ART INSTALLATION OF *CONIC SEA AND PECULIAR ANGELS* AND ITS AFFORDANCES

A Thesis

by

TRINA COOPER

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

December 2007

Major Subject: Visualization Sciences

ART INSTALLATION OF *CONIC SEA AND PECULIAR ANGELS* AND ITS AFFORDANCES

A Thesis

by

TRINA COOPER

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Approved by:

Chair of Committee,	Louis Tassinary
Committee Members,	Rodney Hill
	William Nash
	Carol LaFayette
Head of Department,	Mark Clayton

December 2007

Major Subject: Visualization Sciences

ABSTRACT

Art Installation of *Conic Sea and Peculiar Angels* and Its Affordances. (December 2007)

Trina Cooper, B.F.A., Kansas City Art Institute; M.F.A., University of California at Berkeley

Chair of Advisory Committee: Dr. Louis Tassinary

Installations attempt to expose everyday space by depicting an environment that appears normal yet has been altered in perceptibly unexpected ways. Such environments are typically designed to re-orient participants, giving them the feeling of stepping out of conventional reality, with the goal of creating a lingering heightened perception of one's normal environs. A video art installation entitled *Conic Sea and Peculiar Angels* was created with the intent to inveigle participants into exploring an unwonted environment. The main artistic properties used to entice exploration will be reviewed. With emphasis on these specific properties influential artists and their work will be expounded upon. Ecological Psychology, a theoretical framework most closely associated with the seminal writings of J.J. Gibson, was used to critically evaluate this installation. A key theoretical construct in this framework is the concept of an affordance. An affordance is a property of the immediate environment taken with reference to a perceiver. Such relational properties enable a range of activities that may or may not be utilized by the inhabitants of an environment. The artistic properties used by artists can be related to affordances in Ecological Psychology, as are they both mechanisms to entice exploration. Based on

personal observation and reflection, as well as on the works of relevant artists, the affordances that enable exploration of this installation are proposed and discussed. The installation mounted and view on three separate occasions. The researcher observed and documented the audiences' responses that showed a desire to explore. It was found that the artistic properties in *Conic Sea and Peculiar Angels* afforded participants to explore.

ACKNOWLEDGEMENTS

I would like to thank Dr. Lou Tassinary for his guidance and advice in developing this thesis. I would also like to thank my family for offering moral support throughout this process.

TABLE OF CONTENTS

Page

CHAPTER

LIST OF FIGURES

FIGURE Page

FIGURE Page

FIGURE Page

CHAPTER I

INTRODUCTION

Installations attempt to expose everyday space by depicting environments that appear normal, but have been altered in unexpected ways in order to reorient participants and give them the feeling of stepping out of conventional reality (Giannini, 2001). This work examines a video art installation entitled *Conic Sea and Peculiar Angels,* shown in Figure 1, that was created with the intent to entice participants into exploring its unusual environment in order to engender a heightened perception of being present in one's environment.

A thorough discussion of this work requires an appreciation of the history of art [0]installations and an understanding of the theoretical framework used to assess the installation. The first part of this work will briefly address an organizational system that will present some of the many facets of contemporary art as they relate to this installation, in particular form, temporal structure, process in art, theatricality, and installations. Emphasis will be placed on the art of John Cage, James Turrell, Ann Hamilton, and Bill Viola. The latter part of the work will discuss Ecological Psychology, as originated and developed by J.J. Gibson, with an emphasis on the nature and role of affordances and how the relational properties of affordances enable a range of activities that may or may not be utilized by the inhabitants of an environment.

Using this understanding of Ecological Psychology and the nature of affordances as properties of the immediate environment relevant to the perceiver, the work will

---

This thesis is formatted based on *Empirical Studies of the Arts*.

highlight the affordances created by influential artists Cage, Turrell, Hamilton, and Viola. The installation *Conic Sea and Peculiar Angels* will then be scrutinized based on personal observation and reflection, as well as on the writings of the relevant artists covered and the characteristics of the installation that afford exploration. Of principle interest will be whether the installation created intended affordances and how those affordances affected the participants. Lastly, some implications for future art installations will be discussed.

Figure 1. *Conic Sea and Peculiar Angels.* Presented by Cooper ,2005, at the Langford Gallery, Texas A&M University, College Station, Texas.

CHAPTER II

ART ORIENTATION

It is important to understand the artistic concepts that influenced this work for a better understanding of installation art. These concepts allow the viewers to appreciate the broad range of aesthetic experiences afforded by the *Conic Sea and Peculiar Angels* installation. Within the historical context of contemporary art, there are multiple aspects that this project integrates. Art can be thought of as a physical construct, as a concept, or as an event that incorporates experience.

This installation essentially constructed an environment that enabled events for exploration. It uses artistic qualities based on form, temporal structure, process in art, theatricality, and installation. The artist has gained a better understanding of how to build this installation by studying the artists John Cage, James Turrel, Ann Hamilton, and Bill Viola. In her book, *Passages in Modern Sculpture*, Rosalind Krauss describes a critical history of modern sculpture, which will give the reader a contextual background for installation art. She wrote this work for her students at MIT, Princeton University, and Hunter College, "to whom my efforts at clarifying certain issues and developing a language of description were initially addressed" (Krauss, 1977, p.5). Krauss goes on to create a systematic structure to organize the body of information related to contemporary art.[1] Her system organizes contemporary art starting with figurative pedestal-oriented artwork, progressing through installation and environmental artwork, and finally

[1] The organization of contemporary art in terms of sculpture is a construct of Krauss's (1977) orientation. This includes the areas of: an overview of contemporary art in terms of sculpture, process in art, theatricality, and every other kind of contemporary art that is not craft-oriented, or painting. The explanation of Marcel Duchamp is in terms of Rubins' writing in *Dada and Surrealist Art.*

performance art, as shown in Figure 2. Even with the influx of new technologies now appearing in fine arts, her explanation and organization of the differing art varieties still holds true. Krauss (1977) says some of the recent properties used in art today are time, motion, light, use of space, location, and differing media being used to create theatricality (p.204).

One of the relevant concepts of this paper, which Krauss investigates, starts with the premise that western sculpture is an art form that historically was an object placed on a pedestal. These sculptures could be large or small, indoors or outdoors. They often had themes symbolically or literally conveying a given important pregnant moment using recognizable images. As a starting point time, movement and space can all be considered a part of sculpture.

According to Krauss (1977):

> …one of the striking aspects of contemporary sculpture is the way in which it manifests its makers' growing awareness that sculpture is a medium peculiarly located at the juncture between stillness and motion, time arrested and time passing. From this tension, which defines the very condition of sculpture, comes its enormous expressive power. (p.15)

