MACHINESCAPE

by

Sena Clara Creston

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Approved by the
Examining Committee:

_____
Tomie Hahn, Thesis Advisor

_____
Shawn Lawson, Member

_____
Benjamin Chang, Member

_____
Brent Green, Member

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ABSTRACT

In this thesis paper my aim is to describe how the evolution of my art-making process and practice through my six previous artworks has led me to produce my newest work, *Machinescape*. While working through these past pieces my development went through three stages—from a realization of the significance of the environment, to a stage of looking at the animation of the work, and then to consideration of the materials and practices used to build a piece. *Machinescape*, the culmination of this process and the main focus of the art portion of my thesis, is an installation built with my conscious awareness of its environment, animation and materials.

The thesis, reflecting these three stages of development, is organized by sections devoted to environment, animation and materials. In the environment section of the thesis I will explain how constructing enterable environmental installations has been an attempt for me to encourage my viewers to have an activated experience within, and a candid and holistic response to, the artwork. The animation section of the thesis explores how animating artworks has been an attempt for me to imbue my sculptures with life-like qualities in order to facilitate pathos in my viewers, encouraging them to form an emotional relationship with the artwork. In the materials section of the thesis I will examine how my consideration of materials has been an attempt to fabricate believable imaginary worlds that resonate pointed meaning for my viewers. Finally, I will discuss the significance of these considerations in building *Machinescape*.

Machinescape is a kinetic installation comprised of consumer electronic equipment, reworked to animate components of a satirical sculptural landscape. Discarded electronic devices have been stripped down to their mechanical systems,

gaining new function as the puppeteers used to animate interpretations of the earth's natural systems: water, land and sky.

1 Introduction and Historical Review

My artwork is an attempt to create an evocative experience for my viewer. My work incorporates aspects of sculpture, kinetics and installation and is primarily concerned with scrutinizing humanity's relationship to the inorganic other. In this thesis I describe the evolution of my art-making process and practice by exploring the considerations involved in producing my six previous pieces, and how they led me to produce my newest work, *Machinescape*.

While working through past pieces, the development of my process went through three stages—from a realization of the significance of the environment, followed by a stage of looking at the animation of the work, then to a focus on the materials, and finally to a complete view of all three. *Machinescape*, the culmination of this process, is my first installation that uses my conscious awareness of the environment, animation and materials of the piece. In this thesis I will explore the three stages of my artistic development by presenting examples of my work and ideas that these pieces provoked. In an effort to understand why these three elements are significant in my own work, I have researched the work and philosophies of other artists whose work also focuses on environmental, animated and materialistic elements.

1.1 The Environment

I began my artistic career as a photographer, making two-dimensional photographic prints meant to be hung on a wall. It was not until the creation of my pieces *Night Lights* (2005) and *Insideouthouse* (2006) that I began to experiment with installation art, extending photographic techniques past the frame of the image and into

the gallery. Building installations was my attempt to activate the viewer and encourage what I hoped would be a candid and holistic response.

The viewer's experience is a crucial element in my work. In this thesis the term *viewer* refers to the person experiencing the piece. I intend the term to be inclusive of other experiential aspects that are not vision-focused: listening, feeling, sensing etc. The *environment* refers to the defined boundaries of an experience. The boundaries can be physical, social or psychological, and are distinguished by sensorial cues within the environment. Depending on what the viewer's socio-cultural background is, I assume viewers arrive at an environment with preconceived notions of *what* an environment is, as well as culturally constructed rules, or protocols, of how to behave in similar antecedent environments. These protocols greatly influence the viewer on how to respond appropriately with rehearsed reactions for known environments. But a new environment that has no known associations has the potential to elicit a profound reaction to a novel experience.

My installations are creatively fabricated environments, specifically designed to problematize anticipated viewer expectations of familiar environments. When the viewer steps into an installation, sensorial cues help to define the context of the environment, and hence the culturally expected rules within the space. The art critic Claire Bishop defines installation art as a space "into which the viewer physically enters, and [the nature of the work] insists that you regard [it] as a singular totality." (Bishop 2005, 6) Building installations allows me to fabricate self-contained and self-referential worlds for the viewer to experience as an interrelated whole.

In an effort to understand why certain elements are significant in an installation, I

will examine my own installations, *Night Lights* and *Insideouthouse,* as well as the influential philosophies of installation artists Allan Kaprow and Carsten Höller. Kaprow was a pioneer of installation art in the early 1960s who rejected the notion that art must be made from traditional art materials and displayed in a gallery. Höller pushed the boundaries of installation art in the 1990s by creating intense sensorial environments for his viewers to experience. The conclusion of this section is the realization that constructing enterable environmental installations encourages the viewer to perceive and understand the activity within the space, as well as their own reactions to the activity.

1.2 Animation

As a further attempt to engage the viewer in the artwork, I abandoned the two-dimensional image to create animated sculptures and environments. In 2008 I built *The Garden*, an interactive installation of paper-mache flowers that detect and respond to the viewer's movements.

In this thesis the *animation* of the piece refers to how artwork may be imbued with anthropomorphic or animistic characteristics. I animate my sculptures with physical movements by both interactive and non-interactive means in order to make the sculptures appear to come alive for the viewer. I believe that animation gives my artwork autonomy, a kind of distancing from myself as the artist, and assists the viewer in empathizing with the artwork as an entity that is something other than a person, object or space.

In the animation section of the thesis I will explore how viewers are able to empathize with kinetic art that has been imbued with embodied emotion. In this section I examine the role of animation in my own work as well as the work of the artists Philip

Beesley, Arthur Ganson, Tim Lewis and Gilbert Peyre. Beesley, a contemporary architect turned interactive installation artist, uses robotic technology to fabricate immersive interactive environments that stimulate responsive emotion. Ganson, Lewis and Peyre are all modern kinetic sculptors who anthropomorphized their works by programming their sculptures to perform emotive gestures. In this section I discover how animation can be used in sculpture to facilitate pathos in the viewer, encouraging him or her to form a relationship with the artwork.

1.3 Materials

With the creation of *Brown-Paper-Bag Birds* (2010), I began shedding the visual cues of realism that are inherent in photography and representational sculpture and reassessed the material considerations of my artwork. With this work, I began seeing materials not just as the physical means of art-making, but rather as an opportunity to reveal an inherent meaning in the artwork.

Brown-Paper-Bag Birds is an interactive installation that animates strips of brown paper to recall a flock of birds that take flight when disturbed, or a paper bag floating in the wind. While constructing subsequent artworks, I have continued to evaluate materialistic implications in my artwork. *The Knowhere Machine* (2010) was my first use of repurposed machinery where I built a bicycle-powered installation intended to produce the effect of a simple universal human experience outside of its associated environment. The materials that compose *Spinner Dress* (2011) dictate both its form and meaning. *Spinner Dress* is a spinning dress sculpture and musical instrument made from woven Grateful Dead concert bootleg cassette tapes.

In this thesis the *materials* refer to the physical elements that are used to construct an artwork. Materials give permanent sensorial cues to help direct the viewer's understanding of, and reaction to, the piece. My consideration of particular materials encourages the viewer to understand that art is not exclusively an object tied to product and craft, but rather the material translation of the internal world within the artist and the manifestation of the artist's non-literal ideas at a specific point in time.

The choice of materials is critical. Once integrated into the piece, materials have the ability influence the viewer's interpretation based on their content and context. In this thesis the *content* of the materials refers to what the materials were originally intended for and where the materials come from. In creating a self-contained, self-referential imaginary world, I believe that it is essential that all the materials used would logically exist within that world. The *context* of the materials refers to the placement of the materials within the art installation juxtaposed with the viewer's previous association with the particular object. Using recognizable objects rather than traditional art materials illuminates the history of the original object as well as the history of the viewers' relationship to that object.

