherwise chaotic world. By means of sacred places, [individuals] come to hold a unified view of their own place in the cosmos and a shared interpretation of the ultimate meaning of existence. Sacred spaces are perceived to be centers of extraordinary power and reality. Such a space is not mere space, but fully *a place*, imbued with a “sense of place.”^{lviii}

Engel clearly emphasizes how places can embody spirituality, as well as how they can bestow connection and meaning within an individual’s chaotic life. The atmosphere of a place enables an awakening: an environment full of stimulation. Within this stimulation exists information that conveys a multitude of understandings for individuals. In *Space, Geometry and Aesthetics*, Peg Rawes explains, “Space is characterised by its sensible and formal intuitive imitation of transcendental knowledge.”^{lix} The transcendent, information more powerful than the spoken word, can provide understanding of spaces and places beyond the physical and theoretical realms of consciousness. It can enter into the spiritual comprehension of life on Earth. Spirituality imparts knowledge, not directly apparent in the physicality of the environment, providing additional experience of *space* and *place* for some individuals.

Whether one is receptive to spiritual aspects of spaces and places, all individuals process physical and theoretical information that environments emit. As Kaplan mentions, “Humans are strongly oriented to spatial information... A great deal of information that is not necessarily spatial is, in fact, coded in spatial terms.”^{lx} Human beings perceive different types of information from spatial experiences; however, we do not necessarily interpret information through similar methods or establish similar meanings. In *Public Places and Private Spaces*, Albert Mehrabian explains, “The same environment affects different people in different ways. Some of the reasons for this are the difference in the physiological makeup of individuals and in the ways people cognitively process the information they receive from their surroundings.”^{lxi} Mehrabian illustrates how individuals rely on multiple senses when experiencing environments, but that those senses differ between individuals. In fact, a certain physical space can exist as many different places, depending on the experience and interpretation of each individual. This result stems from the many utilities each individual accesses during his or her interaction with a space: senses, memories, and emotions, to name a few. Tuan explains, “Experience is a cover-all term for the various modes through which a person knows and constructs a reality. These modes range from the more direct and passive senses of smell, taste, and touch to active visual

perception and the indirect mode of symbolization. Emotion tints all human experience.^{»lxii} Senses and emotions are unique to individuals, suggesting that no two people will have the same experience. Furthermore, in *Sight and Sensibility*, Laura Sewall recounts, “We remember moments when our attention is fully drawn to a particular color, form, or whisper, to the sounds we hear and the scent of a place. Fed by memory, we shift sensations into a new arrangement.”^{»lxiii} Our individual personalities and memories determine how we feel about a space, whether we enjoy or dislike it. Therefore, it is vital to comprehend that no space will exist as the same place for two or more individuals; each developed place is unique to the individual viewer.

While we constantly interact with spaces and places, humans are becoming unaware of the importance of environments within our lives. Relph explains, “We live, act and orient ourselves in a world that is richly and profoundly differentiated into places, yet at the same time we seem to have a meager understanding of the constitution of places and the ways in which we experience them.”^{»lxiv} We are intrinsically reliant on and involved in the spaces and places surrounding us. Yet, we believe we can live without them; for it is not until one loses one’s sense of place that one loses one’s identity. Tuan states, “We take [spaces and places] for granted. When we think about them, however, they may assume unexpected meanings and raise questions we have not thought to ask.”^{»lxv} As citizens have become more removed from the physical spaces and places in which they inhabit—through the establishment of travel—cities have developed vacant spaces. Humans are becoming more and more disassociated with their life spaces, constantly traveling between home and work, yet not remaining in either long enough to establish a sense of place. Philosophers, city planners, and designers have begun to interpret why this is occurring. They have begun asking phenomenological questions that, as Tuan explains, have begun to reinterpret our vital need for important spaces and places. We are now beginning to reexamine our relationships to spaces and places throughout the world—both human-made and naturally occurring. It is through such exploration of humans’ intrinsic needs for physical and theoretical environments that we can comprehend our role within the global environment.

A distinction should be made between physical, human-made spaces and naturally occurring spaces. A physical, human-made space is one that has been designed and constructed by humans. Naturally occurring physical spaces, on the other hand, are untouched pieces of land

that have not been directly altered by humans. I utilize the word “directly” because it can be argued that through greenhouse gases and other effects, humans have indirectly affected and altered all of planet Earth. A naturally occurring space is, therefore, one that has not been *directly* touched by humans. All spaces actually originate from the natural world, as humans had to alter what previously existed—the natural environment—to create human-made spaces. Because our population is ever growing, the amount of planet Earth that remains untouched by humans is extremely limited. The majority of spaces, which we presently experience and interact with, are the result of our own invention—through use of the natural world. Ultimately, we have the power to create and destroy all of the physical environments with which we identify, connect, and survive.

As humans, we possess a need for spaces in which we can inhabit, subsist, and develop. We have an intrinsic faculty for experiencing, interpreting, and transforming spaces into places of significance. And, we fundamentally rely on well-maintained spaces and places for a healthy life. As Relph explains, “If places are indeed a fundamental aspect of [hu]man’s existence in the world, if they are sources of security and identity for individuals and for groups of people, then it is important that the means of experiencing, creating, and maintaining significant places are not lost.”^{lxvi} Chapter 1 described how over the recent centuries, however, humans have been destroying our valuable, natural environments. While many individuals do not interact with naturally occurring spaces and places on a daily basis, they are intrinsically connected and dependent on these environments. Chapter 1 also explained how biodiversity and organisms within the natural world form that of the human-made world. Therefore, to ensure that naturally occurring spaces do not completely disappear, we will have to relinquish environmental blighting. If we use our phenomenological knowledge to become aware of the spaces and places on which we depend, we will be able to maintain spaces and places not only for connection and identity, but also for subsistence as a species. As the National Research Council states in *Learning to Think Spatially*, “By understanding the meaning of space, we can use its properties (e.g., dimensionality, continuity, proximity, separation) as a vehicle for structuring problems, finding answers, and expressing and communicating solutions.”^{lxvii} By becoming more aware, we can improve the spaces and places on which we inherently rely.

CHAPTER 3: Art and the Natural Environment

Artists Addressing Space, Place, and Human Interaction with the Natural World

As a direct response to the cultural turbulence and political and social unrest of the 1960's, artists joined forces alongside the mass movements of environmentalism and feminism, and began creating Environmental Art. The Environmental Art that began in the sixties was not the initial exploration of the natural world within the art field. Dating back to the nineteenth century, landscape painters from the Hudson River School expressed concern about destruction occurring in the natural environment.^{lxviii} However, it was not until the 1960's, when significant scientific advances occurred regarding biological systems, that artists began a large-scale environmental campaign. Sheila Pinkel explains in "Women, Body, Earth," "Since the mid-1960s, as people have become increasingly aware of the fragility of biological systems, many artists have focused on their love of nature and concern about its destruction."^{lxix} While science has the ability to explain the environmental situation through empirical information, it is not always accessible to all individuals. Art, on the other hand, "with its ability to symbolize complex abstractions in concrete ways, has a unique potential for raising awareness and advancing the shift in mind-set that must occur for the sake of our survival and well-being."^{lxx} Art became a major component in advocating a paradigm shift of humans' comprehension and interaction with the natural environment. Scientifically literate artists created works using complex biological systems, such as DNA. Some artists continued the tradition of the Hudson River School by painting, drawing, mapping, and photographing the natural environment for viewing environmental degradation within the gallery space. And others, in whom I am most interested, embraced their desire to become liberated from the modernistic approach to art and to make their works more accessible to all individuals. They were "animated by a desire to measure the power of the artwork isolated from the cosmopolitan commodifications of the white cube."^{lxxi} Their inspiration resulted in a new phenomenon of art: Land Art.

I follow the assessments of many art scholars in conceptualizing Land Art as a phenomenon, rather than a movement, because of its ambiguity in defining this new realm of art. Gilles A. Tiberghien explains in *Land Art*, "None of the artists discussed in this book use the term Land Art to describe their work, and because it is unclear what the term covers, the use of even more vague designations, constituting even more vast groups, has been preferred."^{lxxii} A multitude of terms have resulted from the Land Art phenomenon—earthworks, art in nature, and

ecological art to name a few—all open to interpretation and embraced at the discretion of each artist. However, despite the equivocal aspects of the term Land Art and its sometimes assumed denotation as solely American Earthworks, it serves as a satisfactory over-arching title for all art within the environmental realm that physically utilizes land. As Tiberghien later mentions, “The term Land Art also has the advantage of being broad enough to include very diverse works. In a sense, *land* is more understandable than *earth*.”^{lxxiii} The 1960’s art revolution to address ever-developing environmental concerns began the new phenomenon of Land Art: art that takes shape within the natural environment at site-specific locations, drawing attention to the natural world within which it is situated.

While many different types of Land Art exist, the majority of the works utilize site-specificity and sculptural installation as the heart of their insurgent development. As Korp states, “Earthworks are architectonic constructions sited out of doors. The work is intensely and specifically site-oriented, answered partly in terms of physical descriptors—its placement and the history of the site.”^{lxxiv} Through deep analysis of a location, artists select sites that speak to them—for various reasons—and create a work that incorporates aspects of the location’s history, surroundings, and environmental concerns. As Patrick Dougherty states in an interview with Pat Summers in “Itinerate Artist: Patrick Dougherty,” “The success of a piece lies in capturing the essence of a place and then playing with what you make of that essence.”^{lxxv} Instead of choosing the site that will accent the work, Land Artists create works that specifically relate to the location. They derive their meaning from a dialogue with the natural landscape.

By moving out of doors, Land Art was a revolutionary process of creating artworks. In the preface to *Land and Environmental Art*, Jeffrey Kastner states, “Land Art evolved into one of the most egalitarian of post-war art [phenomena].”^{lxxvi} Land Artists were interested in removing the barriers installed by museums to allow their works to reach broad audiences. The artists sought to overcome age, education, class, and economic barriers, to some extent. Placing the work in a public location permitted many individuals to view the work, altering the traditional, exclusive art world. Furthermore, not only was it the physical location that broke traditional art norms, but it was also the physical character of the piece as a sculptural installation. Ben Tufnell explains in his book entitled *Land Art*: “The revolutionary character of Land Art is revealed when one considers that it is an essentially sculptural genre and yet there is no existing Western tradition of landscape sculpture.”^{lxxvii} Land Artists were exploring new opportunities within

Western art traditions. Kastner agrees by explaining that because Land Artworks are “executed and sited in a specific location on which they depend for power, they have the ability to melt and spread beyond the limits of their individual materiality, confusing the traditional sculptural scheme in which the experience begins and ends with the object.”^{lxxviii} Land Art shifted from the traditional concept of creating an object for viewing, to focusing more on creating spaces for individual experience. As John Beardsley mentions in *Earthworks and Beyond: Contemporary Art in the Landscape*, “Land Art is intended to provide an inimitable experience of a certain place for both the artist and the viewer.”^{lxxix} Land Artists’ mentality in designing and creating physical spaces results from spaces’ ability to evoke emotion in those experiencing the environment.