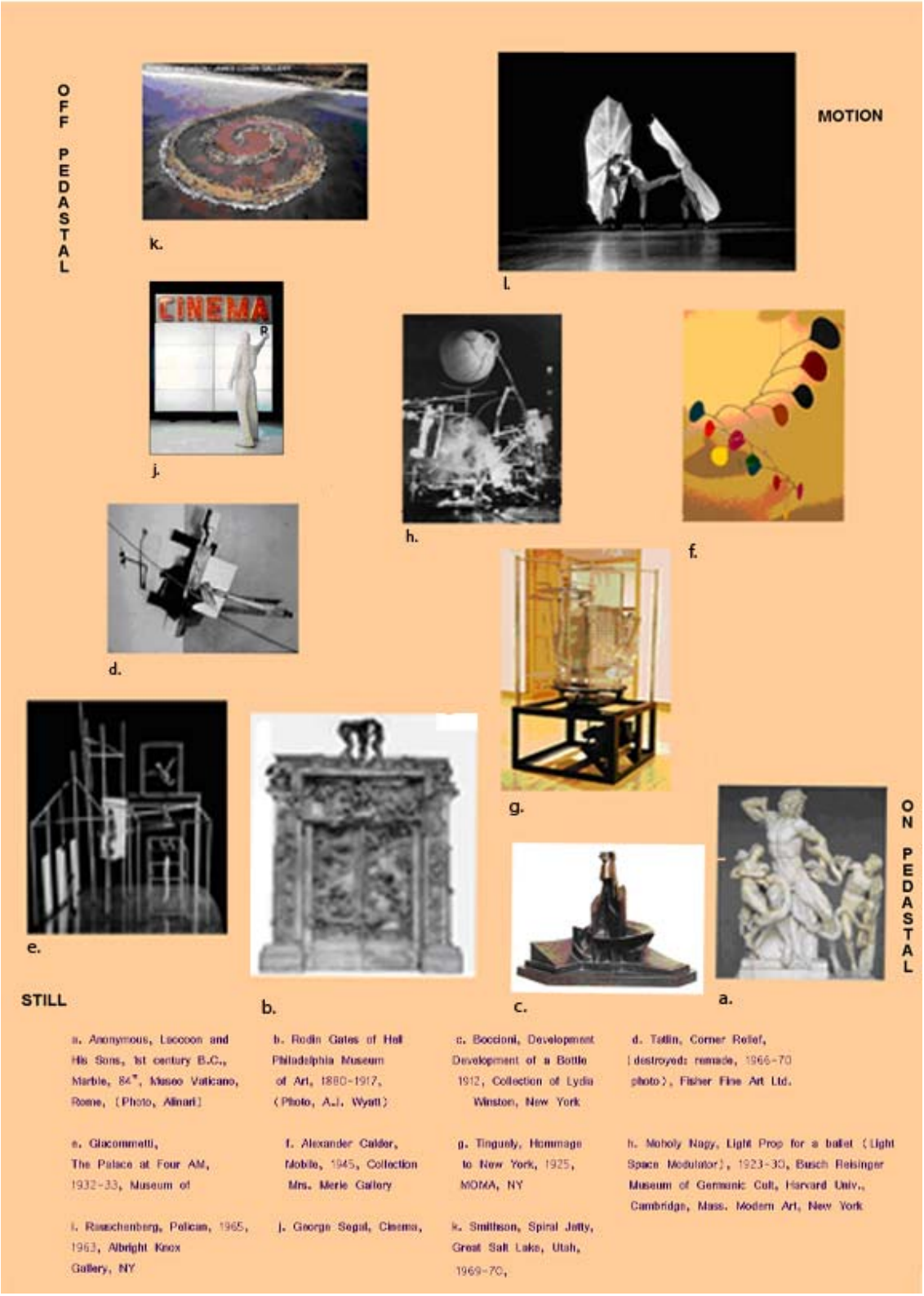


Figure 2. Progression of art. Illustration of still work on pedestal to motion time-based work in the environment.

Throughout art history there has been the notion that sculpture and painting were static, whereas poetry and theater were dynamic. Krauss explains that there is another way to look at art that consists of viewing the piece as something that unfolds over time. Whether static or in motion, as the viewers sees the artwork, it opens before them. Viewers become aware of the different visual or sensual possibilities the artwork may hold. Krauss (1977) states:

> The underlying premise of the following study of modern sculpture is that, even in spatial art, space and time cannot be separated for purposes of analysis. Into any spatial organization there will be folded an implicit statement about the nature of temporal experience. (p.4)

Not only does sculpture represent a passage of time, it also allows for movement in space to which the viewers must orient themselves. Our heads move, so our viewpoint is continually moving, giving us different views of the artwork. This change in orientation uncovers the informational possibilities offered by the sculpture. The movements of the eyes, head, and body are integral to the experience of the art object. Skilled artists exploit this temporal unfolding because they know this is how most active viewers will experience the work. The sculptural artist must think in terms of the continual movement of their viewers and the continual change of perspective the viewers encounters.

Within the context of art theory, the perception of the work must also be considered. A powerful work of art is one that envelops its viewers either physically or psychologically. This can be done in many ways. It can happen all at once or more

slowly in stages. Such artwork can fascinate the viewers intellectually, emotionally, visually, and spiritually. Often these areas overlap, creating environments that captivate their audiences to impact them both cognitively and emotionally. Some of the important concepts and characteristics used in installation art to embody the viewer's perception are described below.

Form

Form is a way of interpreting art that co-evolved with the practice and study of art. The formal qualities of the work are the building blocks of installations. Form refers to such properties as color, value, shape, line, surface texture, mass, and composition (i.e., balance, imbalance, horizontal, vertical, and diagonal composition). These are the essential elements used to create art, as shown in Figure 3 (Bone, Ocvick, Stinson, & Wigg, 1965, p.30).

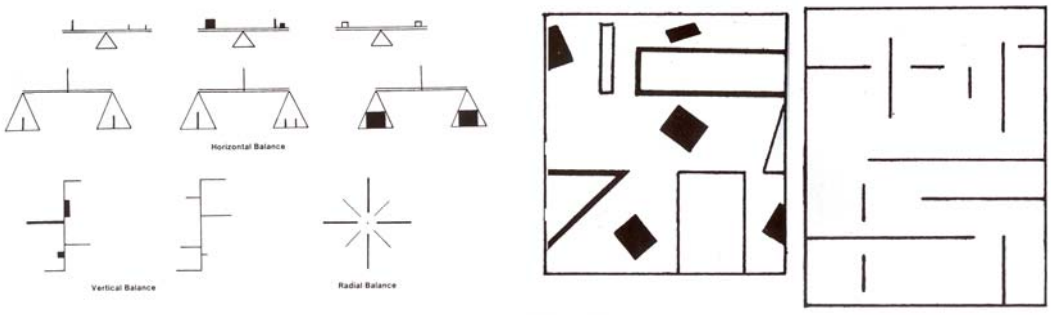


Figure 3. Illustrations of formal properties.

Other formal qualities inherent to fine art sculpture and installations are motion, time, light, use of space, exaggeration of scale, use of location, media juxtapositions, and

time orientation (linear vs. non-linear). All of these qualities play an active role in the creation of an environmental installation.

Temporal Structure

A discussion of time is needed to understand the descriptors that are used to discuss aspects of time in art. Time is inherent in installation art and is a basis of perception. We will use Einstein's time/space theory, or theory of relativity, as a basis for the discussion of time in this project and then looks at the art descriptor of temporal structure. According to the theory of relativity, the spatial and temporal location of objects is in relation to other things. Time and place must be calculated as a cohesive unit, and each object has its own time and place (Russell, 1925). A person on the front of a train, compared to a person on the back of the train, will see the light from the sun at different times, as shown in Figure 4. This is based on where they are relative to their placement on the moving train.

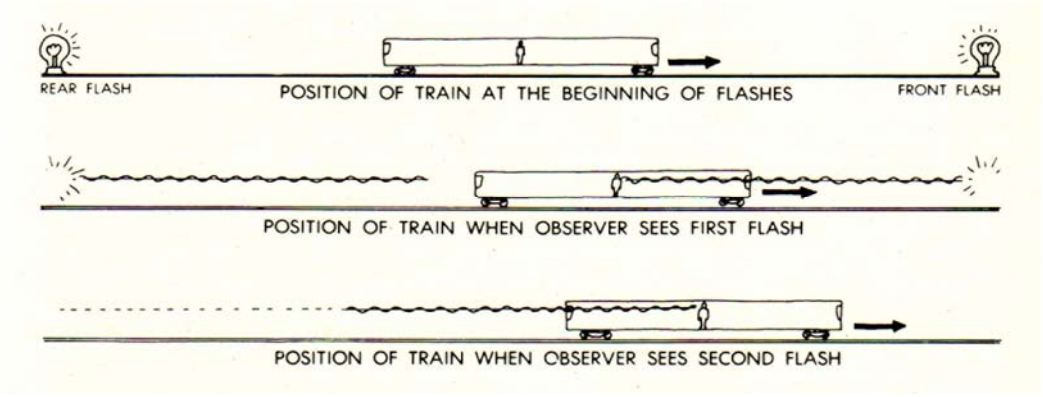


Figure 4. Illustration of Einstein's theory of relativity.