The consideration of materials in my artwork is reflected in my art making process. In this thesis the *process* refers to the action or activity that the material undergoes through creative endeavor in order to translate materials into art. Although it may not be immediately apparent to the viewer, the processes of fabricating an artwork greatly influence the finished product. The decisions regarding what and how materials are used do not only serve an aesthetic purpose, but also greatly affect the implied meaning of the piece.

In the materials section of the thesis I will examine the significance of materials and process in the creation of an artwork by exploring how materialistic consideration has impacted the meaning of my own work, as well as the works of the artists, Jasper Johns and Robert Rauschenberg. Johns and Rauschenberg were two mid-century, New York City artists who used repurposed materials in their work to generate another layer of meaning for their sculptures that reflected emerging consumerist behavior of the time. In this section I will examine ways in which materials and processes are intertwined with content and meaning in my artworks.

1.4 Machinescape

In the final section of this thesis I will discuss how my consideration of environment, animation and materials has influenced my artwork leading me to create my newest work. *Machinescape,* the main focus of the art portion of my thesis, is an installation comprised of consumer electronic equipment, reworked to animate components of an immersive satirical landscape. In this piece discarded electronic devices have been stripped down to their mechanical systems, gaining new function as the puppeteers used to animate interpretations of the earth's natural systems: water, land and sky.

2 The Environment

My artwork is a physical translation of my interpretation of contemporary concerns presented as a dialogue with my viewers, rather than a corporeal presentation of personal aesthetic ideals. Installation art allows me to draw more from the viewer than mere observation and acknowledgement of the artwork. The nature of installation art encourages the viewer's physical, emotional and conceptual responses by integrating the viewer into the piece both visually and conceptually. Bishop explains: "Many artists and critics have argued that this need to move around and through the work in order to experience it *activates* the viewer, in contrast to art that simply requires optical contemplation (which is considered to be passive and detached)." (Bishop 2005, 11) This activation allows the viewer to seek out connections within the installation and organically assess each component as an integral clue to the meaning of the piece in its entirety.

I create environmental installations that modify expected sensory cues in order to encourage a reaction from the viewer that is unrehearsed, rather than controlled by anticipated protocol. I am fascinated by Bishop's statement, "Being thrust into new circumstances means having to reorganize our repertoire of responses accordingly…" (Bishop 2005, 24) For me, the unrehearsed response to a new environment is precisely what I want to take advantage of. The viewer's internal juxtaposition of actual and preconceived reactions calls attention to the discrepancy between the two, illuminating a possibility of which changing the sensorial cues of an environment may elicit an unprejudiced observation from the viewer. The pure experience of a piece without expectation enables the viewer to understand, rather than assume activity within the space.

In this section of the thesis I will examine how constructing environmental installations such as my pieces *Night Lights* and *Insideouthouse*, and the work of installation artists Allan Kaprow and Carsten Höller, is a means of activating the viewer and encouraging a sincere and holistic response to the artwork.

2.1 Night Lights

Figure 2.1. Bill Henson, *Untitled #21*, 2000-3. C-Print, 127cm × 180cm. Reproduced from *Roslyn Oxey 9 Gallery*, http://www.roslynoxley9.com.au/artists/18/Bill_Henson/98/33421/ (accessed April 20, 2012).

My work transitioned from straight photography to installation art with the piece *Night Lights*, a series of staged photographs taken from 2004 through 2005, intended to represent idealized childhood fantasies and memories. *Night Lights* became an installation when the set up of the piece became more important to understanding the content of the work then the images alone. To stimulate intimacy between the viewer and the artwork, I wanted to give the images more conceptual weight than a two-dimensional picture. Objects illuminated from within seem to manifest a supernatural and hypnotic

presence, encouraging the viewer to study them until a spiritual or emotional message is received. I printed the images for *Night Lights* on photographic transparency and presented them as light boxes set in a small dark room. The cramped quarters created a quiet breeding ground for fantasy and memory as they muffled external distractions and allowed viewers to retreat into the world within the illuminated image.

Figure 2.2. Sena Clara Creston, *Morgan*, 2005. Light Box, 16”x24”. Collection of the Artist. Reproduced courtesy of the Artist.

While shooting the images for *Night Lights*, I wanted to blur the distinction between the subject of my images and the viewer by posing universally poignant memories of youth. The scenes were set in the woods or in abandoned industrialized areas, far away from the societal rules and expectations of grownups, illustrating something between fantasy and experimentation, or childhood and adulthood. Inspired by scenes with an ambiguous narrative but a strong sense of atmosphere, such as Bill Henson’s photograph *Untitled #21*, as shown in figure 2.1, I would try to suggest ideas or

situations in my photographs but preferred to keep the literal details minimal. My photographs were taken at the moment after an implied action, showing only the subject's reaction influenced by the ambiance of the scene, such as in *Morgan*, illustrated in figure 2.2. A combination of natural and synthetic lighting, imagery and action was also used to increase tension. The scenes were shot at night or in bad weather when the world looks surreal and kids are supposed to be home safe. Subjects and lighting sources within the photographs are often depicted coming out of the darkness or fog, highlighting the unknown nature of some vaguely illicit or spiritual activity. The equivocal imagery within the illuminated installation was intended to allow the viewer to make their own associations as they would in connection to their memories or fantasies. Using internal illumination to imply an imaginary world is a tactic I have continued to explore throughout my work.

2.2 Insideouthouse

After exhibiting *Night Lights*, I felt that there still remained an obvious distance between the subject of the photograph and the intended subject of my piece: the viewer. Instead of having the viewer relate to an external subject in a represented environment, I wanted my viewer to *be* the subject of an actual experience.

In 2006, I created an immersive photographic installation entitled *Insideouthouse*, designed to transport the viewer out of the hectic, confined spaces of the city, and into a solitary interior landscape. For the creation of *Insideouthouse*, I traveled to the Midwest to photograph long exposures of desolate farmscapes. Setting up my tripod after dark, I left the shutter of my camera open for hours at a time until the moon let in enough light to

call it a night. I then digitally composited my images to create an idealized panoramic landscape, which was printed on backlit transparency to form the interior walls of an enclosed, enterable structure as seen in figures 2.3 and 2.4.

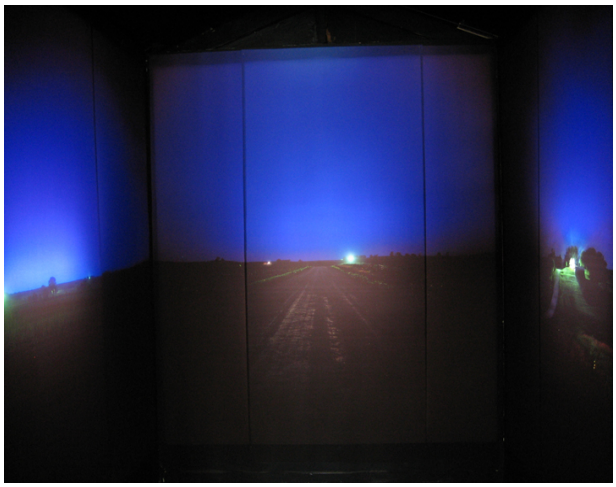

Figure 2.3 (left). Sena Clara Creston, *Insideouthouse (Exterior)*, 2006. Mixed Media, 10'x10'x10'. Collection of the Artist. Reproduced Courtesy of the Artist.
Figure 2.4 (right). Sena Clara Creston, *Insideouthouse (Interior)*, 2006. Mixed Media, 10'x10'x10'. Collection of the Artist. Reproduced Courtesy of the Artist.