As discussed in Chapter 2, Walter explains that “a place with integrity does make sense—it conveys meaning. The real ‘sense’ of a place, therefore is twofold. On the one hand, people feel it; on the other hand, they grasp its meaning.”^{lxxx} Phenomenology suggests that physically experiencing spaces awakens humans’ senses, allowing for a broader awareness. Positing viewers within works forces them to not only analyze the work’s meaning, but also to experience it. If a work of art is specifically located in the natural environment, it compels the viewer to question and comprehend the work’s meaning in relation to nature. By doing this, Land Artists intend to awaken the public’s awareness about the world. By paraphrasing philosopher Bryan Norton’s assessment of the potential transformative power of nature, Goodstein explains:

A better understanding of the true human role in ecosystems would encourage belief in a more rational world view, one that clearly recognizes that the human species as it now exists is an evolutionary product of natural, environmental forces and is dependent on the survival of other species for its own survival. Encounters with wild species and natural ecosystems encourage acceptance of (this) ecological world view.^{lxxxi}

Land Artists, accordingly, believe that sculptural installations within the natural environment will provoke new ideals. The works favor a paradigm shift for comprehending the vital interconnection between humans and the natural environment.

Land Artists utilize differing materials, locations, messages, styles, and approaches to address such environmental concerns. Some earthworks are “made of humble if not ephemeral materials.”^{lxxxii} Others utilize wood, steel, concrete, glue, etc. In terms of style, Kastner explains:

[Land Art] includes site-specific sculptural projects that utilize materials of the environment to create new forms or to adjust our impressions of the panorama; programmes that import new, unnatural objects into the natural setting with similar goals; time-sensitive individual activities in the landscape; [or] collaborative, socially aware interventions.^{lxxxiii}

There is a large range in type, style, and materials used for Land Art. To express these differences, artists associate their works with varying labels. Artist Robert Smithson constructed the term “earthwork” to identify his work. Similarly, artists Robert Morris, James Turrell, and Jeanne-Claude and Christo associate with creating earthworks. Artists Nils-Udo, Patrick Dougherty, and Andy Goldsworthy apply the title “art in nature” to their works. And Michele Brody, Patricia Johanson, Jackie Brookner, and Helen and Newton Harrison utilize the term “ecological art” for theirs. In addition to these artists, there is one main artist who has experimented within multiple realms of Land Art, has been a predominant advocate for the future of Land Art in public, urban design projects, and has also been a vital artist for the feminist movement: Mary Miss. I will focus on discussing the artists and labels mentioned directly above because of their significant influence on my own work, as well as the development of Land Art as a whole. It is important to acknowledge that structures such as Stonehenge (ca. 2,000 B.C.) predate the Land Art phenomenon and development of present-day earthworks. However, as these earlier works do not directly relate to my work, I will only explore Land Art created during the twentieth century.

An earthwork is a piece of art that makes a human imprint on the land. As explained by Suzaan Boettger in *Earthworks: Art and the Landscape of the Sixties*, earthworks are “sculptures best known as enormous mounds and excavations in remote wilderness environments.”^{lxxxiv} Credited to Robert Smithson, the title “earthwork” explained the first form of Land Art created during the 1960’s. His most famous work, *Spiral Jetty* (Figure 1) was Smithson’s major mark on the landscape. The work is made of 1,500 linear feet of black basalt, limestone rocks, and earth curl into the Great Salt Lake, Utah on its northeastern shore.^{lxxxv} Smithson selected the site for its industrial decay and ruin, and he created the spiral form to reverberate the local topography and ecology of the site. The work stands as an exemplary earthwork, as it is a large sculptural installation that attracts awareness to the site, was specifically designed for the location, and made the artist’s significant mark on the land.

Robert Morris was another prominent earthwork artist. As Boettger explains, his “emphasis on comprehending sculpture phenomenologically—through a physical perception of the relationship of one’s own body to the sculpture as another body in space—crucially contributed to an understanding of earthworks environments as fundamentally experiential.”^{lxxxvi} Morris was the primary Land Artist to advocate that individual viewer interaction was important in comprehending a work of art. His works necessitated viewer movement and interaction through the works’ spaces for authentic comprehension.^{lxxxvii} Morris established that Land Art was fundamentally interested in constructing spaces with which humans could interact in order to better understand the work. Two of his most well-known works are *Observatory*, 1971, and *Grand Rapids Project*, 1974. *Observatory* (Figure 2) highlights Morris’ specific style of creating artwork: “Instead of using a paintbrush to make his art, Robert Morris would like to use a bulldozer.”^{lxxxviii} A combination of multiple rings of piled earth, the installation encouraged viewers to experience the work as a monument and highlighted humankind’s place within the universe. *Grand Rapids Project* (Figure 3), while slightly straying from his land upheaval methods, represents a momentous occurrence for public art. As Kastner mentions in discussing the work:

This was the first Land Art work in the landscape to be funded by US government funds. Following this precedent, the National Endowment for the Arts, the General Services Administration and other state, county, and municipal organizations showed an increasing receptiveness toward this kind of art. This developed alongside a growing commitment by artists to creating works in sites which have a public function.^{lxxxix}

Robert Morris is an eminent Land Artists whose work paves the way for many Land Artists to create public, interactive works today.

James Turrell, similarly, creates monumental earthworks that bulldoze the earth. His *Roden Crater* (Figure 4) illustrates the immense installations he imposes on the land. While his primary focus is on light and space, the major upheaval of the Earth in *Roden Crater* brings to question the legitimacy and morality of earthworks. In *Earthworks and Beyond: Contemporary Art in the Landscape*, John Beardsley explains some criticism initial earthwork artists received: “One critic wrote that ‘it proceeds by marring the very land, which is what we have just learned to stop doing.’ Another asserted that ‘earth art, with very few exceptions, not only doesn’t improve upon its natural environment, it destroys it.’”^{xc} Is it morally correct for artists to

transform the land into structures that evoke emotion? Is there a better form of Land Art that can stimulate similar responses without “marring” the environment?

In “The Ethics of Earthworks,” Peter Humphrey mandates that earthworks are only ethical if they meet four criteria: “(1) if they improve the environment; (2) if they are consciously created; (3) if they are ephemeral; and (4) if they are not marks *on* the environment.”^{xc} After establishing these four criteria, he continues to show that earthworks *are* marks on the environment and that all of them do not improve the environment. Humphrey outlines how Robert Smithson refuted these claims, arguing that humans are part of the biotic community: we are not supposed to dominate the natural world, but we are not prohibited from touching it either.^{xcii} However, Humphrey disproves these arguments by explaining that while humans naturally have an impact on the environment just as other species do, earthworks are consciously created structures intended to alter the land in some way. They incorporate decision making of morality and imprint the land to a greater extent than that of human subsistence. Christo and Jeanne-Claude exemplify the concept of consciously imposing human objects onto the land. Their “wrapping” of trees, rivers, islands, etc. (Figure 5), and their installation of many umbrellas in *The Umbrellas* (Figure 6), interrupt natural cycles within the areas. Furthermore, the artists explain in their statement that they create such earthworks purely for the works’ joy and beauty.^{xciii} I would like to propose that earthworks initiated a prominent form of Land Art that informs about the dilemmas of environmental degradation. They established the importance of viewer-art space experience and entered the public realm. However, because some of the works drastically alter the land to achieve their goal, the works that specifically mark the land without incorporating a healing factor are no longer the proper Land Art form that should be utilized in portraying humankind’s relationship with the natural environment today.

Art in nature confronts similar questions of legitimacy and morality. It continues the method of altering the land through human processes. Unlike many earthworks that are sculptural *interruptions* of nature, though, art in nature occurs as sculptural *integrations*. As Tufnell quotes curator Dieter Ronte, “[Art in nature] uses materials exclusively from the surrounding area, without the aid of substances or colours that, in this environment, might be perceived as incongruous, or as a violent and arbitrary intrusion.”^{xciv} Earthworks incorporate unnatural materials into the work, whereas, art in nature uses only what the natural landscape provides. Tufnell states, “The artist intervenes without causing irreversible damage. The artist is

engaged in a spiritual, intellectual and aesthetic dialogue in favour of both nature and art.^{xxcv} Art in nature digresses from the interruptive form of earthworks to provoke its environmental awareness, suggesting that art in nature is a more suitable form of Land Art than earthworks.

Concurrent to the 1960's development of earthworks in the United States, art in nature began when European artists combined art and nature, in nature. Nils-Udo was a prominent artist producing art in nature. In *NILS-UDO*, Hubert Besacier speaks of Nils-Udo's style: "[Nils-Udo] opted for direct interaction in and with nature. Nature was just an instrument like any other: it was no longer a model, a subject to be imitated in another medium, but rather became itself the object of aesthetic activity."^{xxcvi} Rather than imposing unnatural materials onto the landscape or significantly relocating and altering sites, Nils-Udo respects nature as its own art form and medium. *Horsetail Picture I* (Figure 7) demonstrates how Nils-Udo utilizes intricate natural materials to emphasize the beauty and complexity of nature, framing nature as the actual work of art. His works exclusively incorporate natural materials, some of which are alive. In an interview with John K. Grande, Nils-Udo states, "The idea of planting my work literally into nature—of making it a part of nature, of submitting it to nature—its cycles and rhythms—elevates the natural space to a work of art."^{xxcvii} *Water House* (Figure 8) illustrates Nils-Udo's symbiotic relationship with nature through his incorporation of living plant matter into the natural flowing cycle of the sea on the Waddensee mudflats in Germany. Both works accentuate how art in nature incorporates human art into nature through integrative, natural methods, and makes nature the work of art.