Rather than measuring things in terms of time and place, things can also be measured relative to the activity or event being observed. To gauge the speed of the movement of electrons, for example, you need to think of time in different terms than you would for the activity of eating lunch. An event is time with motion, and a process is an event across time.

Experience in time varies based on the participant's involvement or perception. In Einstein's Theory of Relativity, a chair's repositioning triggers an experience in time and space relative to the perceiver. In contemporary physics theory, time is viewed as a changing event in space, whereas with traditional theories, time was a dimension independent of special location (Russell, 1925).

Viewing or participating in art is inherently interactive. Continual movement of the viewers and their change in perception triggers an unfolding of the artwork. As described by contemporary physics, this change in orientation gives the act of viewing art the quality of time and space. Both monumental work and temporal work possess the quality of time and space.

Unlike a monumental work, which is designed to be permanent, temporal structure refers to artwork that is designed to be transitory. Although monumental work may utilize time-based structure, such as a video loop, it remains permanently on site. On the other hand, temporal structures work with a temporary medium for the symbolic content it conveys, exemplified by *Gnaw* in Figure 5. Temporal structures may incorporate static elements; however, ultimately the work is designed not to last.

Figure 5. *Gnaw*, by Janine Antoni. This work exemplifies the temporary medium of chocolate, 1990, Museum of Modern Art, New York.

There are different reasons why temporal structures are created. The very nature of being temporary often lends a perceptible ephemeral quality to the art. Sometimes the artist can convey an entirely different meaning by using evanescent materials, as opposed to making a similar piece with more permanent materials. This ensures the work retains a sense of place, as well as creates a sense of urgency in the audience to experience the work while it is installed. Often temporal works are experiential in nature and permanence does not add to the perception and understanding of the art. Many temporal works, including installations, are meant to occur in a short span of time to bring appreciation to something specific. It can draw its participants into an active awareness of the moment. Cage's work tends to be temporary for this reason. He creates events that employ sound to keep the viewers entranced as he takes them on an experiential journey. The piece *4'33"* is one of his best known works. He sits at a piano for four minutes and 33 seconds, but does not play. "This is a piece not about making music, but about listening" (PBS.ORG, *John Cage: American Masters Series*, 2003).

Sometimes the temporary nature of a piece is part of the work's symbolism. This can consist of the evolution of an event, or the media alone being of temporary structure. This is often an aspect of installation art. Laurie Anderson used both of these qualities when she stood on a block of ice wearing ice skates while playing a violin.

Figure 6. *Duets on Ice*. Laurie Anderson presented this work in 1974 on the streets of New York.

This performance, called "*Duets on Ice*," shown in Figure 6, was on the streets of New York during the summer of 1974. She stood on ice skates frozen in blocks of ice, and played a duet with a tape inside her violin. When the ice melted, the performance was over and she proceeded to walk away on the skates (20th Century Art, *Laurie Anderson: Duets on Ice*, 1974). The ice melting depicted multiple meanings in this piece. Each individual will interpret the symbolic iconography differently. One interpretation of

Duets on Ice could be that life is like a song that melts away, or that the weather in New York is very hot in the summer.

Process in Art

Throughout the course of contemporary art, one of the patterns has been a trend towards more multi-layered works in which process itself is integral to expression. The term process art can be confusing. There is the process of making art as in physically painting a picture, and there is art where one perceives the process happening. Also, there is art that takes extra intellectual processing to understand. Finally, there is the artistic movement known as Process Art or Post Minimalism, which is imbued with process. Perception can occur on many levels based on both physical environment and logical context. Installation art is an art form that tends to have process inherent in it. A brief synopsis of process in art and Process Art is included here.[2]

Marcel Duchamp was a process-oriented artist. Duchamp was influenced by Roussel's work, which had a dense writing style that was highly symbolic and read like riddles. As a result, the reader spent more time trying to decipher the meaning of the work than actually reading the work. This yielded the side effect of the reader being immersed in trying to interpret the writing (Krauss, 1977). Krauss wrote:

> He changed the previous perception of his readers and brought a new adventure or experience to them. Having short-circuited the traditional functions of meaning, the work focuses all attention on the curiosity of its production, creating an immersive experience for the viewers as they go

[2] For the process in art sections concerning Jackson Pollock, The Gutai Movement, Minimalism, Process Art, and Conceptual Art in this thesis, the book *Art since 1900* has been used to structure and inform the written content of these sections (Bois, Buchloh, Foster, & Kraus, 2004).

through the process of understanding. (p. 71)

Duchamp used a symbolic language to interact with his audience. Ready-mades are an example of this. Ready-mades show that an artist may choose to display something as simple as a physical object, or they may exist simply because the presence of the object poses a question. A question is posed when the context of the object is unusual, thus drawing attention to the fact that the object is out of context. Krauss (1977) points out that this was key to the inception of this questioning process (p. 77). Duchamp brought his ideas into play with the piece *Fountain*, also known as *R-Mutt,* shown in Figure 7. He presented a urinal as a sculpture and placed it on a pedestal in a formal fine arts salon show with traditional sculptures and paintings.

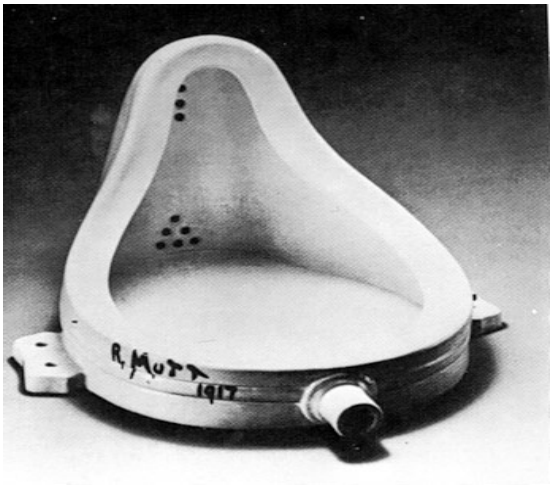


Figure 7. *Fountain or R-Mutt* (Ready-made), Duchamp, 1917.

It changed the purpose of the urinal from a place to urinate to an art object, or even more importantly from a utilitarian object to a philosophical dialog adding a new perception.

Krauss (1977) said “The viewers begins to question the new context of the object, thus changing the purpose of the object. At this point the art piece becomes about the process of re-interpretation of meaning” (p.78). The piece is no longer about being an object in a traditional sense, but has become a psychological process.

Three Standard Stoppages, in Figure 8, is another example of Duchamp creating process-oriented work. It has physical process actually inherent in the work. He started developing a pseudo-science as a part of his work by devising a new measurement system with which to indicate his new interpretation of the world. He took three pieces of string, each a meter long, attached the strings to a ledge and dropped them over the edge. It was a meter’s distance to the floor. None of the unwound string touched the floor. They all curled up into various positions. Duchamp traced these varying curves the strings created and declared these curves his new defining structure of measurement (Rubin, 1968, p.38). These structures were a process of determining a measuring system that was derived by chance (Rubin, 1968, p. 38). The making of these units was a measurement process, or a process for mapping or understanding the environment. This is the basis of every process, event, or interaction that can occur subjected to the whim or chance of the moment. The actual units of measurement were vestiges of the live process. Recording the string’s fall and creating a template from the event became canned chance (Rubin, 1968, p.39).