The viewer's immersion within *Insideouthouse* is intended to elicit an emotional response. Locationally significant experiences such as being outside in the sunshine, staring out into the ocean, looking into a fire, standing in a crowd, being imprisoned, or, as in this case, standing alone at night on a deserted country road, have the ability to evoke consequential feelings of freedom, elation, isolation, vulnerability or repression to the extent of changing one's emotional and physical state. Cities have become a cacophony of creativity and culture, lacking adequate space to accommodate the emotional range of all their participants. In order to live and work in these burgeoning locations, inhabitants are squeezed into small living quarters. Light and space are selling points of luxury, forcing people to choose between affordability and proximity. Due to the lack of space, and because people, technology and architecture have become the most

prominent features of daily life, urban dwellers have become disconnected with the inspirational experience of boundless landscape that still exists in other parts of the country. *Insideouthouse* is an attempt to capture the awe of isolation and freedom felt in an open landscape and contain it in a small sculptural house, thus allowing these grand places to fit inside the small spaces afforded by city inhabitants. Here I once again use internal illumination to redefine the boundaries of a space, creating a seemingly hidden world. Upon entering from the finite exterior, the backlit images of the interior are intended to create a seemingly endless environment. The vast American landscape could be depicted within a cell-sized space that could easily fit into any city room, with walls that appear to be built out of distance, light and space.

2.3 An Activated Viewer

In an effort to understand the import of installation in my artwork, I researched the work of other significant installation artists. Hugh M. Davies suggests in his essay "Introducing Installation: A Legacy from Lascaux to Last Week" that historically, Western art emerged as installation, inherently tied to permanent natural structure, architecture and then the church. Upon emancipation from the church during the Renaissance, artists began making two-dimensional images to ensure the transportability and hence the sale of their artworks. Since then, art has remained a commodity. (Davies 1997, 8) The modern monetary evaluation of art sways the favoritism of curators, and hence encourages the production of art-styles that are salable rather than ingenious. From its rebirth in the 1960s, a major focus of installation art has been a reaction to and rejection of the commercialization of the art object. By nature installation art is largely

immoveable and hence unsalable. According to Bishop: “The move towards installation art and the rejection of conventional galleries were therefore intimately connected.” (Bishop 2005, 23)

The installation artist Allan Kaprow protested that established galleries, museums and even art materials were loaded with inherent methods for both experiencing and evaluating artwork. In an effort to forego a conventional reaction and evaluation by either curator or viewer, installation artists began making installations within unconventional spaces and out of non-art specific utilitarian materials, such as Kaprow’s 1961 installation, *An Apple Shrine*, shown in figure 2.5. Consequently, installation art carried associative and unconscious meaning for the viewer. “Bearing indexical traces of previous usage, the assemblaged materials were intended to prompt reverie in the viewer.” (Bishop 2005, 26) I will further discuss the importance of material choice, and the appropriation of utilitarian materials for art making in chapter 4.

Figure 2.5. Allan Kaprow, *An Apple Shrine*,1961.
Reproduced from Claire Bishop, *Installation Art: A Critical History* (New York: Routledge, 2005), 24.

Whatever means were used for the construction of installation art, enabling the viewer's authentic experience seemed to be the underlying goal for its pioneers. "Environments… insisted on the viewer as an organic part of the overall work." (Bishop 2005, 24) According to Bishop: "The active nature of the viewer's role within such work, and the importance of their first-hand experience, came to be regarded as an empowering alternative to the pacifying effects of mass-media." (Bishop 2005, 32) Consideration of environment is founded in my own work as I explore which elements of installation facilitate a significant experience.

2.4 An Activated Space

The installation artist Carsten Höller provides an active experience for his viewers by fabricating overwhelming sensory stimulation. His installations, which Höller refers to as "machines" or "devices", are designed to manipulate the senses in order to induce a radical experience for his viewer. His installation *Lichtwand* (2000), illustrated in figure 2.6, is composed of an array of light bulbs flashing with such an overpowering intensity and frequency that viewers may hallucinate or become physically ill in its presence. Bishop describes *Lichtwand* as "a work designed to dislocate and disorient, but which also requires the presence of the viewers to generate its effect." (Bishop 2005, 48) It is the viewers' experience within Höller's installations that is the integral focus of these devices, and Höller considers his work to be in collaboration with this experience. According to Bishop, Höller is "harnessing the viewer's physical and mental engagement via machines and installations that provoke alterations of consciousness and cast the stability of our everyday perception into doubt." (Bishop 2005, 48) Many of Höller's

devices were pointedly designed to stimulate the body by artistically unconventional, but vitally familiar inductions of altered physical experiences, such as sex, drugs and carnival rides in order to "induce doubt about the very structure of what we take to be reality." (Bishop 2005, 48)

Figure 2.6. Christian Höller, *Lichtwand*, 2000.
Reproduced from *Claire Bishop, Installation Art: A Critical History* (New York: Routledge, 2005), 48.

I believe that Höller's experiential installations incite a greater physical response from the viewer than is possible from a static piece. The installation format is enough to activate the viewer and elicit a candid response, but Höller's art-machines illustrate that the additional activation of the installation itself has the potential to facilitate a more dynamic dialogue between the viewer and the artwork. Upon completion of *Insideouthouse*, I realized that animating my installations would give me an opportunity to further facilitate the relationship between the viewer and the artwork.

3 Animation

In 2006 I decided to abandon the two-dimensionality of photography in favor of four-dimensional interactive kinetic installations that move with the viewer through time and space. I began to study sculpture, kinetics and interactive technology in order to create installations that could reflect the viewers' actions as well as articulate the sculpture's own point of reference. My reason for animating artwork was to use the sculpture's movements to articulate their emotion, encouraging sentiment in the viewer and inciting an emotional relationship between viewer and artwork.

3.1 The Garden

In order to elicit a candid emotional response, I wanted to create an inorganic entity that my viewer could relate to. In 2008 I completed *The Garden*, an interactive installation comprised of paper-mache robotic flowers that detect and respond to the viewer's movements. Once the viewer comes within range, the robotic flowers enclose their petals within their leaves, shaking as if they were nervous. If the viewer continues to approach, the flowers respond in a more aggressive manner by snapping their petals and leaves open and shut. Only when the viewer retreats will the flowers relax, exposing their petals. If the viewer were to pick up the flower, or attempt to unplug it or destroy it in any way, the flower would have no recourse. I anticipated that once people realized the impact they were having on the flowers, they might choose to either retreat from, or embrace confrontation with, the skittish sculptures. Although these flowers are physical sculptural objects, I believe that it is their animation that enables the viewer to acknowledge and respond to the artwork on a deeper emotional level.

Figure 3.1. Sena Clara Creston, *The Garden*, 2008. Mixed Media, 10'x20'x4'. Collection of the Artist. Reproduced Courtesy of the Artist.

The flower's programmed reactions were meant to provoke the viewer to question the sentient nature of the sculptures and consider appropriate responses. Are they mere objects to be toyed with, or ignored? In 2008, I had the opportunity to present *The Garden* at The Wassaic Project, an art festival in Wassaic, New York, illustrated in figure 3.1. Over the course of the three-day festival I was able to observe how various people responded to *The Garden*. Most participants, little kids and art critics alike, seemed eager to play an active role in the installation, interacting with the flowers to elicit the various responses. I was pleased to note that many viewers did not merely perform the minimum actions necessary to evoke a reaction from the flowers, such as stepping closer or retreating, but rather chose to engage with the flowers in creative ways. Viewers would leap upon the flowers or run up to them or roar at them, as if trying to exercise their power as humans by intimidating these diminutive creatures. The robotic flowers responded in their calculated manner, but in ways that seemed to be an appropriate emotional response, as if in a dialogue or relationship with each viewer. In my research, I explore the elements of animated sculpture that facilitate an emotional relationship

between the viewer and artwork.

3.2 An Emotional Response

As a means of understanding the significance of animation in my own work, I have researched the work of other artists. Philip Beesley, Arthur Ganson, Tim Lewis and Gilbert Peyre are kinetic artists who animate their sculptures and installations as a means of eliciting an emotional response from their viewer.

Philip Beesley is a Canadian artist and architect whose interactive artworks are said to "highlight the harmonious relationship between nature and human creation and rely heavily on the emotional response in individuals who encounter the works." (Parent 2003) By working with interactive environments and anticipated human-other relations, Beesley has attempted to forge a direct relationship between his viewers and his sculptures.