Patrick Dougherty followed the art in nature trend and began producing "environmentally benign" art in natural settings throughout the United States during the 1980s. Through intricate stickwork and with the help of volunteers, Dougherty creates temporary artworks within the natural setting. His works highlight the concept of placing art within nature, as is illustrated by *Na Hale 'o waiawi*, 2003, and *Childhood Dreams*, 2007. *Na Hale 'o waiawi* (Figure 9) is a sculptural installation surrounding existing trees. While similar to the style of Jeanne-Claude and Christo's wrapped trees, Dougherty's work is a naturally made structure. Using only sticks, it will not harm any native habitats and might actually provide more spaces for life within its form. *Childhood Dreams* (Figure 10) is an installation at the Desert Botanical Garden in Phoenix, Arizona. It incorporates the fundamental Land Art concept of creating thought-provoking spaces. As Summers quotes Dougherty, "Everything's a vehicle for making a good

piece that captures the imagination of the people who pass by or use the space.”^{xcviii} In completing the work, Dougherty spent many hours experiencing the beauty of the site, interacting with the visitors passing through the area, and determining the most appropriate structure that would accent the site’s natural attributes. While not specifically addressing the environment, the complexity of the woven works, their natural materials, and their location within the natural world invite human-space-environment interaction and contemplation. Furthermore, they show the intricate structures that can be made using only sticks and weaving.

Stemming from the more personal association with nature that art in nature ventured, a similar form of Land Art began developing in the 1970s: ecological art. Katherine Kormendi explains how “ecological artists pursue gentler, more collaborative strategies” in contrast to earthworks that were “constructed with little regard for environmental consequences.”^{xcix} Ecological art began a discussion about collaboratively living with the natural environment. Eleanor Heartney states in “Mapping a better world,” “Eco art has always sought to heal the earth from the wounds inflicted by civilization.”^x To address environmental concerns and present methods for improving our relationship with the natural world, ecological artists work through many different techniques. Some utilize shock or humor tactics, some educate about Earth’s intrinsic systems to which we belong, and others engage viewers through political activism.^{ci} In this regard, some ecological artists deviate from Land Art norms of sculptural installations. The works retain site-specificity and existence in the land. They also incorporate other art forms that broaden the scope of Land Art. Ecological artists believe that the combination of multiple forms will better address the many current environmental concerns, as well as inform and affect more individuals. Patricia B. Sanders affirms this in *Eco-Art: Strength in Diversity*, “We must resist the tendency to think that there is one perfect tactic, one single way to effect change. We need multiple means to reach a diverse audience. Diverse art methods are needed to move a public that is plural, not singular.”^{cii} Thus, ecological art has developed into a multitude of artwork forms.

In order to comprehend the different types of ecological art produced today, Kormendi has established five categories: Reawakenings, Reclamations, Recyclings, Dramatizations, and Rituals/Performances. Reawakenings are “works that restore our sense of connection to the earth and renew our awareness of the beauty and delicate balance, intricacy and splendor inherent in nature.”^{ciii} Reclamation artworks are intended to repair human damage done to nature through

aesthetically and intellectually pleasing manners. Recyclings reuse materials for new works. Dramatizations dramatically illustrate environmental concerns. They are sometimes constructed as installations and utilize “striking visual imagery: allusions, metonymy, metaphor and visual puns.”^{civ} And rituals/performances exist as individual or collective actions within the landscape. Of the artists who create works within these five categories, I am particularly interested in those who design reawakenings and reclamations. First of all, ecological artists creating such works often possess education in both art and the environment—similar to my background. Second of all, I believe that these are the two most productive and imperative forms of Land Art for combating our current environmental challenges.

Analogous to art in nature, reawakenings seek to emphasize the beauty and vitality of the earth through focusing on aspects of the natural world. Most works incorporate nature’s ephemeral characteristics, imitating the delicacy and constant change occurring in natural environments. As Kormendi mentions, “The fact that we can see [some] works only through documentation actually heightens its power to stir up a wrenching sense of fragility, as well as the astonishing beauty, of the natural world.”^{cv} Reawakeners possess great power in awakening viewers’ comprehension of the intricacy and temporality of nature. Many ecological artists use complex, natural, and ephemeral materials to achieve this goal; they display highly detailed natural objects such as root systems, flower buds, and woven branches. In addition, they express impermanence and transitory characteristics through use of ice structures, ocean tides, and growing plants, to name a few.

Andy Goldsworthy, while regularly associated with creating earthworks or art in nature similar to Nils-Udo, creates predominantly reawakeners addressing temporality and intricacy. His works accentuate nature’s fleetingness through their content and media. Not only are they made of natural materials, but most of the works are only available for viewing through photography and video-documentation. For this reason, they directly speak to nature’s ephemeral characteristics. *Sand holes for the incoming tide* (Figure 11) is exemplary of Goldsworthy’s work. Its isolated location, its existence in relation to the sea, and its constant transformation highlight aspects present throughout most of his works. Similarly, in *Stick hole spring into summer* (Figure 12), he emphasizes the complexity of natural materials and focuses on constant change occurring over varying, extended lengths of time. Goldsworthy’s desire is two-fold: 1) to use only materials found within a location, and 2) to create structures that

highlight the powerful systems present in the natural environment. “Addressing a persistent misconception about nature [Goldsworthy] has said: ‘We misread the landscape when we think of it as pastoral and pretty. There is a darker side than that.’”^{xvi} As a predominant Land Artist creating art in nature, Andy Goldsworthy has dealt with a significant amount of criticism for working within the landscape. Tufnell explains, “To many viewers his sculptures and the photographs that document them represent a celebration of beauty in nature. As a result he has been criticised for presenting a kind of populist decorativeness and a dewy-eyed sentimentalisation of nature; for fetishising the pastoral and the handmade.”^{xvii} However, Goldsworthy’s works, and those of most artists creating art in nature and ecological art, maintain that nature has aesthetically appealing characteristics, as well as use natural materials as a specific tool. They are emphasizing the beauty, complexity, and ephemerality of the natural world for two reasons: 1) to educate viewers about such characteristics, and 2) to suggest the importance of preserving nature.

Michele Brody, a New York based artist, focuses her ecological works on trying to “understand how we live with change and the constant flux of our environment.”^{xviii} By utilizing the concept of the limen—a threshold in which viewers pass through for a new experience—she creates site-specific public art, ephemeral installations, and living structures that attract viewers into a new openness of sensation. With growing rye and wheat seedlings in the walls, *Arbor Lace I* (Figure 13) illustrates Brody’s pathway structures that incorporate living flora and fauna. The transformation that occurs during the plants’ lifecycle emphasizes nature’s constant change. Brody explains that by combining liminal experience with living nature:

[I] wish to subtly plant within the viewer a desire to be more aware of the tenuous relationship between themselves, nature, and the urban environment. [I] also wish to communicate the delicate characteristics of memory and how time can both erode and enhance our interpretations of experience.

Reawakening viewers to the beauty, intricacy, and temporality of nature is a key factor in reconnecting human life to the natural world. By comprehending such information through ecological art, we may become invested in protecting the natural world. As Kastner states, “Land Artists precipitate a proactive stance in which the individual begins to feel empowered to intervene in the problems that have been identified.”^{xix} Visualizing actual nature may stimulate a desire to incorporate more nature into our daily settings.

Helen and Newton Harrison, a husband-and-wife team, are essential ecological artists: “pioneers of ‘Eco’ art.”^{cx} Active since the 1960’s, the Harrisons “have worked for over thirty years with biologists, ecologists and urban planners to initiate collaborative dialogues to uncover ideas and solutions which support biodiversity and community development.”^{cxii} The Harrisons are art activists first and foremost, but they are also historians, diplomats, ecologists, investigators, and emissaries. Aspects of their works stray from site-specific installations, as they include maps, graphs, and design proposals as part of the works displayed in gallery exhibits. However, a large component of their work is creating reawakening and reclamation installations. *California Wash* (Figures 14 and 15) expresses the Harrisons’ multifaceted approach to analyzing an environmental situation. For the project, they conducted historical research on Southern California’s original landscape, ecological damage caused by Los Angeles’ urbanization, and current utilization of the specific site. The site, Pico Boulevard in Santa Monica, is the outfall of the storm drain from throughout Los Angeles. By incorporating into the city streetscape city and aqueduct maps, landscape sculptures and native plant gardens, and metaphors, the work evokes the unapparent human-nature interaction existing within the city. Viewers are encouraged to see the history of what the natural landscape used to look like, as well as the present state of Los Angeles’ diverted rivers hiding underground. While not specifically reclaiming damage done by the outfall, the work intends to awaken passers-by to the existence of the outfall, its historical development, and the ecological degradation it causes. Following the installation and the awareness it evoked, the city of Santa Monica incorporated a water purification system.^{cxiii} Upon visiting the installation in October 2008, I was inspired by the work’s ability to engage viewers, to stimulate viewers’ senses, and to attempt to reawaken viewers’ awareness about the site.

Artist Patricia Johanson creates similar works, but focuses more specifically on the reclamation form of ecological art. Reclamations not only awaken viewers to the vitality of the natural world, but they specifically incorporate functions that repair damage done: water filtration systems, wetland habitats, native plants, etc. Patricia Johanson’s most prominent work, *Fair Park Lagoon* (Figure 16), revitalized a polluted lagoon in Dallas, Texas. Through purification, Johanson incorporated native plants, fish, and reptiles to emulate the once-thriving wetland habitat of the area. Her works specifically use ecosystems as the core theme and, as Caffyn Kelly states in *Art and Survival: Patricia Johanson’s Environmental Projects*, “For over

forty years, Patricia Johanson has patiently insisted that art can heal the earth.^{»cxiii} Johanson believes that reclamations can alter humans' negative impact on the land through both education and restoration. Furthermore, Lucy R. Lippard mentions in the introduction to *Art and Survival*, “[Johanson] never abandons beauty, well aware of its restorative properties. Nor does she compete with nature: content with collaboration. She calls attention to what is already there, framing its already vital existence, creating living landscapes.”^{»cxiv} Johanson uses the site as explanatory art and aesthetically integrates her revitalizing structures into the area for environmental progress.

Jackie Brooker advocates similar concepts in her works entitled *Biosculptures*TM (Figure 17). Also called remediation works, Brooker transforms storm water runoff in wetlands, rivers, and streams into reclaimed water that feeds lush, public environments. Her artist's statement explains:

My living sculptures, called BiosculpturesTM, are evocative, plant based systems that clean polluted water, integrating ecological revitalization with the conceptual, metaphoric and aesthetic capacities of sculpture. These projects raise awareness of the urgency of restoring health to aquatic ecosystems, encourage the necessary imagining of a world where human and other than human systems are mutually beneficial, and help to create the public will to protect and restore these resources.^{»cxv}

Ecological artworks as reclamations continue the stimulation of environmental awareness present throughout all of Land Art. In addition, they progress into a new art area that actually reverses the degradation that previous Land Artworks merely referenced. Artists within this realm are not only working with art, but also with ecology, professional design, communities, and public policy. Their desire is to introduce positive, environmental systems into our daily lives.