Figure 8. *Three Standard Stoppages* by Duchamp, 1913-14.

Duchamp enjoyed the process inherent in things. He continually played chess, which is a process. As each game evolves, a new process emerges:

> Duchamp had always been more interested in process than in results. Chess seemed to make possible a constant renewal of the formative process (the game itself is very, very plastic) involving as it does a combination of mathematics and space, logic and imagination, in which the result is zero in the sense that the board is swept clean. Thus, the form of mathematic-esthetic speculation, the pre-occupation with chess reconfirmed Duchamp's renunciation of painting and recapitulated the Dada belief that the value of creative activity lies in the doing, in the act of making, rather than in the esthetic significance of the things made. (Rubin, 1968, p. 43)

Jackson Pollock, a painter in the 1950s, was also influential in the progression of process in art in the contemporary art movement. His paintings, described as webs or

vortexes, were created by laying a canvas out on the floor and squirting streams of paint onto the canvas, as shown in Figure 9. The process of their making is evident in his finished product as the squirted paint trails are all visually intact for the viewers to see. This was not something anyone had seen the likes of up to this date (Bois, Buchloh, Foster, & Krauss, 2004, p. 373).

Figure 9. Jackson Pollock working in his studio.

The Gutai movement in Japan stumbled upon Pollock's work in 1955. They were the first group to see his art as being about process and gesture. The only information they had they gleaned from viewing images of Pollock working in his studio throwing and squirting paint, along with the art these actions produced. They had also read some of Harold Rosenberg's writing on Abstract Expressionism discussing the canvas being "an arena for action" and "that pictures themselves were far less important than the gestures that had produced them" (Bois, Buloch, Foster, Krauss, 2004, p. 374). Figure 10

shows Gutai creating art. This body of information mixed with cultural interpretation allowed the Gutai to derive new meaning from Pollock's work. According to

Figure 10. Creation of a Gutai motion painting.

Bois et al. (2004), these ideas were not discovered in the United States until 15 years later by Allen Kaprow and other process-oriented artists (p. 374).

Kaprow was a process artist who in the 1960s and 1970s founded Happenings. He is process-based to the extent that his work is no longer an object left as an end result. His beautiful and insightful perspective on Pollock reveals how powerfully Pollock was influential. At the point that Kaprow acknowledged Pollock's work, the nature of much of contemporary art had changed from making objects as the final finished product, to being about process, as shown in the continual compositional movement of the furniture in *Push and Pull: A Furniture Comedy* in Figure 11. Kaprow (1993) describes the process in Pollock's work in his writing: "With Pollock, however,

Figure 11. Kaprow created *Push and Pull. A Furniture Comedy* for Hans Hofmann, which consisted of two furnished rooms that could be rearranged by visitors.

the so-called dance of dripping, slashing, squeezing, daubing, and whatever else went into a work placed an almost absolute value upon a diaristic gesture" (p. 4).

Kaprow believed that Pollock had an understanding of the gestures he was using in his work and would carefully utilize their effects as he was creating the images. Kaprow (1993) wrote:

> To grasp Pollock's impact properly, we must be acrobats, constantly shuttling between identification with the hands and body that flung the paint and stood "in" the canvas and submission to the objective markings, allowing them. This instability is indeed far from the idea of a "complete" painting. The artist, the spectator, and the outer world are much too interchangeably involved here. (p. 4)

Kaprow believed that Pollock's paintings could be entered visually and compositionally at any point, and that Pollock created these paintings as visual continuums in which there is no obvious compositional beginning or end. Kaprow (1993) referred to this as Pollock refusing to accept the artificiality of an ending, stating, "here ended the world of the artist; and began the world of the spectator and reality… Pollock gives us an overall

unity and at the same time a means to respond continuously to a freshness of personal choice" (p. 5).

Kaprow felt that there were specific characteristics in Pollock's paintings, which made the paintings successful. Pollock's use of scale was vital. His enormous canvases were so huge that they stopped functioning as paintings and started functioning as environments when perceived. Kaprow thought that this had the effect of pulling in the audience. Installations tend to work in a similar manner.

What was offered to the viewers were compositions of web-like actions and the process of its making. Kaprow (1993) wrote that Pollock's "near destruction of the painting tradition" was reminiscent of early art in that it was ritualistic and magic. He felt that the process, ritual and magic rather than the object, was what was important in Pollock's paintings. By looking at the paint splashes and drips of the final product, one could see there was action, motion, and process inherent in its making. The marks were so direct and the canvases so encompassing, the viewers would get the feeling that they were present and involved in the process of the making of the painting. Kaprow (1993) wrote: "In that the painting comes out at their viewers, they become participants, not observers. What we have then is art that tends to lose itself out of bounds and tends to fill our world with itself" (p. 6). Installations actually physically fill the world they inhabit.

Kaprow (1993) felt that with the production of his paintings, Pollock had left the audiences at a point where, "they must recognize the dazzling qualities of the space and objects of their everyday lives" (p. 6). In order for the audience to fully experience the

work, they had to utilize all parts of the environment through perception, including sound, sight, smell, touch, movement, and taste. This meant that the material used to make the art could be anything from regular household objects to traditional art materials. Kaprow (1993) felt that artists that worked in this fashion would be able to present the world for the audience in a new context. Kaprow (1993) wrote, “Young artists of today need no longer say, ‘I am a painter’ or ‘a poet,’ or ‘a dancer.’ They are simply artists and life will be open to them” (p. 7).

Figure 12. Kaprow in Cage’s class at New School for Social Research, NY.

The development of Kaprow’s work offers insight into process in art. He developed Happenings based on his studies of composition with Cage, shown in Figure 12, who in turn had been influenced by Duchamps works involving chance occurrence exemplified in his piece *Three Standard Stoppages.* Cage furthered the utilization of the ideas of chance and working in the moment by adding what he termed “present-ness.” This is the idea that if details of an event are not planned in advance, chance will be

occurring all the time, thus making each moment unique. According to Yves-Alain Bois in Bois et al. (2004), based on his Zen-like philosophy, Cage stated this uniqueness was guaranteed a sense of "presence" (p. 453).

Kaprow (1993) expanded upon Cages music events by adding action, space, and "duration of action" (p. 7). During a class assignment given by Cage, Kaprow (1993) created the first Happening called *18 Happenings in 6 Parts* (p. 8). This was a process-oriented event with disconnected actions, audience participation, and "a collapse of performance audience boundary" (Bois & Buloch, Foster, Krauss, 2004, p. 453). It functioned similar to a three-ring circus where no one could see everything at once, no matter how many times they returned to see the event. Figure 13 shows one performance sequence in Kaprow's first Happening.

Figure 13. Kaprow's *18 Happenings in 6 Parts.*
This was an essay on the blurring of art and life.

In defining Happenings, Bois et al. (2004) wrote, "Happenings had no rules, no cause and effect, and no principal of consistency. They were like a-logical dreams, that are repetitive and always in the present tense" (p. 453). There were no storylines,

particularly when actions were triggered by chance. In Happenings, there was dissolution of category where everything was purposefully unexpected, so the viewers had to retain focus in an effort to understand the event. The participants had to stay perceptually alert. No one knew what would happen next or when it would end. Materials could not always be discerned, people were often disguised as objects, and in the case of some objects it was unclear if they were part of the Happenings or not. Impermanence was also a key element in Happenings; a specific order was never repeated, to preserve what Bois et al. (2004) deemed their "such-ness or immediacy" (p. 454). This such-ness or immediacy also created a heightened perceptual awareness. Installations function similar to Happenings in that they are often event oriented, however, they tend to run longer than Happenings.