Beesley has been working on a series of related works since his 1996 installation *Synthetic Earth* that deal with transitional hybrid systems which integrate natural and synthetic processes. In her essay, "Disintegrating Matter, Animating Fields", Professor Christine Macy describes *Synthetic Earth* as "one of the first of Beesley's installations to explore the relationship between inanimate and biological matter." (Macy 2010, 29) In successive projects, Beesley has increasingly tried to integrate these polar systems, natural and synthetic, in his works. Using induced chemical reactions between the external environment and sculptures, as well as anticipated emotional responses of the human occupants to the sculptural system as a whole, Beesley has attempted to integrate the synthesis of his contrived systems into the supposed naturalness of the exterior world.

The *Hylozoic Ground Project* is the collection of Beesley's recent installations in which synthetic systems imitate organic function. Beesley describes the term *Hylozoic* as an ancient word meaning "life from material" in his TED talk at Waterloo in 2010. Beesley explains that the term Hylozoic speaks about *how* he is working. "We're trying to create a new responsive architecture. Working bit by bit with materials and systems and interactive computing and new chemistry in order to try to create an architecture which might be responsive. Perhaps an architecture that might know about us and might care about us. Perhaps an architecture which might start in very primitive ways to be alive." (Ted Talks 2010)

Figure 3.2. Philip Beesley, *Hylozoic Grove*, 2009.
Reproduced from *Ars Electronica*,
http://90.146.8.18/bilderclient/CE_2009_Hylo_001_p.jpg (accessed April 20, 2012).

Macy suggests that by creating immersive environments rigged with sensors and actuators, such as *Hylozoic Grove* illustrated in figure 3.2, Beesley is attempting to highlight the direct relationship between the actions of the human occupant and the

responses of the installation. She suggests that Beesley's recent environments appear increasingly alive, "further blurring the boundary between the viewer's sense of self and the textile's 'sense' of the viewers." (Macy 2010, 32)

By creating immersive environments composed of creatures we know in reality not to be alive, but are able to respond to us as we would expect a sentient being, Beesley is creating a space that enables his viewers to imagine this as a world of creatures that are alive within the context of that world. Within the imaginary world, the creatures are able to communicate emotional reactions that solicit empathetic responses from their viewers. Beesley asserts that by building responsive environments, "A key term for [his] pursuit is empathy." (Beesley 2010, 20) He describes his own response to the creatures as emotional, a cross between being guilty for tormenting them with unpredictable movements, and nurturing in regard for his caring for their well-being. Beesley based the sculpture's programmed movements on perceived patterns of neurology. If we move quickly, it seizes up, if we move gently, it might see us as benign and relax. (Ted Talks 2010)

The ultimate insentience of Beesley's environments is made apparent to the viewer, but its actions mimic the opposite. Although Beesley's creatures resemble plants, they are communicating something that no mere vegetation can: It seems that the sculptures are articulating what they are feeling. The viewer becomes aware of the consequences of their own actions, provoking self-reflective consideration. The viewer must regard their emotional reactions to the piece as the motivation for their physical response.

3.3 Embodied Emotion

While working on *The Garden*, one of the questions that arose was why the viewers were able to respond to the animatronic flowers as sentient beings. Was it simply because the sculptures were interactive, as illustrated in Beesley's installations, or was it because the sculpture moved with human-like mannerisms that illustrated emotion? Arthur Ganson, Tim Lewis and Gilbert Peyre are three kinetic sculptors whom I believe animate their works with human gesture as a means of encouraging an empathetic response from their viewers.

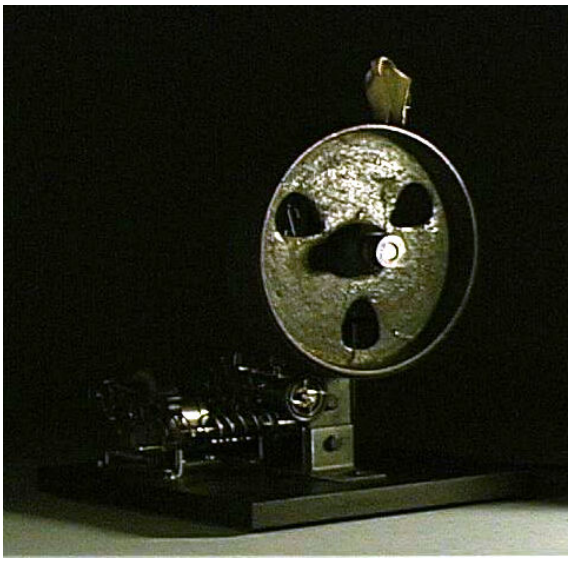

Figure 3.3. Arthur Ganson, *Machine with Artichoke Petal (#1)*, n.d. Reproduced from *Arthur Ganson*, http://www.arthurganson.com/pages/sculpture image pages/Artichoke one page.html (accessed April 20, 2012).

For example, Arthur Ganson's *Machine with Artichoke Petal (#1)* depicts a stooped figure walking slowly up an endless hill at the pace of the ground's rotation. Its low center of gravity shuffles from left to right as the figure presses on. What I understand to be the subject of this piece is a dried artichoke petal being moved in relation to a spinning steel wheel. The animated petal is only a small part its surrounding

mechanical apparatus, as illustrated in figure 3.3. It is beautiful to watch and captivating to explore the meditative workings of a machine with no utilitarian purpose, except, perhaps, to illustrate the physical act of contemplation without expectation. The exact relationship of the antithetical components remains unclear as they move both as compliments and competitors.

I believe that because of its movement, the viewer is able to watch this inanimate petal and relate to it as an autonomous feeling being with determination and will. In my own work, I explore where this shift happens when a viewer can know consciously that an object is not alive, and yet be implored to respond it with an immediate emotional willingness.

Figure 3.4. Tim Lewis, *Pony*, 2008. Electronic Motors, Aluminum, Feathers, 51.2”x44.9”x26”. Reproduced from *Artnet*, http://www.artnet.com/artwork/425478740/pony.html (accessed April 20, 2012).

Tim Lewis’ sculpture *Pony* (see Figure 3.4) moves across the room with slow careful steps. It lifts up a leg, seemingly looking around side to side before uncertainly putting its foot down. It remains in a crouched position, ready to retreat, as would any

cautious animal. *Pony* has no eyes we can see. It has a "head" and "legs" constructed from long black arms and hands forming gestures reminiscent of shadow puppets. Pulling a rickshaw in tow, *Pony* seems oblivious to its utilitarian potential, but rather, like any wild animal, it follows its own mysterious agenda of curiosity and instinct. Hesitant, cautious steps animate this object as if it were a cognitive being. These are not characteristics one might expect of a pragmatic machine, but rather the articulated movements of a thinking and learning organism.

It takes watching *Pony's* carefully constructed choreography to realize that this is *theater*, just with an inanimate object as a performer. For a viewer to respond to an animated object as if it were capable of emotion, the object must only *act* as a living, feeling being might. In order for a sculptor to imbue embodied, emotive expression onto a sculpture, the sculptor must understand the physical subtleties of what these emotions might look like. The sculptor must distinguish the details and limitations of these movements and program them directly onto the objects, just as a performer would commit actions to memory, giving life to their character.

Through the study of *Nihon Buyo*, traditional Japanese dance, Tomie Hahn discovers how embodied physical expression can be used to communicate human experience. In *Sensational Knowledge* Hahn quotes her teacher – "Without experiencing life, without personality, you have no dance, no kokoro (heart, spirit or soul), and you are invisible… but if you have a sense of self, then you can become any character onstage…" (Hahn 2007, 160) As Hahn studied the embodiment of a character, she realized that it is not enough to simply dress in a costume, hold the props and go through the motions. To embody a character, a performer must have what Hahn describes as *presence*. "We

become present through visual awareness, through our tactical and kinesthetic awareness, through our listening awareness, through our life force, or *ki* energy. What was absorbed can be projected *if* the dancer draws on her embodied sensibilities and *ki* energy." (Hahn 2007, 163-4) I believe that it is the physical projection of the character's embodied emotions, or gesture, that coerces an appropriate emotional response from the viewer because emotive gesture is how people visually communicate their feelings to each other.