As introduced earlier, Mary Miss, a practicing land artist since the 1960s, has been an important artist throughout the development of the Land Art phenomenon. During her career, Miss has created earthworks, ecological reawakenings and reclamations, and presently, urban designed public installations. One of her first works, *Untitled* (Figure 18), was temporarily installed in the Battery Park Landfill (New York) in 1973. As a compilation of multiple, unimposing boards with centrally located holes, the work required viewers to move throughout the piece. Similarly, Miss' most famous piece, *Perimeters/Pavilions/Decoys* (Figure 19), uses physical movement and exploration to evoke questions of space and place. Kastner explains how Miss uses such boundaries and perceptions of distance to question limits of illusion and

reality. The viewers ultimately become aware of how relationships change between their body and the spaces around them.^{cxvi} Similar to Robert Morris, Miss was a primary Land Artist addressing phenomenological experiences for viewers in her works. Eleanor Heartney observes in “Beyond Boundaries:”

The notion of sculpture as an environment that must be experienced physically has remained a signature element in Miss’s work. As is the notion of the decoy—the structure that is not of importance in itself, but which functions as a trigger to create rich physical and psychological experiences for the viewer.^{cxvii}

Miss creates spaces that stimulate physical and psychological experiences for establishing a sense of place for individuals. By working in the natural environment, Miss addresses her interest in conveying not only the place of humans within her works, but also within the larger places of the environment, the world, and the universe. Her more recent works, one of which is *Layered Pond* (Figure 20), attempts to analyze these concepts while also instituting reclamation and urban design attributes. Miss designed the work to manage storm water for the North Carolina Museum of Art. She focused the work’s elements on wetlands and watersheds in order to educate viewers on how water affects the region. Miss’ works are fundamentally based on creating spaces in the landscape that stimulate human interaction and experience for comprehending the natural environment, as well as our place within it.

Not only has Miss been a significant Land Artist, but she has also been a prominent feminist in the art realm. Assisting in Land Art’s transformative style of creating place—escaping the minimalist approach of creating objects—Miss was already a revolutionary. Amongst the Land Artists, Miss was even more insurgent through the style of her works. As Christian Zapatka explains in *Mary Miss: Making Place*, “Unlike the minimalist artists who were generally involved with producing single large abstract pieces, she was primarily concerned with making *place* rather than *object*. The projects of Miss have been about engaging the viewer by making the art a setting, rather than a totemic monument.”^{cxviii} Miss strayed from prominent Land Artist Michael Heizer’s work, *Complex City* (Figure 21), which specifically relied on an “awe factor” for impressing viewers. Instead, Miss focuses on “integrating her work into the context, the environment, rather than imposing on it or standing separate from it.”^{cxix} Her desire is to completely expel the notion of the object in order to create intimate spaces for individual experience and interpretation. Kastner believes that it was the marginalization of women apparent in the art world when Miss began constructing that actually “better equipped [her] to

face the challenges. [She was, therefore, better able to] take advantage of the potential opportunities presented by the definitive shift away from the influence of institutional forces.^{»cxx} Utilizing the phenomenon of Land Art, while simultaneously being an advocate for the feminist movement, Miss made art that focused on individual interpretation, rather than imposing personal beliefs upon people. Miss established a method for reawakening the individual spirit for a more profound interaction within the natural environment, serving as a great inspiration for my work.

Ecofeminism, “possibly the most exciting and thought-provoking contemporary approach to environmental issues,^{»cxxi} directly combines the notions established in the Land Art phenomenon with mutuality, solidarity, and spirituality. The phenomenon advocates for an embodiment of interrelationships amongst all people and the environment, allowing for a positive, global transformation. As Carol J. Adams mentions in the introduction to *Ecofeminism and the Sacred*, “The theme of relationships and mutuality reappear [many times]. Ecofeminism stresses relationship, not solely because it has been women’s domain, but because it is a more viable ethical framework than autonomy for transforming structures that are environmentally destructive.”^{»cxxii} Focusing on the intrinsic relationships between humans and the environment, prominent eco-feminist Ciel Bergman creates thought-provoking, environmental works. One of which is *Her pharmacy, Antidote #72* (Figure 22). While her medium is painting, I have chosen to briefly incorporate her into the paper for three reasons: 1) she specifically addresses the Gaia hypothesis and humans’ need for comprehending the interconnection between humans and nature, 2) her works are a form of reawakenings, and 3) I was inspired by the direct communication we had in November 2008, while I was viewing her work in the Ruth Chandler Williamson Gallery in the show: “Place in Time: Contemporary Landscape.” Bergman embodies the desire to heal humans and the earth through reawakening their senses to spiritual spaces and places. She agrees with Land Artists’ mentality that we must see and feel nature in order to communicate with it. Land Artists concur that by healing our understanding of the beauty and vitality of the natural world, we can begin to heal ourselves, to heal the environment, and to positively transform life on Earth into sustainably functioning, healthy ecosystems.

CHAPTER 4: Creating Work of My Own
Ecological Reawakening: organic DNA

How do individuals develop a sense of being and determine their interests? Is it through the process of their nature or the nurturing they receive? Or does it depend on both? The development of my art is the direct combination of my inherent nature and the nurturing I have received throughout my life. The daughter of two chemists and a member of an artistically creative and talented family, my interests in art and science are inborn. But it is the combination of my innate aspirations with that of my experiences, interactions, and education that have further nurtured my curiosity of art and the environment. During my childhood, I spent most summers out of doors at day camp. By hiking, camping, and exploring nature, I encountered intimate spaces and places within the natural environment that spawned my lifelong love for the natural world. I was intrigued by the intricacies of plants, animals, and entire ecosystems. Such curiosity spawned my college major of environmental analysis, which I combined with my intrinsic interest of art in my Studio Art major. Through thorough research in college courses and internships, as well as through the construction of multiple studio art projects, I have become extremely interested in designing spaces that not only emulate those from my childhood, but also ones that can sustainably address and alter humans' relationship with the natural environment. My senior art thesis project is my attempt to address these natured and nurtured desires in a sculptural installation project entitled *Ecological Reawakening: organic DNA*.

The sculptural projects that I have created thus far outline my development towards my current thesis work. They utilized sculptural installation formats, symbolized DNA, and were constructed from organic, all-natural materials. Beginning my college career with *The Flight of Love* (Figure 23), a sculptural work installed in Steele Hall, I have proceeded to work mainly in an installation format. My first experience addressing the helical structure of RNA was in my work, *Childhood* (Figure 24). Constructed as a single, helical strand of RNA, it discussed my development as an individual through my direct nature and nurturing established from my parents. I progressed from RNA to symbolize DNA in *Native-plant-way to Sustainability* (Figure 25). The site-specific installation work was created in direct response to the Scott Lawn project, in which a committee of Pitzer College faculty and students were converting a lawn into a native plant garden.^{cxiii} By incorporating California native plants and imitating a helical-shaped stairway, the installation displayed a gateway for change in our interactions and

perceptions of the natural environment. *Untitled Installation* (Figure 26) was also a site-specific installation, but was made from all natural fibers of burlap, wool, cotton, linen, and silk. The work was incorporated into the Lang art building in one interactive, continuous loop. It intended to allude to natural elements from the nearby landscape, to address the past/historical elements of the location (namely an orange grove). It also intended to evoke the possibilities and importance of using sustainable materials in an aesthetically pleasing manner for present and future uses of a space.

My final work that directly corresponds to my current thesis project is *Bobcat naturalii* (Figure 27). It was installed in the same location as my senior thesis project and was constructed using similar materials of dead plant matter and twine. Intended to address the importance of no longer sustaining only human life, but of sustaining the planet, the work emphasized that what we have the power to create, we also have the power to destroy. Built to emulate an actual machine, *Bobcat naturalii* illustrated that our technology, machinery, and stability are all the result of what the earth has offered us. Furthermore, it suggested that we are reaching a point where every step we take drastically alters the earth's ecological footprint—noted in the viewing of the work. As viewers entered the gravel to view the Bobcat, they changed the environment of the exhibit with their shoe markings, therefore altering its state of existence and their perception of the work.

After creating *Bobcat naturalii*, I became aware of its direct similarity to works within the Land Art phenomenon. Existing as a site-specific, sculptural installation, the work was composed of the two fundamental aspects of Land Artworks. It was not an earthwork because it did not drastically alter the land in which it was located. However, it did request that viewers experience and interact with the structure, similar to works by Mary Miss and Robert Morris. My use of natural materials in an out-of-doors work follows the example of art in nature. Comparable to Nils-Udo's experience of working with nature, I have found that creating art out of doors has greatly opened myself to reality, and to the liveliness of nature.^{cxxiv} The research I conducted for creating *Untitled Installation*, *Native-plant-way to Sustainability*, and *Bobcat naturalii*, as well as the actual construction process, stimulated my awareness of the vitality of the natural environment. The process of building the works also encouraged me to attempt to awaken viewers' senses to the beauty and fragility of nature by creating Land Art in the form of art in nature and ecological art that strives to be successful examples of reawakenings.

Ecological Reawakening: organic DNA (Figures 28, 29, and 30) progresses from the ideas proposed in my previous works and incorporates my interests in pursuing a career in environmental design—landscape architecture and urban design. The work seeks to engender three main questions. First, it strives to analyze the interactions between humans and the natural world. How do we view and experience nature within our daily lives? Second, the work is interested in the methods with which we design and create three-dimensional structures. Can structures be built using only all-natural materials? Third, what is human beings' place within the global ecosystem of the twenty-first century? Do we comprehend our intrinsic role in the global ecosystem? In order to evoke such questions, the work was constructed using three main criteria: 1) it is a site-specific, sculptural installation addressing space and place, 2) it symbolizes a DNA double helix in its structural form, and 3) it is assembled using all natural, organic materials. *Ecological Reawakening* follows the perspectives of Land Artists to address my inherent interest in incorporating the biotic community into our daily lives.

The work is a temporary, sculptural installation located on the Scripps College campus. It is situated in the gravel yard associated with the Florence Rand Lang art building—a site designated for students to install sculptural works. The work's positioning elicits multiple questions: Why is it installed out of doors? And why in this location? Following the specific shift of Land Art that moved out of the gallery and into the environment, I was inspired by the power of outdoor, public artworks. Also, the work is in accord with Patrick Dougherty's aspirations, "He wondered how works so dependent on their surroundings could fit into a gallery or art-world setting. Like other artists who have turned to earthworks and temporary sculptures that draw materials and inspiration from the landscape, Dougherty made his surroundings the habitat for his art."^{xxxv} Land Artworks are intended to exist in the landscape of which they speak. Many Land Artists feel that placing actual nature in a gallery fetishizes it. Tiberghien explains that it is the absence of the pedestal or base that symbolizes the importance of Land Artworks.^{xxxvi} Similarly, Land Artists desire to relinquish any human domination or control over nature that might be construed if nature is confined in the human-made and controlled gallery. As Tufnell states, "Land Art plays an extremely important role in the undoing of the relationship between the artist and the gallery and by implication the economic structures of the gallery and museum system."^{xxxvii} I did not want to fetishize or control nature by placing it in the gallery. By existing out of doors, the artwork communicates with the landscape; it interacts with the

weather and animals native to the area. Inspired by Andy Goldsworthy's works that change as a direct result of nature, I wanted *Ecological Reawakening* to interact with natural systems: it is affected by the sun, wind, rain, plants, and animals. The out of doors location empowers the natural world as an important participant in the artwork dialogue.