Process in art is also seen in contemporary art in the movement know as Process Art, or Post Minimalism. Process Art worked with many different materials. Bois et al. (2004) points out that, "with new materials came new procedures, as explored in Process Art, Arte Povera, Performance, Body Art, Installations, and site specific-work" (p. 534). Within the new medias being used in Process Art, two orientations surfaced as ways to create art. Some process artists saw new materials as a way to express their ideas, while others saw new materials as having intrinsic properties with which to physically work. All Process Art has process inherent in the way the ideas and materials are used and presented.

One system, proposed by Process Artist Richard Serra, was to work in terms of the logic of the material. For the artists who responded to the intrinsic properties of

materials, the materials became the pure form. When working with lead, Serra noted specific-qualities where it naturally does some things and not others. He would choose verbs or process words like fold, roll, or crease that were conducive to the materials he was using as a starting point for his work. He would then take these process words and apply them to his materials. If the process word said to roll the material that is what he did. Lead was conducive to folding allowing one to visualize the process of folding and demonstrating the pure qualities of the lead, as shown in Figure 14. Whatever material he used for building his work would illustrate a given process with the material in a pure form.

Figure 14. *Rolled Lead*, by Richard Serra.

Robert Morris exemplified the second Process Art orientation that evolved with the introduction of new materials. He was an artist who used process extensively in his later work, progressing from Process Art through Concept Art and then to Land Works (Bois et al, 2004). He took the minimalist unity or pure form of an object and

demonstrated the process of its making. This hearkened back to the process visible in the end result of Pollock's paintings.

> Jackson Pollock and his ability to retain his process as a part of the end form of his work through a 'profound rethinking of his tools and materials, in particular, his use of sticks' in the drip paintings to disclose the essential fluidity of paint. With Morris the ideal derived from Pollock became a work united less in its image than in its process, is self evident in its making. (Bois et al., 2004, p. 535)

Figure 15. *Pink Felt.* This was a Morris piece displayed at the Guggenheim.

Morris' project *Pink Felt*, as shown in Figure 15, demonstrated process in art through changes in the materials during its presentation (Bois et al., 2004, p. 535). Each day the piece was compositionally re-designed, allowing the viewers to step into the process of its making.

Figure 16. The *Card File*. This work by Morris chronicles the process of its making.

The *Card File*, which Morris referred to as a ready-made, shown in Figure 16, further illustrates his work as being about the process rather than about an object. One of the key aspects of Duchamp's ready-mades was that they changed the nature of the art from an object to being about a conceptual idea. Morris' *Card File* was a ready-made that was an allegory to being an object, thus being an idea. It was a simple cube. The concept of the piece, however, was more than just a box. The contents inside the box were index cards describing the production of the box, thus metaphorically measuring the given event, and a sound recording of the box being built. Morris typed onto the cards the process of building the box. He even included chance events that occurred while he was building the box. These became similar to the canned chance of Duchamp's *Three Standard Stoppages*. This box is a pure cube, but with the name, the index card descriptions, and sounds of the cube being made, it became "a hybrid of the history, memory, texture, sound and technology of its being made. The object is no longer simply an object, but a thought process" (Krauss, 2004, p. 528). This description

and naming is intrinsic to its meaning and existence. The process of its making is more important than the box as a finished object.

The *Anthropometry Performance*, in 1960, at the Galerie Internacional D'Art Contemporain in Paris by Yves Klein (Selz & Stiles, 1996, p. 681), represents a triple pun in its use of process. It was about the process of the physical rendering of the painting, in that the painting is painted in front of an audience so they get to actually see the creative process in action. To the extent that the audience is involved in witnessing the process of painting, the piece is about the "process-ness" of the painting. This aspect was heightened by the fact that naked people, coated in blue paint, rolled all over the canvas to create the painting. It conveyed its meaning through both psychological and physical process (Selz & Stiles, 1996, p. 681). Lastly, the meaning of the art is conveyed through action. In this case rolling around naked in paint, as shown in Figure 17 (Selz & Stiles, 1996, p. 681).

Figure 17. *Anthropometry Performance*. This work, created in 1960 by Klein, preformed at Gallerie Internacional D'Art Contemporain, in Paris.

This artwork uses the physical process of painting an object. It also includes the active process of naked people rolling in paint. This action, painting by rolling naked, makes the meaning a psychological process. The artist is consciously inviting the audience to witness a creative process poetically enacted as a form of content or meaning.

There are multiple ways process in art is inherent in installation art. An installation is an all-encompassing work that removes one from daily activities. This forces the psychological perceptive process of understanding, as one discerns their environment. Finally, installations are event-oriented. There is process in the work unfolding around the viewers.

Theatricality

In her book *Passages in Modern Art*, Krauss was the first to describe theatricality. She states, “An umbrella term under which one could place both kinetic and light art, environmental and tableau sculpture, along with more explicit performance art, such as Happenings or the art work with stage-like properties” (Krauss, 1977, p.201). Theatricality is often an intrinsic part of installation work. Theatricality is generally event-driven; thus, a person would perceive time and motion rather than a static environment that does not move across time. An example of this would be the sets that Jasper Johns constructed in 1968 for the dance of Merce Cunningham, *Walkaround Time*, as shown in Figure 18 (PBS.ORG, *Jasper John: American Masters Series*, 2003).

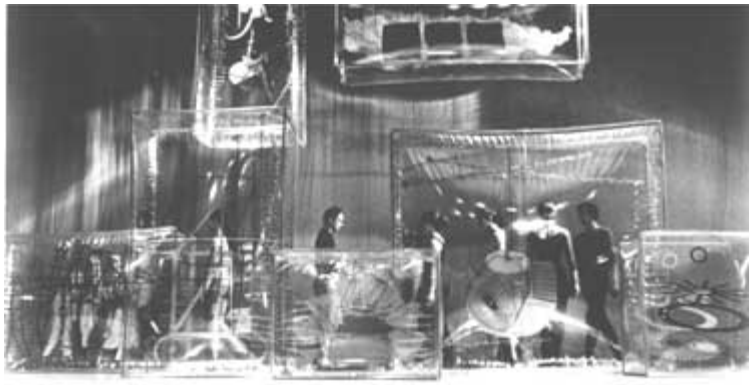


Figure 18. *Walk Around Time*, 1968. This work by John consists of seven large rectangular vinyl inflatable screens printed with images taken from Marcel Duchamps *The Large Glass* to create the stage set for Merce Cunningham.

Krauss goes on to say that, “Theatricality is the unfolding of temporal and dramatic events. It is a merging of temporal experience with real time that pushes the plastic arts into theater. If not functioning in a specifically theatrical context, certain sculpture is intended to theatricalize the space in which it is exhibited” (Krauss, 1977, p.205). Theatricality can occur by the piece being active and all encompassing, or by it functioning as a dramatic stage prop. Installation art tends to be experiential and theatrical by its very nature, thus utilizing a full set of physiological preceptors.

Installation Art

Installation art is when an artist builds an art piece into a pre-existing space. The work does more than sit on a pedestal, sit on the floor, or hang from the wall. Installations actually affect the environment spatially or physically in some way that alters the physical space of the site. Because they are usually only built to last a week or a month at a time, installations are often temporal in nature. They tend to utilize many

Figure 19. *The Palace at Four A.M.*. This work was done by Jon Kessler at S1 Center, 2005-06, Long Island City, New York.

formal aspects of art, and are usually very complex in form and content, playing with many different layers, as shown in *The Palace at Four A.M., by* Jon Kessler in Figure 19. An installation is an environment designed to stimulate specialized perception. They often have theatricality built into them. Theatricality or theatrical elements have been built into the installation *Conic Sea and Peculiar Angels*, as shown in Figure 20, to retain the viewers' attention on a moment-to-moment basis.