Gesture is a culturally distinct phenomenon. In American culture, a head positioned upward can be interpreted as proud, happy or excited. A head looking forward can be interpreted as determined, focused, ready, or concentrating. A head angled down can be interpreted as embodying sorrow, fear, or regret. Furrowed eyebrows, rosy cheeks, misted eyes, sideways smirk, shaky hands are all emotionally significant gestures that can be physically reproduced in order to communicate emotions and opinions. Because gesture is a *physical* manifestation of feelings, it is possible to physically reproduce a gesture not only onto an actor, but also past a person and onto an anthropomorphized animal or object. Animating sculptures with emotive actions illustrates the sculptures possible mental and emotional process in real time. What is emotionally significant to the viewer is not that objects that can merely illustrate feelings in some abstract realm for some abstract reason, such as with static sculpture, but rather, that animated sculptures illustrate feelings in response to their present situation, of which the viewer is an accomplice. As a viewer watches the programmed hesitance of Tim Lewis' *Pony* being acted out in real time, I believe they are reading its gestures in an attempt to interpret what the sculpture might be thinking or feeling in order to relate to it.

It is important to note that in order for a sculpture's gesture to solicit an

empathetic response from the viewer, the gesture itself must articulate a humanistic emotion. Although a person's feelings can produce impulsive physical reactions within the human body, people also have free will and can, or at least can try to, control their actions. Machines, however, have no choice and must only perform a specified set of instructions in accordance with their calculated ability. In my research, I have realized that the machines which people are able to empathize with are the machines that have been programmed to physically mimic particularly humanistic emotions such as struggle, want, need, fear, pride or love.

Figure 3.5. Gilbert Peyre, *Haltérophile (Weightlifter)*, 1987-90. Reproduced from *Gilbert Peyre*, www.gilbert-peyre.com (accessed April 20, 2012).

The implementation of programmed struggle to appeal to an empathetic human response is evident in Gilbert Peyre's animated sculpture, *Haltérophile (Weightlifter)* (1987-90). The viewer watches as a crudely constructed muscle man of malleable metal

struggles to lift a barbell made from what appears to be inner tubes and PVC, as seen in figure 3.5. The sculpture's mechanical brow furrows, its knees buckle and tremble, it tries and fails again and again, each time lifting its burden a little higher. The viewers seem to be waiting in anticipation, rooting for the robot to succeed, anxious to see what will happen as the show repeats itself in calculated sequence. The drumroll sounds as the sculpture makes a final attempt. Its legs extend and its barbell is held triumphantly in the air for a realistic moment, and then thrown forward as if in victory. And the empty handed weightlifter slumps as if in exhaustion. The viewer is able to emotionally respond to this performance as they would with any other actor because the gestures are no less articulated.

In my own work, I too have utilized the viewer's emotional response to the inadvertent struggle of an art-machine. As a result of programming the servo motors used in *The Garden* to lift more than their maximum allotted weight, the motors would shudder while moving against gravity, and collapse while moving with it. Watching my sculptures struggle made me genuinely sympathize with them, a feeling I wanted to evoke in my viewers. I decided to include programmed shakes and shudders into the flowers' performance in order to humanize them. Although these particular movements were controlled, I remained interested in the concept of building art-machines that functioned at, or past, their threshold of ability in order to make the machines actually, rather than seemingly, vulnerable. The induction of mechanical distress to evoke an empathetic response is a concept I have continued to explore in subsequent works and which I talk about in greater detail in Chapter 5.

Very few manufactured entities have the opportunity to abandon their human-

controlled passive states, using their movement to influence human emotion, and consequently, human action. In my artwork I explore the notion that animated art-machines that express humanistic emotion have the unique potential to be emotionally scrutinized and responded to by the viewer, influencing how the viewer chooses to interact with the piece. I believe that it is the viewer's ingrained empathetic reaction to a sculpture's simulated sentiment that impels the viewer to form an emotional connection with the sculpture.

4 Materials

As I was attempting to animate my sculptures with life-like qualities through movement, I began to see my art-machines as resembling organic autonomous entities. I realized that the sculpture's physical composition should correspond to the imaginary world from which it was born, making it believable within the boundaries of that world. The materials themselves would consequently provide greater meaning for the artwork as a whole, as it would appear to have influenced the evolution of that world. As a result, the materials I selected to build my installations became consciously less dependent upon what I wanted my artwork to look like, and more dependent on how I felt it should influence the meaning of the piece.

4.1 Brown-Paper-Bag Birds

Brown-Paper-Bag Birds, created in 2010, was my first artwork where I considered the importance of materials. The interactive installation used associative materials in order to allude to an inherent meaning. In this piece, strips of recycled brown paper bags were hung from cardboard tree sculptures. The paper was animated to recall a flock of birds that take flight when disturbed, or a paper bag floating in the wind. I used a mechanical design inspired by a flying duck mobile and transposed it onto an interactive circuit, activated by a distance sensor and actuated with a servo motor. When a viewer would walk past *Brown-Paper-Bag Birds*, the strips of paper would flap about as if caused by either the breeze or nervous agitation.

My intention when building this piece was to conjure an association from a minimally altered utilitarian material in order to stimulate the viewer's imagination, as in

a real-life experience. I hoped the viewers would experience a mental journey of associations and memories while looking at my sculpture simply constructed of used cardboard and paper. The viewer could think that it's sad that we see garbage and think of a bird rather than see a bird and think of freedom. Of course the viewer could think any number of things, but my point is that they would be having an individualized experience that requires participatory imagination, rather than passively looking at a sculpture that merely resembles a bird and thinking "bird".

4.2 The Knowhere Machine

While working towards my Master of Fine Art degree at Rensselaer Polytechnic Institute, I wanted to further explore the re-functionality of poignant materials for my art-machines and use the materials to influence the meaning of the piece. *The Knowhere Machine* is an interactive kinetic installation made from defunct bicycle parts that uses movement to inspire a meditative state in the viewer. The installation is constructed like a carnival bicycle ride across a repetitive indeterminate American landscape. The viewer mounts a stationary bicycle facing a multi-sectioned scenery positioned in a forced perspective (See Figure 4.1). As the rider peddles the bicycle, cyclical rolls of internally illuminated minimalist scenery are propelled simulating the viewer's movement through an imaginary space. *The Knowhere Machine* requires the interaction of the viewer by demanding that the viewer actually ride the bicycle in order to make the piece move. To reinforce the bicycle's action as an integral component of the artwork, the installation itself was made from discarded bicycle parts.

The consideration of materials in my practice is closely related to my

consideration of process. As part of my attempt to reduce my consumptive art-making practices, *The Knowhere Machine* was carefully constructed not only as a *what*, but also a *how*. As my knowledge of electronics and mechanics increased, new technological possibilities and impending post-consumerist concerns became competing inspirations for potential projects. Both of my previous kinetic installations (*The Garden* and *Brown-Paper-Bag Birds*) used microcontrollers and newly purchased sensors and actuators to facilitate the kinetic process and I wanted to make an art-machine that did not rely on pre-fabricated store-bought technology. It seemed more of an active choice to discover and forage for relevant materials. Choosing to use repurposed machinery as art-material alluded to an integral meaning of the piece: a derelict machine being brought to life through the combination of movement and imagination.

Figure 4.1. Sena Clara Creston, *The Knowhere Machine*, 2010. Mixed Media, 10'x10'x10'. Collection of the Artist. Reproduced Courtesy of the Artist.