Why is *Ecological Reawakening* situated in this location? Scripps College assigned the gravel yard as a specific area for students to install sculptures and installations. Its main purpose is for educational art exhibitions. Because my work aspires to be didactic—in an informative and reawakening sense—the gravel yard is a prime location. Following what Marshall McLuhan explains in *Medium is the Massage*, “We have now become aware of the possibility of arranging the entire human environment as a work of art, as a teaching machine designed to maximize perception and to make everyday learning a process of discovery.”^{xxxviii} Installed in a public, educational location, the work strives to intrigue any and all passers-by—students, faculty, staff, and the larger community—into exploring the sculptural space. It hopes to establish a location for discovery and reawakening. As Kormendi discusses in regards to ecological art, “What is indisputable is that art retains its power to provoke emotion in the hearts and minds of its viewers, and in the provocation of the emotion, perhaps, lies hope for the preservation of the natural world.”^{xxxix} Evoking emotion about the natural environment on a college campus is an attempt to encourage impressionable, young adults to begin sustainable, environmentally healthy lifestyles. Orr mentions:

A good place to begin the institutional transformation is to harness the talents and energies of faculty and students to redesign their own campuses so that one day they are climatically neutral, discharge no waste, enhance biological diversity, and support the emergence of locally sustainable economies. This means converting the university from just a place where education happens to one that educates ecologically.^{cxix}

Ecological Reawakening seeks to artistically educate and reawaken the community. Existing in a public location that is intended for educational purposes is an ideal position for accomplishing this goal.

Yet, the gravel yard is not a naturally occurring environment. If not positioned in the natural environment, does this work still constitute a Land Artwork? While not a naturally occurring environment, the gravel yard is surrounded by human-made landscapes with a backdrop of trees. Similar to *California Wash* by Helen and Newton Harrison that is installed in the city-center of Santa Monica, *Ecological Reawakening* addresses the concept of the natural

environment within the human-made, built environment. Placed out of doors, yet within human development, it interacts with the established landscaping and attempts to reawaken viewers to the more sustainable building designs that could be incorporated. As environmental designer William E. Wenk states in “Toward an Inclusive Concept of Infrastructure,” “I propose an approach to addressing environmental issues that embraces current approaches to public works, draws from native and cultured landscapes for inspiration, and creates humane, artful landscapes that are environmentally sound and functional.”^{xxxix} My work proposes how art, nature, and building design can sustainably coexist in one location, stemming from my aspirations to become an environmental designer. In order to present this message, the work requires juxtaposition with human landscaped and built environments. In contrast to the opposing Lang building—a solid, unnatural looking structure—the work’s natural attributes and flowing form propose the intrinsic beauty apparent in naturally built structures. If the work had been installed in an alternative location on the Scripps College campus—an aesthetically pleasing and highly landscaped area—the work’s meaning would be altered and potentially lost. The site is intrinsically important for comprehending the many meanings I am proposing in the work. As a site-specific work, *Ecological Reawakening* maintains a fundamental aspect of Land Artworks.

The form of sculptural installation is also very important for the purposes of *Ecological Reawakening*. It is important because the work is a Land Artwork, because it intends to discuss the concept of built structures, and because it is fundamentally interested in educating viewers. Artists Mary Miss, Robert Morris, and Patrick Dougherty achieved similar purposes by utilizing space, place, and phenomenological concepts of human-space interaction in sculptural installations. Deriving inspiration from these artists, *Ecological Reawakening* takes shape as a three-dimensional space. As Mary Miss’ artist statement says, “One of my primary interests is trying to make intimate spaces within the public domain, make a connection between public life and interior life, while calling attention to place.”^{xl} Miss’ Land Artworks engage viewers in intimate physical and theoretical spaces, allowing individuals to access their emotions that assist in developing important places. Desiring to reclaim the intimate spaces I encountered as a child, my work follows in accordance with Miss’ mentality. It exists as an evocative structure, in both shape and size—twelve feet tall and six feet wide. Beyond the size, the complexity of the form intends to attract passers-by. With an inviting, outlined path that leads viewers into the slightly enclosed space, individuals are directed to interact with the structure and experience its physical

space. Through intricately woven walls, the structure attempts to stimulate viewers' senses about the vitality and beauty of the natural environment. Hiss explains that "for simultaneous perception to emerge, we need a place that seems safe, where the information presented to each sense is complex but not overpowering."^{xxxiii} Subsequently, *Ecological Reawakening* intends to present a pleasant space by inviting the viewer into the space, by allowing light to permeate the walls, and by remaining open to the sky and through the entrance/exit gateway. The gateway in my work simulates the liminal forms that Michele Brody employs in her works. It signifies a threshold through which viewers embark on a new, sensual, and educative experience. The limen and the entirety of the sculptural form of *Ecological Reawakening* aim to instill new concepts about the natural environment.

The second main criterion of the work is its DNA double helix form. It intends to address the biological systems inherent in all living entities on planet Earth. Many artists have utilized DNA and the double helix in their works to investigate its meaning and structure. Since the 1950s, artists have searched "for a visual language to interpret, understand, and use the knowledge that ultimately affects every one of us. To attempt to present art that demystifies science."^{xxxiv} Rosalind Franklin was the first person to successfully visualize DNA. She utilized x-ray crystallography to produce images of DNA in 1952. As mentioned in the DVD documenting an art exhibition about the human genome, *photoGENESIS*, narrator Earl Leininger states, "[Franklin's] images are among the most important scientific images ever produced."^{xxxv} Her work began the exploration of documenting the biological research surrounding DNA and the human genome. After James D. Watson and Francis Crick proposed the double helix structure in 1953 and defined it in the journal, *Nature*, as "beguilingly beautiful,"^{xxxvi} artists have sought to capture its beauty in their works. *Ecological Reawakening* is my attempt to utilize the beautiful and evocative DNA form in order to evoke awareness about our interrelated world. It does not intend to represent or dialogue the Human Genome Project, but rather to explore and communicate naturally occurring biological systems apparent on Earth.

The DNA sculptural form is intended to establish a dichotomy of inside and outside space—inside and outside the physical structure, as well as inside and outside the human body (or any living entity's form). This stems from what artist Chris Drury mentions about his art in an interview with Grande:

Seen from the inside [viewers] become and experience what no photograph can adequately describe. In some way, the outside is brought within and changed. The viewer is obliged to wonder about the nature of the relationship of inside to outside. In a sense such works give the viewer a very physical, gut experience. They experience it first and then, if they will, continue to wonder about it.^{cxxxvii}

The DNA double helix form strives to awaken viewers' senses to the beauty and vitality of natural biological systems present within all living entities on Earth. Not only present within all living entities, DNA is actually the blueprint of all life at its most basic genetic level. Roman Vishniac, one artist utilizing DNA, magnified DNA twenty-five thousand times to create images of DNA strands that "suggest the beauty if not the architecture of our genetic structure."^{cxxxviii} Beyond its fascinating beauty and structure, DNA serves as a blueprint for living creatures. Rebecca L. Johnson explains in *amazing DNA*, "DNA is like a set of building plans. It has all the information needed to build a complete living [entity]."^{cxxxix} The DNA double helix is a complex, intricate, beautiful, and powerful structure that constructs the basis of all life on Earth. Utilizing its form has the power to evoke such knowledge.

Ecological Reawakening also seeks to propose the development of sustainable building methods. Utilizing DNA's architectural form speaks to the awareness that DNA has the power to rebuild healthy life forms. By "carrying information in its bases: adenine, thymine, guanine, and cytosine,"^{cxl} DNA provides the knowledge required for rebuilding. Johnson states, "Each strand of DNA is a template on which a new strand can be built."^{cxli} Making use of the DNA form, *Ecological Reawakening* not only emits knowledge of biological systems, but also suggests a new model for humans' urban development. If we comprehend that through DNA, nature provides the building blocks for our spaces, places, and lives, we can utilize nature to sustainably rebuild. As Wenk explains, "By understanding and appreciating the functional aspects of these systems, and by contributing a knowledge of natural system functions, designers can again give form to urban infrastructure."^{cxlii} We can utilize the most natural and basic form of life—DNA—to bring sustainable form and function to our developments. In doing so, humans will honor the intrinsic relationship existent between humans and nature. Making use of DNA as the fundamental, sculptural form, *Ecological Reawakening: organic DNA* hopes to inform individuals of such concepts.

The third criterion that assists the sculptural frame in addressing the natural world is the work's use of only natural materials. *Ecological Reawakening* is constructed using dead

bamboo, tree branches, root systems, entire plants, and leaves: no plants were killed in the making of this project. The structure is woven together and bound using all-natural hemp, twine, raffia, and burlap. The completely organic form suggests two main points: 1) all materials derive from the planet, and 2) structures can be built using natural materials. To address the first point, Grande explains that “resources in art are no different than elsewhere; they derive from nature. In fact all materials—natural or so-called synthetic—ultimately derive from nature.”^{cxliii} All of the resources we consume as humans come from the earth. The materials we use to construct our buildings, while altered into synthetic products, are the result of natural materials. Therefore, why continue to build with unnatural materials that harm habitats and pollute the land when structures can be built using only organic materials? *Ecological Reawakening*’s incorporation of all-natural materials seeks to emphasize that designing in conformity with nature and drawing out the best characteristics of a natural site, will enhance the work that is created upon it.^{cxliv}

By working with all natural materials and mostly by hand, my process emulates how Nils-Udo, Andy Goldsworthy, and Patrick Dougherty construct their artworks in nature. Tufnell describes Goldsworthy’s process as working mostly with his hands in order to understand the landscape contexts and the materials he is using, but that he is willing to use tools if necessary. In accordance with Goldsworthy’s mentality, I worked mainly with my hands, but also utilized tools for installing, cutting, and securing the work. Furthermore, Tufnell states, “[Goldsworthy] does not work in this manner out of a kind of ecological purism; he sees himself as a formalist, exploring the properties of different materials and engaging in an investigative process to analyze sculptural concepts such as mass, balance, space and form.”^{cxlv} Creating art in nature is a process of exploration and construction. As artist Chris Drury explains in an interview with Grande, “structure is part of the process. The structure is both practical and beautiful. There is structure in process and process enters my work at all levels.”^{cxlvi} My work specifically follows a process of constructing: I worked intimately with each natural material to create the installation. Such focus on the plants—examining their intricacy, selecting a location, and weaving the branches into the structure—awakened my senses to the process of interacting with and interpreting nature.