Figure 20. *Conic Sea Peculiar Angels* installation demonstrates theatrical elements. Done by Cooper at the Langford Gallery, 2005, Texas A&M University, College Station, Texas.

Some installations use time, movement, and space as integral elements. Krauss states that, “art can be viewed as something that happens over the passage of time” (Krauss, 1977, p.5). As the viewers experiences the artwork unfold around them, they become aware of all the different perceptive, psychological possibilities the piece may hold. When Michael Kimmelman tried to define installation art he stated that:

> It left the viewer’s feeling as if they were trying to nail Jell-O to the wall. However, it is just these qualities of in-definability and open-endedness that make installation art such a potent medium for creativity. The creative process undertaken to make large-scale installations is often transformative to both the artists and the viewers. (Giannini, 2001)

CHAPTER III

INFLUENTIAL ARTISTS TO *CONIC SEA AND PECULIAR ANGELS*

Conic Sea and Peculiar Angels is an art installation that uses the qualities or descriptive terms of: formalism, temporal structure, process in art, and theatricality; thus, causing the participant to perceive an entire environment. Influential artists in this work have been Cage, Turrell, Hamilton, and Viola. By looking at their work, key building blocks to this installation can be better understood. These include creating an installation where you actually enter inside the art, and thus become embodied in it. Also, the formal qualities used are designed to entice the viewers' perception and encourage the viewers to explore the work. Theatricality is used to allow the work to unfold over time as the viewers moves through it creating an experiential event. These environments were designed to be intentionally different than our normal daily experience. This divergence V from what we consider normal existence uses process-orientation, or otherwise altered environments, to create a heightened experience. By insisting the viewers be present or psychologically and physiologically cognizant, to the work at hand, the installations force them to leave their daily consciousness behind.

Cage's work is experiential in that it is oriented around bringing the participants into the moment or creating experience by making the participants aware of the present as it happens. Figure 21 is an experiential music score written by Cage.

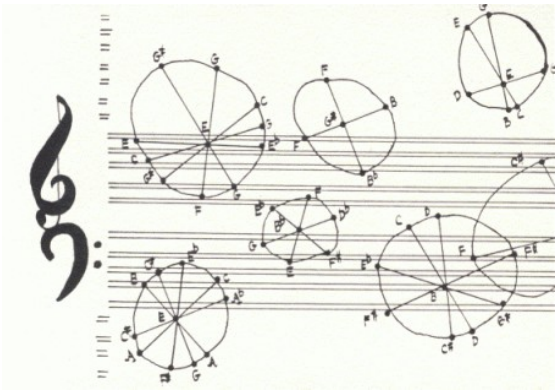


Figure 21. John Cage's *Concert for Piano and Orchestra*, 1957-58.

Turrell's work changes how people think about perception and their interface to their environments. His minimalist altered installations cause the participants to notice things they may not have noticed before, as does *Spread* in Figure 22.

Figure 22. Turrell's installation *Spread*, 2003.

Hamilton's work is oriented towards the materials used. The materials are physically present and tie into the concepts behind the work. The Hamilton installation *At Hand*

Paper-Dropping exhibit in Figure 23 shows physicality in its use of materials (Simons, 2002). Viola's environments rely on the presence of video vignettes and how people

Figure 23. *At Hand Paper-Dropping* exhibit, 2001, by Ann Hamilton.

Inter-act with them. His installations are built and sculptural, but the structures are conducive to the presentation of the videos rather than being about the conceptual aspects of the physical materials (Townsend, 2004). His works function on a momentary basis or unfold as the viewers' experience them, as demonstrated in *Station* in Figure 24. The way all of these influential artists are presented illustrates the mechanics of their work and how it impacts the participants physiologically and psychologically.

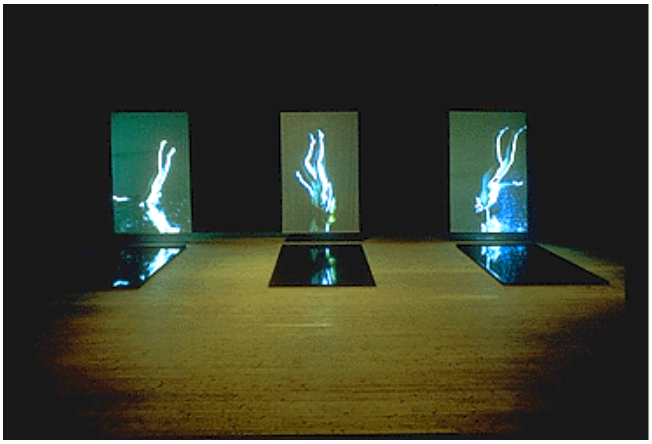


Figure 24. *Stations* is a 5-channel video installation. It was done by Viola at the American Center in Paris.

John Cage

Cage was an influential figure in contemporary art that was known for his performance art and music compositions. Figure 25 shows *Variations V*, the Merce Cunningham Dance troop dancing to Cage's composition. This was an unusual performance, which he was able to impact the viewers' state of mind to generate a

Figure 25. John Cage and Merce Cunningham Performance, *Variations V*.

heightened perception. *Conic Sea and Peculiar Angels* also strove to hold the participant's focus on a moment-to-moment basis, taking them on a perceptual, psychological, and experiential journey.

Cage sought active participation in installations without the use of imagery or built structures. Instead, he used sound as his media to stimulate the auditory senses (Junkerman & Perloff, 1994). In one piece he used a sound landscape to communicate with viewers, and to entice their natural curiosity to focus them on the progression of the sound. This use of sound to create a temporal art event took them through an experiential journey.

Cage demonstrated the ability to take his audience on an experiential journey when he set up expectations and then diverged from what was expected. In 1989 at the Oakland Art Museum, he scheduled a lecture producing an expectation in the audience that they would hear him speak. The audience was seated. They waited. Cage was present on stage, but said nothing. As people's expectations heightened the volume in the room rose. As the audience's impatience peaked, he turned on a recording he had just made of the hum in the room while people were waiting for the lecture. Through the psychological and physiological process of discerning their environment, everyone suddenly became aware of what was going on at that precise moment.

Cage had primed his audience to enter an active listening state and once he started the tape they realized his intent. He had used process in art by building anticipation in his audience as a method to trigger heightened perception. Cage proceeded to loop this recording, or wave of sound, over itself again and again taking the

room on an experiential journey as they witnessed the process of the artwork progress. The piece described kept listeners ensconced in the present moment, fully aware of the experience before them as it progressed.

James Turrell

Before studying art, Turrell did his undergraduate studies at Pomona College focusing on psychology and mathematics (Henry Art Gallery, 2005). The Henry Gallery in Seattle wrote, “Turrell’s work involves explorations in light and space that speak to viewers without words impacting the eye, body, and mind with the force of a spiritual awakening” (Henry Art Gallery, 2005). He strives to create an experiential epiphany for the viewers. “I want to create an atmosphere that can be consciously plumbed with seeing,” says the artist, “like the wordless thought that comes from looking in a fire” (Henry Art Gallery, 2005). “Whether harnessing the light at sunset or transforming a glow like a television set into a fluctuating portal, Turrell’s art places viewers in a realm of pure experience” (Henry Art Gallery, 2005). In an interview with “Arts 21,” shown on PBS, he noted this quality of light is almost like we see it in a dream (PBS.ORG, James Turrell*: Art in the Twenty First Century*, 2004). This divergence from our normal perception creates a heightened perception as the viewers use psychological and physiological processing to discern their environment.