A major challenge in building *The Knowhere Machine* was balancing my personal ideologies with mechanical ones. The simple act of demolishing and reconstructing

bicycles gave me great insight into how things move and inspiration for more interesting or efficient ways to make things move. I intended to create a working art-machine constructed solely from repurposed bicycle parts. However, as the design progressed, it became clear that I needed to configure an efficient way to transfer the direction of motion from the vertical spin of the bicycle's pedals to the horizontal spin of the scenery, so I decided to purchase one new bevel-gear set. This compromise ensured the system would function better for my desired effect. I acknowledge such conscious concessions to be made in the process of my work as a whole. I am moving towards building art-machines that require less store-bought components and a hierarchy of acquisition: local industrial byproduct being the most ideal source of material and newly made store-bought items being the least.

When it came time to physically build my piece with the least amount of purchased items, it became apparent that the most valuable resource of all is time. In order to physically build an ideologically "pure" piece created solely from found materials, I needed enough time to find materials in a serendipitous manner and re-machine each part as needed. While reworking previously scrapped material into a functional piece, rather than just an aesthetic one, it becomes apparent how much energy, both human and electrical, goes into reworking post-consumer machinery by hand.

My working philosophy is most in line with the Slow Media Movement, an offspring of the Slow Food Movement. The *Slow Media Manifesto*, written by Sabria David, Jörg Blumtritt, and Benedikt Köhler in January 2010, declares the importance of making "a contribution to sustainability" and qualitative practices, and to "provoke the full concentration of their users." (David, Blumtritt and Köhler 2012)

A major conceptual hurdle I have been overcoming while working with a process-oriented framework is that there needs to be adequate room for failure. While learning necessary processes to build my sculptures, I often work with methods I am not proficient in. While working slowly and experimenting with technique, I had to accept the fact that building the sculpture in this manner was important, and if new problems arose, I would eventually work through them. The deadlines I give myself are self-imposed, and I need to be flexible in terms of what is possible, rather than gloss over a problem for the sake of efficient production, aesthetic pomp, or even a finished product. To have more time to work on a piece would enable me to try different permutations of materials and design, and also to give greater consideration to the implications of each material and process used. The acceptance of failure as an integral part of my process is empowering, as it means that I do have choices and need not be bound by material, cost, time, space or know-how in an effort to ensure the success of a final product.

My internal debate over the lack of efficiency in creating *the Knowhere Machine* made me realize that art is not created to be efficient. At the core of my work is the notion that it is not necessary for me to turn out artworks with the same pragmatism as utilitarian objects. Reasoning for artistic choices is scrutinized with the abstract question "why?" and a major part of my graduate research has been an attempt to confront this question in its totality. Why do I work with certain materials or processes? In an effort to answer these questions, I feel confident in my commitment to slowing down and accepting that the process is a key element in the artwork itself.

Delving into the minutia of my process in order to confront each task with a confident direction, I am met with the certainty of the unknown. To actually create

something is to work towards what I find interesting, with willingness for either success or failure. It is important that in building my artwork, I am able to do all the work on a project myself and say: "Yes, I made this, without knowing how, but by figuring out what the artwork needs rather than what the machine needs." If I were not on a strict deadline, I would prefer to say: "Yes, I made this all by hand, out of only found, re-appropriated material and a serendipitous approach, using no external energy consumption or existent engineering techniques." This is the ideal direction I want to take my artwork, but it has been important that I at least learn all the technical skills involved.

Learning by doing takes time. Time in research, time in practice and an obvious handmade first attempt look as an acceptable outcome. As a ride, *The Knowhere Machine* is structurally sound, but not polished. I choose to leave my sculptures in their rough construction mode so the utilitarian reasoning for each step remains apparent, allowing the function to dictate the form.

Upon completion, it became apparent that the materials and processes used to create *The Knowhere Machine* had a tremendous influence over the meaning of the piece as a whole as well as the viewer's relationship to the piece. The integral nature of the materials and processes of an artwork is a concept I have continued to explore in subsequent works.

4.3 Spinner Dress

The materials I used to create an interactive kinetic installation in 2011 entitled *Spinner Dress* dictated both its form and meaning. At the centerpiece of *Spinner Dress* stands a dress I wove from audiotape of bootlegged Grateful Dead concerts, as illustrated

in figure 4.2. The dress covers a wire mesh body spinning on a single axis, causing the dress to fan out and animate the figure. Nearby, a pair of gloves embedded with magnetic tape readers wait for a viewer to participate, as touching the dress with the gloves further brings the installation to life with sound. The tape readers within the gloves are wired to eight portable cassette players affixed to a rebus-esque box-fan, which functions as both the base and bearing of the spinning body and as an allusion to being a really big fan. Each tape player is in turn wired to a corresponding single-channel speaker placed in an array around the sculpture. When a viewer donning these gloves touches the dress, a booming screech of nonlinear magnetic recordings reverberates in the space, adding a sonic feature to the visual, moving environment.

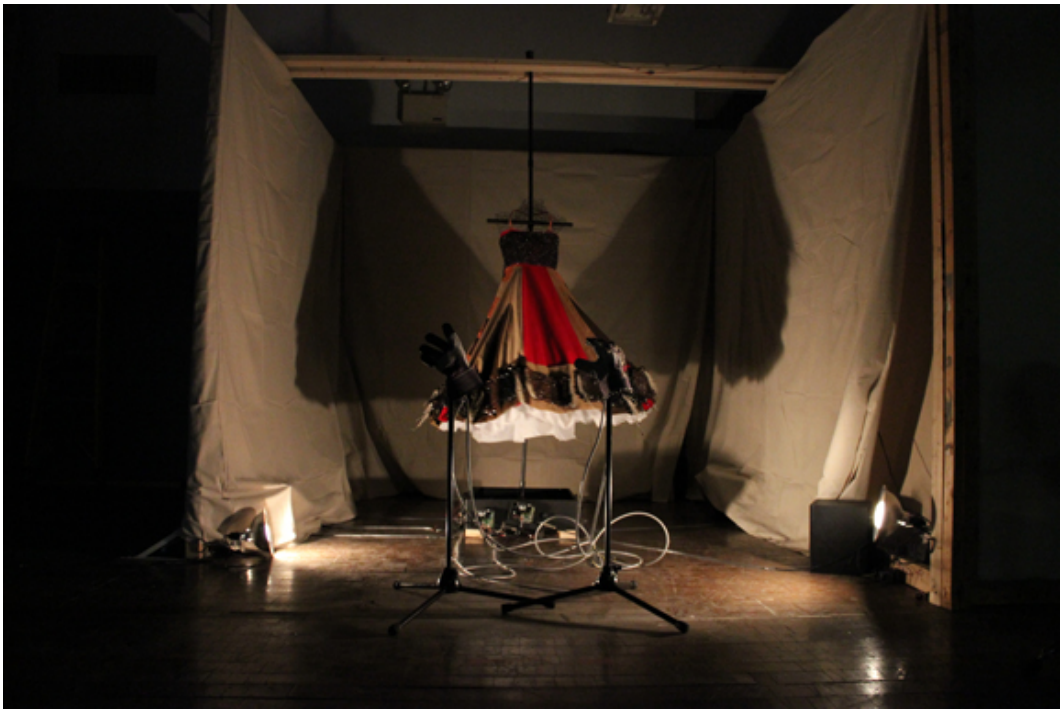

Figure 4.2. Sena Clara Creston, *Spinner Dress,* 2010. Mixed Media, 10'x10'x10'. Collection of the Artist. Reproduced Courtesy of the Artist.

The dress is reminiscent of the style of dress the Spinners wore at Grateful Dead concerts, which eventually became incorporated into common hippie style in the 1990s.

The Spinners were a cult of Grateful Dead fans who would spin for the duration of Grateful Dead concerts, using this movement in conjunction with the music to reach a state of meditation. *Spinner Dress* is an exploration of physical action and sonic immersion being used to reach a mental or emotional state. It is also a commentary on the nearly extinct practice of commodifying a physical manifestation of information, as well as a criticism of hero worship displaced as the worship of a commodity, explicitly the cassette tape.