Ecological Reawakening intends to awaken senses in individuals who explore the abundant amount of detail present. The work incorporates plants, branches, and nests that were specifically chosen for their complexity and intricacy. The desire to present nature’s vitality

results from humans' continuous detachment from the natural environment. As McHarg explains:

There are large numbers of urban [people] for whom the countryside is known only as the backdrop to westerns or television advertisements... The problem of man and nature is not one of providing a decorative background for the human play: it is the necessity of sustaining nature as a source of life, milieu, teacher, sanctum, challenge and, most of all, of rediscovering nature's corollary of the unknown in the self, the source of meaning.^{cxlvii}

By bringing intricate nature to humans and allowing viewers to interact with actual plants, *Ecological Reawakening* presents an opportunity for reawakening senses deadened to embracing the natural environment. Furthermore, made solely of dead plant matter, the work highlights the death of nature currently facing humans. The work seeks to emphasize that without exploring the details and inner-workings of nature, humans will perpetuate the death of nature. Once the individual makes a conscious choice to enter the structure, they can become reawakened to the beauty of life available through knowledge and positive interaction with the natural world.

Ecological Reawakening is a sculptural installation that utilizes site-specificity, liminal and phenomenological experiences of space and place, a DNA double helix form, and all-natural materials to thoroughly reawaken viewers' senses. Aware of individual interpretation, the work hopes that messages obtained from viewing and interacting with the sculptural installation are not limited to any proposed questions. It strives to present concepts for reawakening viewers to the beauty and vitality of the natural world. As a one-semester project, the work was completed for the senior walk-through critiques on November 24 and 25, 2008. Should I be accepted into the spring honors program, I would like to see the sculptural installation grow both vertically and horizontally. As a taller structure, the DNA double helix will be even more apparent. With horizontal expansion, the work will grow into the space, branching out and further taking root. The larger space will create an even more stimulating environment than was presented in the fall. I may like to incorporate lighting that will make the outside more visible at night, as well as accent important details inside the structure. Also, I may consider including living plant matter and analyzing the concept of decay and change, over time as the structure adapts through interaction with nature. In addition, photography and a video-documentation of the work—similar to that of many Land Artworks—could provide a powerful vehicle to amplify the experience and interaction with *Ecological Reawakening: Organic DNA*.

CHAPTER 5: Spring Honors Extension
Living Nature as Co-Designer

With a new semester, comes new life. Following the principal focus of *Ecological Reawakening: organic DNA*—to awaken viewers to the vitality of the biotic community—my work for the spring Honors Art Seminar has reevaluated the concept of vitality. Built of solely dead plant matter for the fall thesis project, *Ecological Reawakening* presented nature’s intricate details with a strong component of death. While death is an important aspect of all life and the process of decay embodies the notions of temporality present in the natural world, I am more interested in promoting a positive change of new growth for the future of the natural environment. In addition, designing with nature not only requires comprehending the natural world and respecting its existence, but it also demands the incorporation of living matter into spaces to encourage life to flourish. By allowing plants to maintain a prominent role in the design process, the individual is designing *with* nature to the fullest capacity. Therefore, I have altered my understanding of presenting nature’s vitality from focusing on its pure form to emphasizing its functioning processes and living existence. In doing so, nature has become a co-designer of *Ecological Reawakening: organic DNA* and the work now strives to propose a future of life, fertility, and regeneration accomplished through complete design *with* nature. This chapter is an addition to the fall semester senior thesis to first, define the term nature, second, highlight artists that have referenced life and growth through use of plants, third, detail the transformation my piece has taken during the honors spring semester, and fourth, fulfill the honors art seminar requirements.

A distinction must be made regarding the term nature. When speaking of nature, I am referencing the word’s origin, *natura*, Latin meaning “essential qualities.” This definition translates from the Greek word *physis*, meaning the physical characteristics of plants, animals, and other components of the natural world. According to John Beardsley in “Kissing Nature Goodbye,” the term “nature” has been commodified by our culture and transformed into a concept referring to the aesthetic beauty of the outdoors. He states, “I am interested in how the commercial context is modifying our conceptions of nature—changing [its] cultural meanings and values ... We have created the “nature” we buy and sell in the market place.”^{xlvi} “Nature” also possesses an identity of tension in the art realm. As Barbara Nemitz mentions in *trans plant: Living Vegetation in Contemporary Art*, there exist “long neglected fundamental

questions about the field of tension between nature and beauty.”^{cxlix} When aesthetics are applied to the term “nature,” the term projects theoretical constructions defined by our society. While these constructions are controversial and should be addressed, for the purpose of this chapter, I am only using the term “nature” to reference the physical organisms that exist in the natural world.

Many artists have employed nature in their works. Beginning during the 1960s when earthworks entered the art realm, artists began using actual plants as media for their pieces. They have used plants to achieve a broad range of meanings, from expression of time to discussing genetics and bioengineering. My interest focuses on those artists that have utilized plants to illustrate plants’ life, growth, fertility, vitality, and positive change over time. As Nemitz explains, “Works with plants are dynamic forms that develop within temporal dimensions. They are conceived in the progressive form and involve plans for life.”^{cl} By utilizing plants, artists are able to express ephemerality and sustainability. Some artists manipulate plants and/or attempt to control plants to achieve such themes. I am not interested in any relationship with plants that establishes a hierarchy between humans and nature, but instead, am intrigued by artists that have granted autonomy to plants.

Artists Alan Sonfist, Charles Simonds, Mel Chin, and Michele Brody all achieve such notions. In 1965, Alan Sonfist planted seeds of oak, hickory, juniper, sassafras, and milkweed on a plot in New York City to reference the natural history of the site and establish a constantly growing and changing landscape entitled *Time Landscape*TM (Figure 31). Artist Charles Simonds created an ovoid structure, *Growth House* (Figure 32), in 1975, to discuss future habitation and growth. Mel Chin, artist of *Revival Field: Living Plants/Living Processes* (Figure 33), utilized the specific capacity of certain plants to revitalize a hazardous waste landfill in 1991. And Michele Brody, previously mentioned in Chapter 3 on page 27, utilizes living flora and fauna to address nature’s constant flux.

Because all of the aforementioned artists worked with living plants, Barbara Nemitz suggests that they have created “works that are both intimate and visionary endeavors.”^{cli} Her belief is that humans have no logical understanding regarding our own existence and should, therefore, “look into nature in order to discover something about ourselves.”^{clii} Nemitz’s mentality directly references the concept of biomimicry. According to Janine M. Benyus, in

Biomimicry: Innovation Inspired by Nature, biomimicry is simply, ““doing it nature’s way.””^{cliii}
Benyus goes into more depth by explaining the concept through three definitions of nature:

1. *Nature as model*. Biomimicry is a new science that studies nature’s models and then imitates or takes inspiration from these designs and processes to solve human problems, e.g., a solar cell inspired by a leaf.

2. *Nature as measure*. Biomimicry uses an ecological standard to judge the “rightness” of our innovations. After 3.8 billion years of evolution, nature has learned: What works. What is appropriate. What lasts.

3. *Nature as mentor*. Biomimicry is a new way of viewing and valuing nature. It introduces an era based not on what we can *extract* from the natural world, but on what we can *learn* from it.^{cliv}

Utilizing nature’s designs and incorporating nature into our innovations is the most powerful method for comprehending life and establishing sustainability.

Influenced by the aforementioned artists and concepts, I have incorporated living plants into *Ecological Reawakening: organic DNA* for the spring Honors Art Seminar (Figures 34 and 35). The plants’ presence in the piece not only brings life to the work, but also establishes a collaborative development of the structure between myself and nature. On collaboration, Nemitz states, “Work with living plants is an interactive process of communication.”^{clv} During the fall, I was the sole designer of *Ecological Reawakening*. I selected each piece and I wove each piece into the work. When nature forced my structure to lean, as a result of heavy rains, I attached rope and straightened the structure. This opposition and selectivity proposes that I was not completely designing the structure in “nature’s way.” By incorporating plants into the piece, I was still designing, as I selected the species and location of each plant. Once established, however, I allowed nature to become a co-designer. With autonomy, nature established life in the structure and now directly expresses vitality through its lively presence and through the intricate woven structure that the vines have formed.

While the entangled vines suggest the transformation associated with life’s processes, I also possessed a desire to document and portray the growth achieved through designing with nature. Following Andy Goldsworthy’s focus on how nature’s systems constantly change spaces, as well as his use of photography documentation, mentioned in Chapter 3 on page 29, I created a photo documentation piece, *Evolution* (Figure 36). The fourteen-foot-long, digitally altered

photograph strip consists of twenty images that document the transformation that occurred in the work during the 2008-2009 school year. Beyond just documentation, however, *Evolution* became its own composition illustrating change over time, growth, and life. *Evolution* was installed in the Ruth Chandler Williamson Gallery for the Scripps Senior Art Exhibition, from May 1-17, 2009, to serve as a complementary element to *Ecological Reawakening*.

By placing *Evolution* in the gallery, I hope to create a dialog between the images and the structure. As a Land Artwork, *Ecological Reawakening* directly utilizes and encourages viewer experience of the structure. The inclusion of the time based photographs augments such interaction because the photographs allow viewers to not only comprehend the piece as it presently stands, but also to identify the transformation the structure has undergone. Such knowledge heightens the presence of growth, life, and change embodied by the work to further suggest the vitality of nature. In addition, the separation and location of the two components addresses artist Chris Drury's statement regarding the relationship of indoor and outdoor spaces (referenced in Chapter 4 on page 41). Drury believes that works, which access inside and outside concepts, both physical and theoretical, force viewers to move back and forth between the spaces, constantly analyzing the spaces' relation. Drury explains, "In some way, the outside is brought within and changed."^{clvi} Similarly, the inside is brought out and also changed. The photograph strip illustrates growth and change over time, while the sculpture highlights nature's extreme details and presence. My desire is that after viewers have seen the images, they will seek out the actual structure. After viewing the structure, they will return to the images to reevaluate the accuracy/similarity of the two elements and, hopefully, find details in the images that are only identifiable once the structure has been viewed in person. Subsequently, a constant dialog develops that I hope will create an ongoing interaction between viewers and *Ecological Reawakening*, as viewers move between the multi-space exhibition.