Employing his knowledge of perceptual psychology and optical illusion, Turrell uses light and structural design as his formal media to create illusion-oriented minimal spaces. He presents an architectural illusion by not providing enough information for the brain to fully process the structures present. The lighting is altered and the corners of the

room are rounded. This takes away the optical cues we use to discern the edges and corners of the room creating an optical illusion of boundlessness (Birnbaum, Noever & Turrell, 2001). This is similar to a Ganzfeld illusion, where an endless void is created by not providing enough optical information to make the boundary indicators apparent (Koenderink & Richards, 1992). The formal elements of "depth, surface, color and brightness all register as a homogenous whole" (PBS.ORG, *James Turrell: Art in the Twenty First Century*, 2004).

"Atlan" was one of Turrell's installations that employed the Ganzfeld phenomena to play on the viewers' sense of psychological and physiological perception (PBS.ORG, *James Turrell: Art in the Twenty First Century*, 2004). When the participants entered into this installation, they saw what appeared to be a rectangle made of blue light at the far end of the room, as shown in Figure 26. As they remained in the room the rectangle glowed. Out of curiosity, the participants approached it to see what was happening. On closer investigation, they found what appeared to be a solid rectangle or painting on the wall. However, it was actually an open window looking into an empty, light-filled room. The dramatic effect of this window invoked use of theatricality.

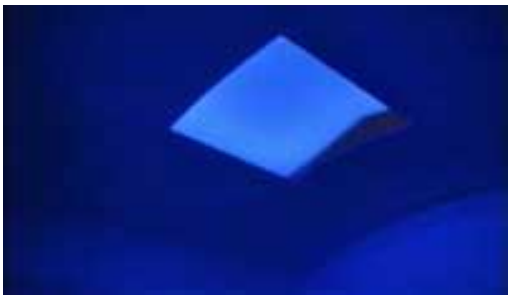


Figure 26. *Live Oaks Friends Center* appears to be a glowing room by Turrell.

The phenomenon in the light-filled room was a confusing optical illusion. It was difficult to discern the volume within the room, and viewers often reached through the window trying to touch its far wall. When they could not reach it, the participant experienced what seemed to be boundless space. “The work's infinite view is ultimately the product of one's own sense of perception, and the viewer becomes aware of his or her own beliefs and habits of looking” (PBS.ORG, *James Turrell: Art in the Twenty First Century*, 2004). The initial shock of sticking one's head through what seemed to be a solid wall was soon replaced by disorientation and a sense of wonder as he or she psychologically and physiologically processed how the illusion was constructed. Turrell’s art uses process orientation as the viewers strive to understand their environment. Using optical illusion as theatrical props and his understanding of perception, he invites the audience to take part in an experience that offers a perceptual epiphany.

Ann Hamilton

Much of Hamilton’s work relies on stimulating multiple perceptual senses to trigger curiosity or a desire to explore her installations. Hamilton is known for reaching beyond classic formal media to whatever media she deems appropriate to convey her ideas. This removes a person from their daily life and any preconceived notions of viewing art. The divergences from what we expect, along with a perceptually encompassing environment, are some techniques Hamilton uses for creating a

heightened perception as the audience psychologically and physiologically processes the work (Simons, 2002).

Figure 27. *Privation and Excess.* This installation is by Hamilton, 1989.

Hamilton mounted an immersive installation at the Capp Street Art Space in San Francisco titled *Privation and Excess,* in 1989, as shown in Figure 27. The idea of this piece was to create a poetic exploration of systems and mediums of exchange. To capture the participants' full attention, Hamilton designed this work to be perceived through visual, tactile, auditory, and olfactory senses. To enhance physical interaction with this piece, the participants were asked to remove their shoes before wading through two inches of pennies and honey poured all over the floor. Their tactile senses were stimulated as they felt the cold metal sweep over their feet, and their auditory senses were stimulated as they passed a person compulsively washing their hands in a metal bowl of pennies. The reverberating sound of coins combined with the bleating of sheep

present in the installation produced a striking auditory perception, while the sheep's pungent odor gave a distinct smell. As shown in Figure 28, this combination of perceptual senses created dramatic theatricality and heightened perception.

Figure 28. Sheep housed in *Privation and Excess*, by Hamilton, 1989.

This work consists of objects and activities present in everyday life; however, they are altered in a way that engages the participant in a dialogue without the use of words. Hamilton's departure from formal art media to the use of pennies and sheep offered a new perceptual experience. All of the interactive factors create a desire to explore this installation.

Bill Viola

Viola's works functioned less as concrete art work and more like enveloping environments aimed at creating psychological experiences for the viewers: sort of like a Happening with a rewind button. His work was comprised of both the formal traditional

structural aspects a person would see in a sculpture, as well as the formal aspects one would see in a video production. They were time-based, process-oriented art installations using motion, activity, and events. Although Viola used a storyline to convey his ideas, he also employed specific construction in his work to create a perceptual response (Townsend, 2004).

The Crossing, as shown in Figure 29, was displayed in a retrospective of Viola at the Art Institute of Chicago in 1997. As you walked through the entrance to the show, a life-size screen, set slightly back, created the theatrical effect of the viewers looking at their image in a mirror. An image of a larger-than-life size man walking forward was projected onto the screen. He stopped when his image was directly facing the viewers. Then he proceeded to burst into flames and burned until there was nothing left but embers on the screen.

Figure 29. *The Crossing* by Viola, 1997.

As the viewers walked further into the exhibit, they came upon the backside of the screen to discover a similar sequence being shown as a counterpart to the front. This video was of a man walking forward, being washed away by a stream of water, and then reappearing.

The natures of the videos were acts of passion. It was as though the viewers had watched themselves spontaneously combust or go through some metamorphoses of violent passion. At this point, it was as though the viewers were reborn, only to burn again. One had to psychologically and physiologically process the repetition in the piece suggesting rebirth, growth, and development. By changing time elements, or the length of time in the environment, the looping videos created their own time, removing people from their normal perceived time. As Wainwright says, "You uproot them from their preconceived orientations to their environments" (Townsend, 2004, p.16). A state of active participation, or a moment-by-moment experience, was evoked when the video loop repeated itself. The videos contained visual imagery with inherent storylines and events to take the participants on an experiential journey.

Viola used varying formal elements to create his presentations. The elements of specialized screens with video projections mounted at strange angles, dramatic use of imagery, motion, time, lighting, and the spatial relationship of components are used as theatrical props. Viola's pieces generally used one or two focal points that capture the participants' attention. The screens in *The Crossing* represented a human scaled screen depicting a plausible, though strange, experience divergent from the norm (Townsend, 2004, p.17). The dimensions of the screens varied in scale and were different from what

we might find in everyday life on a television or in a movie theater. This theatrical effect challenged the viewers' sense of normalcy and the disorientation triggered physiological and psychological processing.

This piece employed structural elements that were all encompassing and altered the viewer's perception. Viola was aware of the use of spatial relationships as a way to guide the participants through his work. While the participants did not walk into the piece, the varying size screens mounted at different levels and angles acted to ensconce the participants into the work. Also, the over-all light levels around his works were low and created an ambient effect, while brighter images were projected onto these irregular screens to create focal points for visual perception. The participants stayed focused through a timed cycle of video vignettes compiled of a series of changing lights and colors. As one video ended, another video was timed to create intrigue just as the first was finishing. This time-based sequence enticed the viewers to explore.