To generate the audiotape, I sought out donations for unwanted cassette tape collections, which I then taped over with archives of the first 20 years of bootlegged Grateful Dead concerts. The tape was then extracted from the cassettes and used to weave the material for the dress. The response I got from people eager to donate tapes was overwhelming; many people still clung to personal collections with which they had a profound relationship, even though it was improbable that the tapes would ever again be used to play music. It was hard for owners to admit that their cassette-tape collection, once regarded as a luxury or necessity, could now be regarded as junk. Donors seemed relieved to bestow their collections for alternative usage as a way to finally get rid of them with the noble terminal task of being used as art material.

While working on recent pieces I have realized that the materials used to construct an installation have as much potential to influence meaning of work as the presentation. The significance of material selection is a concept I have continued to explore in my work.

4.4 Repurposed Products

While shaping my own philosophies regarding materials and processes, I researched how other artists used post-consumer merchandise in their artwork in an influential way. Robert Rauschenberg and Jasper Johns are two artists whose mid-century works were, among other things, an exploration of the re-commodification of significant post-consumer products. Joshua Shannon explains in his book, *The Disappearance of Objects* how, in order to persuade consumers to purchase new luxury items every season, manufacturers and advertisers promoted the benefits of both disposable and fashionable merchandise. Shannon reasons: "Together, these changes aimed to stimulate consumption by encouraging waste – old products would be thrown away and new ones purchased to replace them." (Shannon 2009, 61) Johns and Rauschenberg, romantic partners living in a rapidly changing New York City in the late 1950s and early 1960s, separately addressed the re-identification of materials in their work by using actual consumer products as both the subject of, and materials used to produce, their works. According to Shannon "Johns sculpted as if to drop objects below the abstract expedience of the material world, Rauschenberg appropriated trash as if to reengage the leftovers of that expedience." (Shannon 2009, 130)

In his 1958 sculpture, *Flashlight III*, Johns sculpts a primitive utilitarian design of a flashlight out of plaster, as if it were an archeological relic, as seen in figure 4.3. By using consumer products as both the material and subject matter in his pieces, I believe that Johns is revealing the integral nature of both the product and the consumer's relationship to that product.

Figure 4.3. Jasper Johns, *Flashlight III*, 1958.
Reproduced from Joshua Shannon, *The Disappearance of Objects* (New Haven: Yale University Press, 2009), 67.

Figure 4.4. Robert Rauschenberg, *Trophy IV (For John Cage)*,1961.
Reproduced from Joshua Shannon, *The Disappearance of Objects* (New Haven: Yale University Press, 2009), 129.

Shannon explains how the consumer waste that makes up Rauschenberg's sculptures, which Rauschenberg termed combines, "…are the material remainders of once useful products. What they signify here is their own physical presence, abiding willingly in the world beyond the period of their utility." (Shannon 2009, 128) In his sculpture *Trophy IV (For John Cage)* Rauschenberg displays the silent inaction of retired products, as seen in figure 4.4. The artist employs these products in a new service as art

materials used to perform an aesthetic function while simultaneously alluding to the service they once provided. It is difficult to observe Rauschenberg's combines without scrutinizing both the history of the recognizable materials and a new analogy constructed from their present aesthetic composition. As Shannon reminds us in the introduction of his book, "…in art, materiality and abstraction of course always exist together – there can be no object without the ideas attached." (Shannon 2009, 7)

In my own artwork, I too am compelled to explore the aesthetic, functional, and conceptual potential of discarded consumer-ware, most notably the electronic device, as art materials. I use the term *device* to refer to a piece of complex technology specifically created to perform a unique task, but whose inner workings are usually unknown to the common user. Opening up these devices would lead an untrained observer to a foreign internal system as complex looking as a living organism, with parallel components functioning independently, although essential to the operation of the device as a whole. Modern devices are built with a planned obsolescence, intended to either break or become outdated within a few years, making them worthless to their owners who may be inclined to throw them out. Repair is not usually cost effective and there is little incentive to pillage the remains in search of a new functionality. Broken or outmoded devices are fated to become industrial waste, destined to pollute the earth.

"Marshall McLuhan… claims that the spread of electronic media of communication has united society in a new kind of 'auditory space,' which, in turn, will lead to a new way of thinking about and interacting with the environment." (Howes 2005, 8) I feel it is prudent to be asking: whom are listening to when we play a record or cassette tape? Whom are we talking to when we speak into the telephone? There is an

implied person somewhere, but they are not who we are holding or looking at during the experience. For the same reason that people have nostalgic attachment to unplayable tape collections, I believe that when people have emotional experiences involving devices, they form a sort of relationship with them. It is this relationship between people and devices that I am eager to explore in my most recent installation, *Machinescape*. *Machinescape* is intended to examine the intimate and co-dependent relationships people have with their devices. By using actual post-consumer devices as artistic fodder, I intended to critique the personal connection my viewers were likely to be having with these machines.

In the exploration of my own recent installations, *Brown-Paper-Bag Birds*, *The Knowhere Machine* and *Spinner Dress*, a well as of the work and philosophies of other artists and critics, I have realized that an appropriate consideration of materials and processes used to create an artwork has the potential to reveal an inherent meaning. This is a concept that I have continued to utilize with the construction of *Machinescape*, and intend to elaborate on while building future artworks.

5 Machinescape

I build imaginary worlds attempting to seduce my viewer into a childlike fantasy, while simultaneously illuminating their adult choices. My newest installation, *Machinescape*, uses the trifold consideration of environment, animation and materials in order to encourage my viewers to use imagination to comprehend an alternative morality. *Machinescape* is an installation comprised of discarded devices, stripped down to mechanical systems which have gained a new function as puppeteers used to animate sculptural interpretations of the ocean, forest and sun, pieced together to form a satirical kinetic landscape as seen in figure 5.1.

Figure 5.1. Sena Clara Creston, *Machinescape*, 2012. Mixed Media, 10'x20'x10'. Collection of the Artist. Reproduced Courtesy of the Artist.

5.1 Materialistic Inspiration

I used post-consumer electronic equipment in building *Machinescape* because it was available, free, beautiful and well engineered. But the main reason I used obsolete

technology was the sentiment it provoked. The artistic use and display of a device demonstrates that it may be used as an expendable joke or entertainer, rather than the dire necessity it may once have been advertised as.

In 2009, while I was researching materials to construct my preliminary art-machines, I noted a plethora of discarded ink jet printers littering the sidewalks of New York City, where I was living at the time. I dragged one to my studio to break it open in hope of finding useful parts. A closer inspection of the printer's interior revealed a network of functioning kinetic systems ready to be pillaged. I realized that there must be similar accessible systems hidden within other discarded electronics I had been seeing in the swiftly evolving technological arena of post-consumer electronic equipment. Buying well-engineered components for robotic sculpture is a relatively expensive process and I was eager to cut costs by foraging for parts found in orphaned electronics. Once I started keeping an eye out for free printers, VCRs and DVD players, I realized how many unwanted machines were being thrown away by frustrated consumers who have finally realized the complete worthlessness of products which had probably cost them hundreds of dollars just a few years prior. Astounded by the bounty of valuable toxic junk being devoured and regurgitated by consumers, I felt compelled to construct a kinetic installation that both used and alluded to the expanding mountain of intricately manufactured discarded machinery. In building *Machinescape*, I foraged for obsolete devices, inventoried their materials and performance skills, and mined them for aesthetic and functional resources.