In order to enhance the viewing experience of the outdoor sculpture, as well as to encourage an intimate interaction with sections of the work, I have also created a stool on which viewers can sit (Figure 37). The stool was made of bamboo and wood to emulate the structure. I chose the stool form to allow viewers to move the seating into many locations inside and outside of the structure. The stool strives to enhance the viewer experience of the piece by providing a relaxed, flexible environment for exploration of the plants. The plants I selected are also of importance, as they are all California native species representing sustainability. Those included

are *Calystegia macrostegia* (Cyclo ‘Candy Cane’ var. Coastal Morning Glory), *Eschscholzia californica* (California Poppy var. White Linen), *Lonicera interrupta* (Chaparral Honeysuckle), and *Vitis californica* (California Grape Vine ‘Rogers Red’). Each plant has its own specific characteristics and has uniquely designed intricate aspects of the structure.

The plants and the entirety of the structure have also established a new habitat for animals. Figures 38, 39, 40, and 41 illustrate the extended forms of life that *Ecological Reawakening* is perpetuating. The co-existence portrayed in these figures presents how, as a whole, my honors art senior thesis project embodies nature’s living vitality. By becoming a co-designer with nature, I have fully embraced the method of biomimicry and created a structure that demonstrates the interdependence between humans and the natural environment. It is my hope that the experiences viewers have with *Ecological Reawakening: organic DNA* will awaken them to the vitality of nature and its importance in our lives today.

CONCLUSION

What if humans lived in a sustainable way, respecting the intrinsic interconnection between the natural environment and ourselves? We would perhaps become more aware of the genetic similarities of DNA existent throughout life. We would comprehend better how humans are reliant on other species for a healthy biodiversity that sustains life on Earth. And we would comprehend to a greater degree how humans are an important part of the global ecosystem. Because we have the knowledge to advance as a species, we have become the dominant life form on the planet. In doing so, we have altered many of Earth's systems—some to a significantly degraded state. While we have the power to destroy the Earth, we also have the power and technology to rebuild the planet. Living in a sustainable manner *with* the natural environment, we can utilize our knowledge to build better relationships *with* Earth's flora and fauna. We must respect the naturally occurring spaces of the Earth to preserve their existence for our own subsistence.

Sustainable living is achievable, but it requires both awareness and motivation to enact change. In order to counteract the damage that we have done, our efforts must be widespread and prompt. Yet, many individuals are not taking action to help sustain our planet. Scientists, philosophers, and artists believe that such inaction is, to a significant extent, the result of an unaware populace. They believe that by enlightening and awakening individuals to the intricacies of the natural environment—its beauty, complexity, and vitality—as well as to our intrinsic connections to the natural world, humans will be persuaded to take action. Scientists have developed humans' understanding of DNA: the blueprint of all life at its most basic genetic level. Through phenomenological studies, philosophers have comprehended the ways in which spaces and places, both human-made and naturally occurring, play a prominent role in humans' lives. And, artists have transformed the art world with Land Art that speaks directly to prominent environmental concerns. Our awareness is growing and could be the beginning of a necessary paradigm shift.

The Land Art phenomenon revolutionized individuals' experience of artworks by removing them from the gallery setting, placing them in site-specific, natural environments, and developing a new medium of sculptural installation. Such efforts were Land Artists' methods for not only addressing the pressing environmental situation, but also awakening viewers to take

action. Doing so required the creation of physical and theoretical spaces in which viewers could experience a sensual interaction with the work. Through earthworks, art in nature, and ecological art, Land Artists incorporated phenomenology and the limen into the pieces. Artists Mary Miss and Robert Morris transformed the phenomenon with their earthworks. Nils-Udo, Andy Goldsworthy, and Patrick Dougherty used all natural materials to emphasize nature's beauty through art in nature. In reawakenings, Michele Brody and the Harrisons reawakened senses to plants' vitality. And in reclamations, Patricia Johanson and Jackie Brookner began the transformation of healing the damage done.

Land Artists provided positive efforts in advocating for an environmental paradigm shift. They utilized their knowledge to take sustainable actions towards improving humans' relationship with the natural world. It is their efforts that have provided inspiration for my own work within this field. I have a fundamental love for art and the environment. I also desire to improve the natural environment through a career in environmental design. To address such aspirations, I am following the methods and materials of prominent Land Artists in creating my senior art thesis project. It too strives to reawaken viewers' senses to the vitality of the biotic community. In doing so, I hope to advocate sustainable living as not only an essential goal, but also an achievable one. All we have to do is live *with* the natural environment, rather than destroy it.

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Figure 1

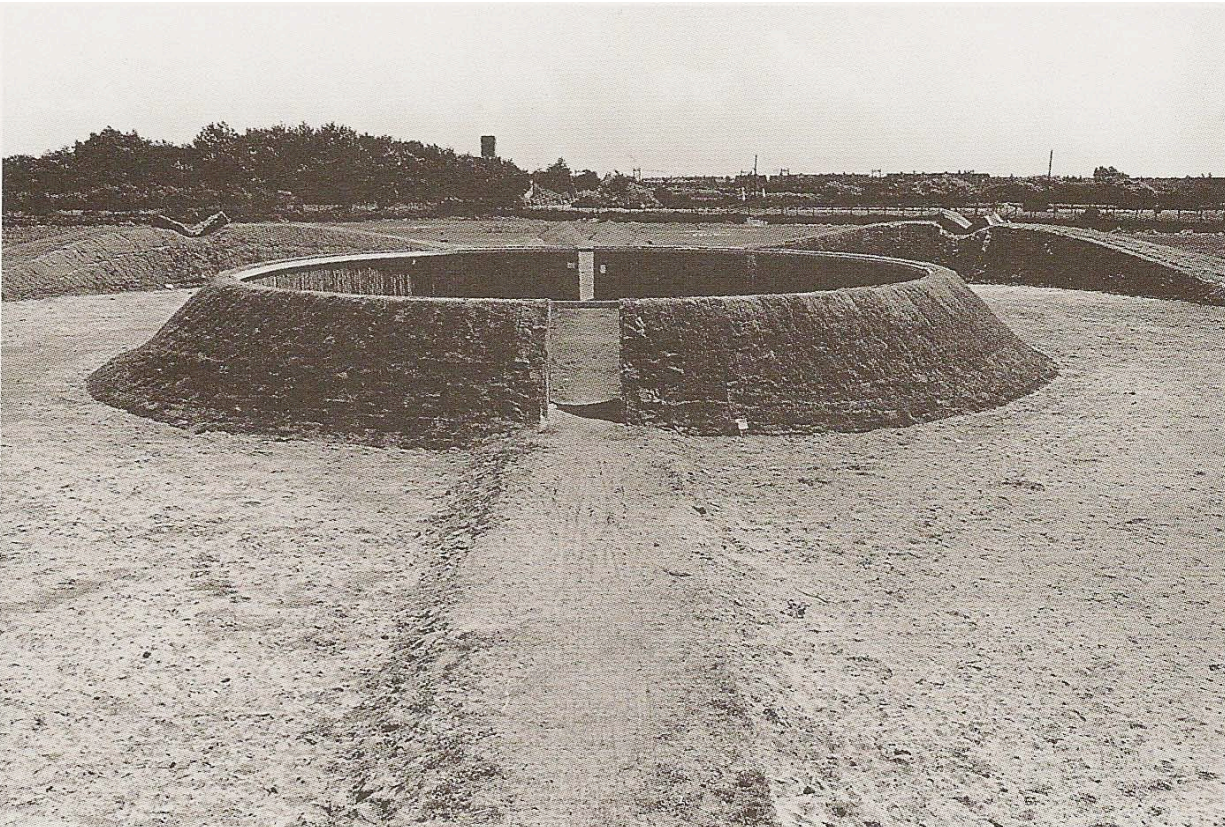


Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14

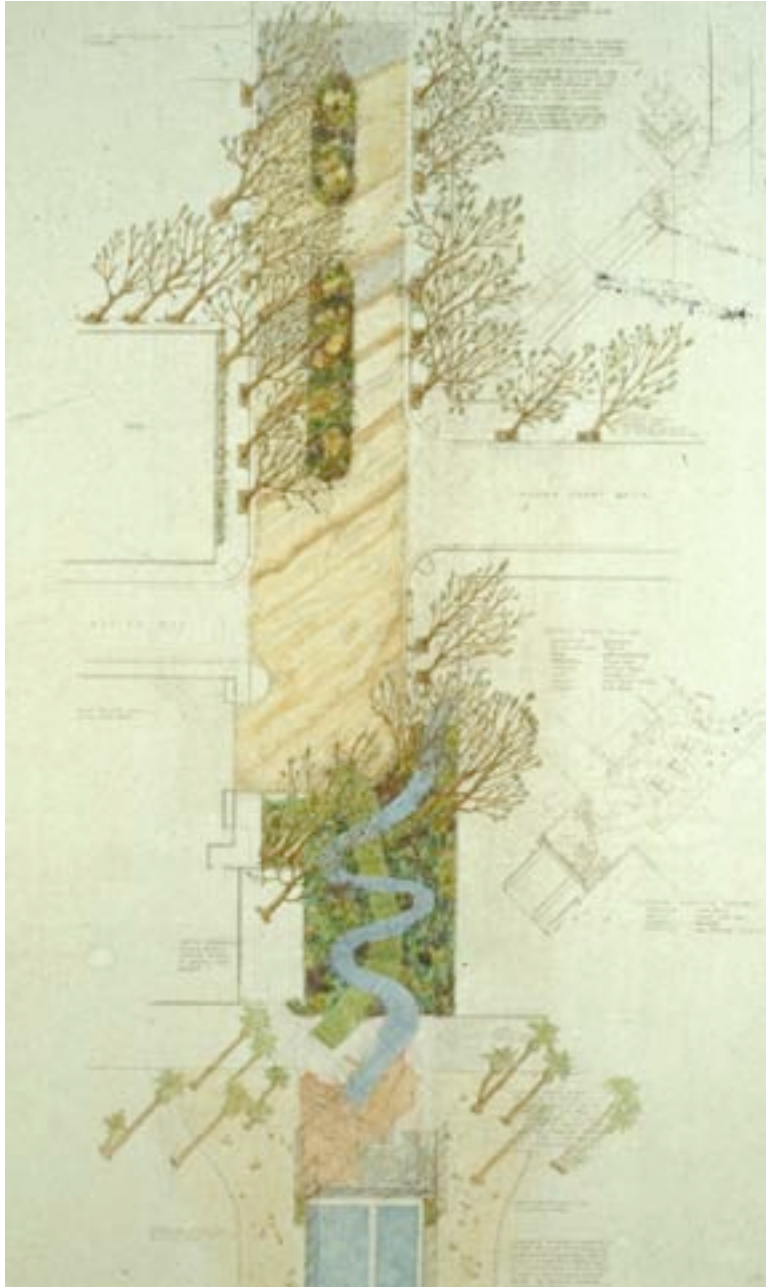


Figure 15

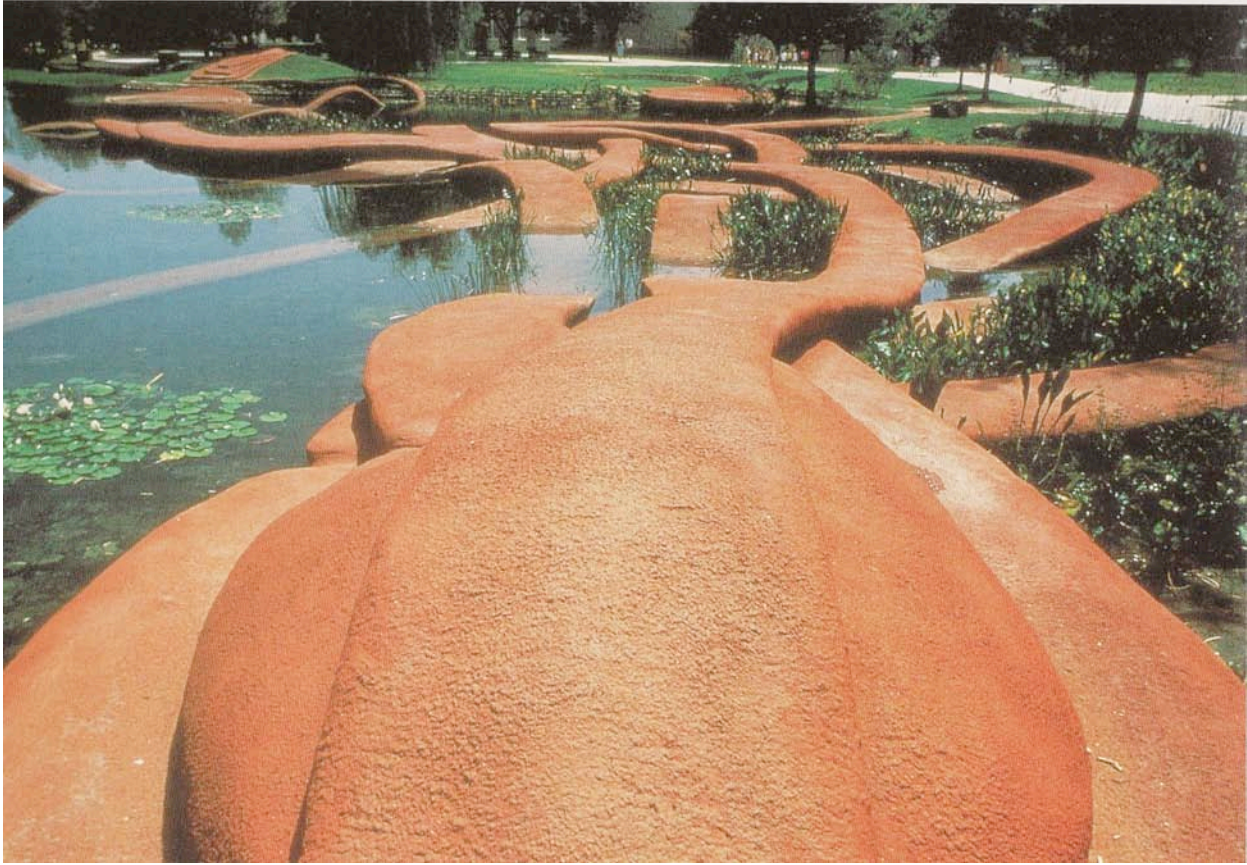


Figure 16



Figure 17



Figure 18

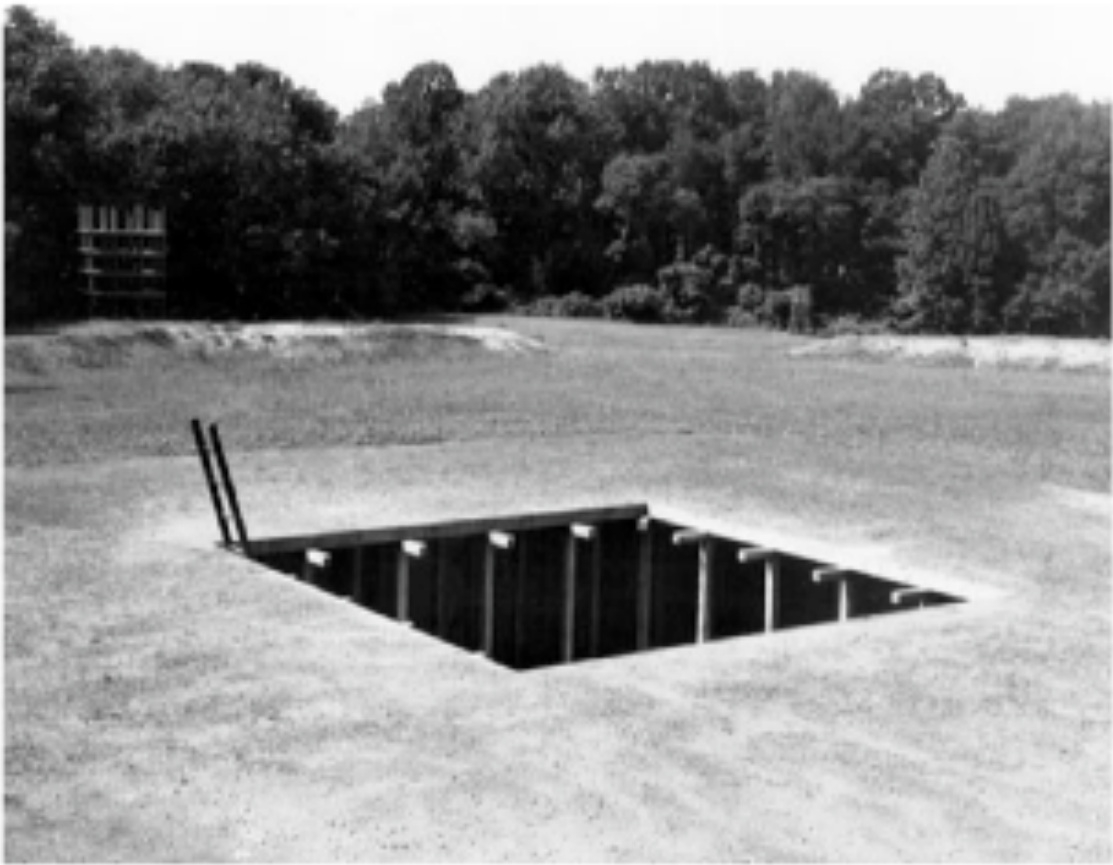


Figure 19



Figure 20



Figure 21

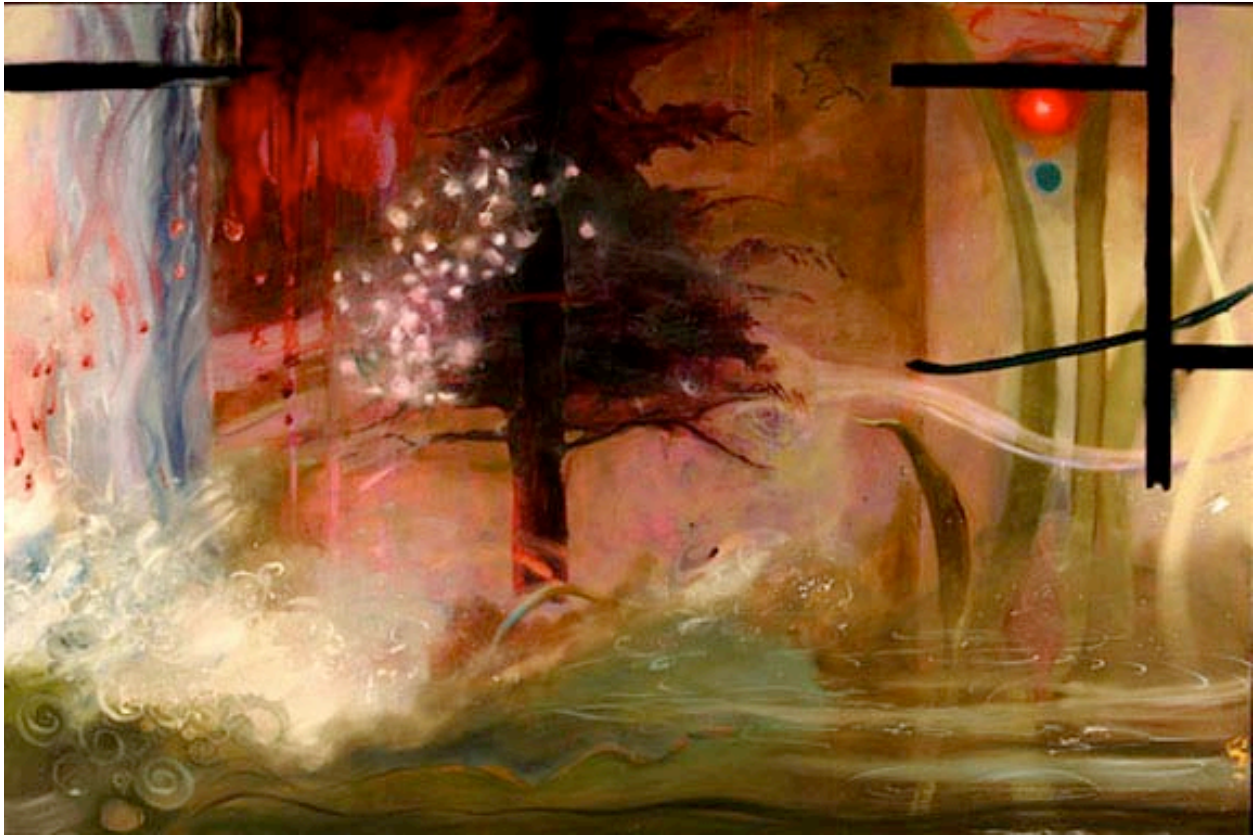


Figure 22



Figure 23



Figure 24



Figure 25



Figure 26



Figure 27



Figure 28



Figure 29



Figure 30



Figure 31



Figure 32



Figure 33



Figure 34



Figure 35



Figure 36



Figure 37



Figure 38



Figure 39



Figure 40



Figure 41

ENDNOTES

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