5.2 Kinetic Inspiration

While building *Machinescape* in 2011, I requested donations for unwanted machines, working or broken. I received numerous VCRs, computers, printers, CD, DVD, tape and record players, among other things. These machines have fairly complex and beautiful movements, which are often controlled by a central motor that transfers motion through various gear trains. I observed and recorded these movements to be used as the inspiration for the choreography of *Machinescape*. Isolated from their preliminary function, the movements were reduced to rhythms and patterns used to inspire my sculptures directly. I have looked past what the machines have originally been designed to do and looked to their alternative artistic potential.

Once I observed the movements of the mechanical systems, I then had to devise a way to control, and reinterpret them. When I first opened up these machines, I saw what every layman saw; lots of small working parts used to control an esoteric process. It is understood *what it does*, but not *how it does it*. I wanted to use art rather than technology to make the mechanical processes seem familiar, giving the viewer an opportunity to understand the intentions of the machine.

To nurture this feeling of understanding, I wanted to build my art-machines as low-tech and comprehensible as possible by exposing and simplifying their mechanical and electrical systems. I extracted the kinetic systems from their housing and separated them from their corresponding circuit boards. After stripping the circuit boards of their now unnecessary electronic components, I was left with naked, semi-translucent, green and brown plastic sheets to be reused as the aesthetic sculptural materials for the piece.

A small DC motor, designed to run in either a back and forth or continuous rotation, generally drives the mechanical system. The first circuit I built to control an oscillating motor required a microcontroller. For the sake of keeping the process transparent for my viewers, I wanted to forgo the microcontroller and the computer in favor of a more intuitive system that could be comprehended by a viewer with little or no technical understanding. I ultimately devised an electrical circuit that uses only a 555 timer, an inverter, an H-Bridge and a few resistors and capacitors to control the speed, direction and period of the motor, thus gaining mechanical control of each device as needed.

5.3 An Immersive Landscape

As I observed the machine's movements for inspiration, the predictable rhythm of the time-based oscillations became the main focus of the device. What I most responded to was the ebb and flow of the repetitive mechanical movements, which were reminiscent of earth's natural systems. It became apparent that an appropriate sculptural overview would be an immersive kinetic landscape with components controlled by independent oscillating systems working together as a whole. The viewer would be able to enter the landscape and be emotionally influenced by the immersive environmental rhythms. The three vignettes I settled on depict the ocean's waves, the rising and setting of the sun, and a forest changing its landscape over time. The iconic cycles of these environmental systems in their natural form are considered to have an immense psychological impact on their human occupants. In building *Machinescape* I wanted to harness the contemplative

feeling people get while immersed in a dependable rhythmic environment, while alluding to the human tendency to control, and ultimately destroy nature with technology.

I first built twin sculptures of oscillating ocean waves. The waves are hand cut from stripped circuit boards and arranged into a collaged iconic waveform. Although the waves are all similar in size or shape, the innocent and unobtrusive handmade quality is juxtaposed with materials taken from and alluding to mass-produced and environmentally toxic machinery.

The waves are propelled by mechanical geared systems from retired VCRs. The sculpture's track and frame are made from electrical metallic tubing, or EMT, connected with uniquely engineered corner gussets that were also constructed by a combination of machine and handwork. The structure is hand-made and obviously designed, engineered and constructed by a layman. I made careful calculations and cuts while building the wave-machine, but as a whole the structure is only mildly stable. Its instability is compounded by the instability of the reworked kinetic systems of the device, making the sculpture's the movements unpredictable, and thus seem organic and individualistic, rather than calculated in a pristine way. This machine, as with all of my art-machines, performs on a threshold of functionality. My art-machines are neither dependable, nor do they perform a necessary specified task. Rather, I build them to function more like an organic entity involved in the poetry of its own agenda.

The waves run along intermittent planes of staggered depth, as if part of a low-budget theater set. This unobtrusive aesthetic is designed to forego the viewer's assumption that this is an innovative piece of technology, using imaginative aesthetics and meditative motion to divulge a deeper meaning. The translucent waves are then

backlit with Christmas lights. This manner of lighting illuminates the intricate lead-embedded details from within, creating a beautiful and forlorn atmosphere that highlights both the installation as a whole as well as the small details of each material used. The twin wave-machines are mirrors of each other, placed on either side of the viewer, immersing the viewer within the ocean. This placement alludes to the fact that the viewer is a voyager or visitor to the space, rather than a permanent resident.

The land portion of *Machinescape* consists of sculptural trees made of collaged circuit board. The trees are attached to the mechanical doors of CD and DVD players. As the doors open and close, the trees to rise out of, and fall back into, a staggering of circuit board hillside. The rapidly changing landscape alludes to the sculptures temporal inconsistency with its human occupants while simultaneously resembling small animals popping out of their hiding places and scurrying back in retreat. The forest-machine is also backlit with Christmas lights and positioned in front of the viewer, with the waves crashing into its shore.

The sky portion of *Machinescape* contains a light bulb casing stuffed with warm colored LEDs, reminiscent of a mechanical sun. A pulley system placed behind the forest-machine causes the light bulb to rise above and fall below the horizon of *Machinescape*, The sun-machine rises and sets about once every second, further alluding to the fact that this world functions with different physical and temporal laws then those which dictate human lives. The four sections of *Machinescape* are placed together in a forced perspective creating an enterable landscape. The structures physically surround the viewer, but are kept open and accessible inviting people to walk around and through the landscape in order to view the internal workings from various perspectives. The effect of

the quartet's compounded rhythm is either meditative or grating depending on whether the oscillating sonic patterns fall into or out of synch. The calculated yet frenetic landscape insinuates the dichotomy that people both do and do not belong within this space.

My objective in building *Machinescape* was to create a satire of a person's attempt to re-create a natural environment using technological waste. The consideration of the environment, animation and materials of the irreverent landscape is an attempt to make the elements seem logical from the internal perspective of the artwork, but ridiculous from the outside, forcing the viewers to choose either to stay and seek solace in the rhythm and beauty of the fabricated scene, or flee from the antithesis of their own natural rhythm and needs.

6 Conclusion

I create artwork based on inspiration, rather than a calculated continuation of historical works, movements, philosophies or criticisms. Although I have had much exposure to a wide variety of historical artworks, I had not heard any of the artistic philosophies articulated in this paper before initiating this work. It struck me as both amazing and understandable that many of the artists and writers I researched for this paper would have creative philosophies that were strikingly similar to my own. This discovery has led me to believe that the meanings behind certain types of works, most notably interactive installation constructed from non-art materials, can be revealed though their form or process. The research invested in this paper has also been immeasurably beneficial for me because it has forced me to literally articulate my abstract artistic ideas and working philosophies, in order to communicate the distilled essential ideas of a piece both though my artwork and my writing.

The building of *Machinescape* and the writing of this paper were an attempt to clarify the characteristics of, and reasoning behind, the essential elements of my artistic process. After careful deliberation, I have realized that I build environmental installations in order to activate the viewer and encourage a candid and complete reaction to the complex entirety of a multifaceted piece. I am inclined to activate my artwork as well through physical movement in an attempt to coerce a mutual emotional relationship between the viewer and the artwork. Finally, I carefully control both the materials and processes used in constructing the piece in order to create imaginary worlds whose pointed meanings are believable within the context of the installation.

The work we do is our gift to the world. I believe it is important for us to remain

critical of artwork throughout its entire creative process. As I have evolved as an artist and as a human being, I want the production of my artwork to remain in line with my philosophical, ethical and imaginative ideals. I do not want to fall back on destructive consumptive practices and simply buy what I need for the sake of efficiency. I have increasingly attempted to apply principles to my work as I would to my life: work hard, conserve resources, and act humanely in the interest of building progressive imaginative works. I also wish to create in the interest of other positive progressive aspects of life such as love, fun and fantasy. In building artworks such as *Nightlights, Insideouthouse, The Garden, Brown-Paper-Bag Birds, The Knowhere Machine, Spinner Dress* and *Machinescape,* I am attempting to create sustainable installations that use human tendency toward empathetic imagination, rather than trying to fool my viewer with realistic imitation and placating their superficial desires.

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