CHAPTER IV

THE PHYSICAL ENVIRONMENT OF *CONIC SEA AND PECULIAR ANGELS*

The *Conic Sea and Peculiar Angels* installation was built within a large darkened space. The participants entered into the installation removing them from everyday life. They traversed through it interacting with the structures. There were irregular gauze screens with video vignettes projected onto them. The formal elements consisted of sculpted screens, videos, lights, colors, shapes, textures, motion, and surfaces. The combination of the video imagery and their projections onto the hanging irregular-shaped screens were imperative in creating the desired theatrical effect, as shown in Figure 30. The audience traveled through and interacted with the installation, creating a time-based experience that continually changed. This process of the artwork unfolding kept the viewers focused.

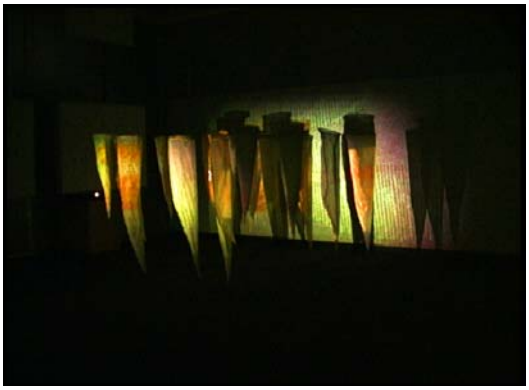


Figure 30. *Conic Sea and Peculiar Angel* shows conic-shaped gauze structures. By Cooper, 2005.

There were three different gauze-shaped screens throughout the environment. They consisted of a house measuring 20x10x10 feet, a large-scale conic structure

representing a quark suspended inside the house, and a sea of conic kite-like structures suspended from the ceiling by fishing twine, as shown in Figure 31. The transparency of the twine and the gentle motion it facilitated gave the illusion of the conic kite-like screens floating. Video vignettes projected onto the gauze screens throughout the environment created a time based progression of imagery.

Figure 31. *Conic Sea and Peculiar Angels* shows a conic structure inside the house. By Cooper, 2005.

The video vignettes were cyclic scenes projected onto the screens altering the video's appearance. One of the sequences that traveled across the house structure was a real-time video of a woman trying to fly using a ladder as a prop to represent wings, as shown in Figure 32. The woman would stumble around trying to balance the ladder, and then run and jump to attempt flight. Along with this, an animation of a women actually flying with a ladder as wings, was projected onto the gauze. The viewers had to psychologically process the combined videos, which gave the effect of the woman eventually taking flight with the ladder.

Figure 32. *Conic Sea and Peculiar Angels* shows a woman with a ladder. By Cooper, 2005.

Inside the house was a large-scale conic virtual sculpture representing a virtual human-sized quark particle. This was created by projecting a spinning quark, animated in Maya, as shown in Figure 33, onto a five-and-a-half-foot conic-shaped gauze screen. Using multiple projectors allowed the viewers to see the animation from different angles as they moved through the installation, creating a three-dimensional effect from the flat two-dimensional images.

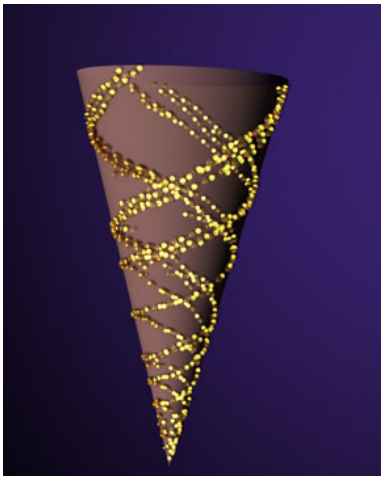


Figure 33. *Conic Sea and Peculiar Angels* shows still animation of a quark particle. By Cooper, 2005.

Finally, next to the house was imagery of growing vines projected onto the sea of kite-like structures. This imagery was an abstraction of plant growth and gardens. It was projected in a form reminiscent to paintings with the addition of motion. These vines are shown in Figure 34.

Figure 34. Growing vines in *Conic Sea and Peculiar Angels. B*y Cooper, 2005.

Making the video vignettes cyclic facilitated a continual experience. The lights of the video intermittently changing and cycling on and off as the installation progressed added a time-based sequence of events. These are some of the characteristics inherent process in art, temporally oriented art, and art with a theatrical orientation. The vignettes were both abstract and literal, and were designed to create an altered perception of time. This was different from the time orientation that the audience experienced in everyday life, thus triggering psychological processing and heightened perception. The participants were no longer left on the outside of the artwork when they were participating in the installation; instead, they were experiencing a state of being.

There were several symbolic elements utilized in the space including a virtual quark particle, a woman trying to fly using a ladder for wings, a gauze house, and

images of vines growing. The images in this project were inspired by three main sources. The symbolic imagery comes mostly from personal dreams, ideas interpreted from religious philosophy, and physics. The built-in perceivable elements in this installation created an immersive environment that stimulated multiple senses.

CHAPTER V

ECOLOGICAL PSYCHOLOGY

The traditional orientation for discussing perceptual psychology of the environment was to discuss it in terms of other fields, such as biology, physics or chemistry. Generally art has not been discussed in terms of perceptual psychology; however, many artists are aware of how the work will affect the audience as they perceive it. All of these fields are very specific to the research needs of their given areas and do not necessarily provide well-suited descriptors for the psychology of perception (Shaw & Bransford, 1977, p. 44). J.J. Gibson developed a system for researching and discussing perception of the environment that he referred to as “ecological physics,” which is the mechanics inherent in Ecological Psychology. “The areas that Gibson is best known for are: using stimulus information of the environment as an important factor in understanding perception, functional organization of perceptual systems, optic arrays, and affordances” (Shaw & Bransford, 1977, p. 47), as shown in Figure 35. Gibson believed that an understanding of one’s environment was critically important to understating perception. Artistic installations are environments designed to intrigue the perceptual senses.

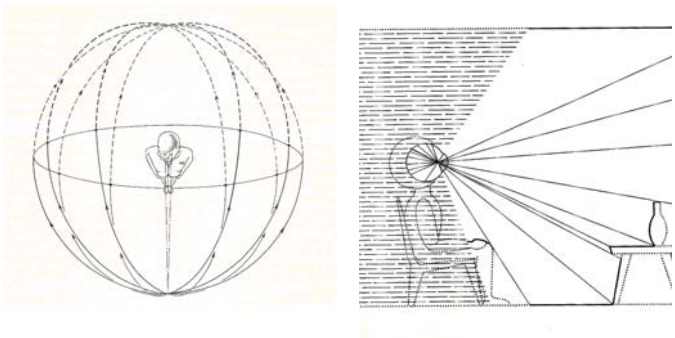


Figure 35. Illustrations of perceptual spheres, optical arrays. These are areas J.J. Gibson is best known for.

In Ecological Psychology, the premise is that when organisms perceive their environments they act appropriately before cognitively thinking about their actions. This is a way of acting and interacting that allows organisms to naturally be in the world without continual moment-to-moment mental calculations. Acting and interacting does not necessarily alter the world. The environment is what the environment is, and your awareness of it does not change it. “Instead of the contrast between consciousness and behavior, we should look for the difference between observational activity (what one is aware of doing) and performative activity (what one automatically does)” (Reed quoting Gibson, 1982, p. 9).

The basis of this system is that the environment exists as a whole, whether or not different organisms can understand everything inherent in it. According to Gibson, the environments in Ecological Psychology are: “Places, surfaces, layouts, motions, events, animals, people, and artifacts that structure the light at points of observation” (Gibson, 1986, p. 67). In other words, it is the ground, the sky, and all the spaces and things in-

between. He refers to the parts of the environment that an organism can see at any point in time as the faces of solid geometry, as shown in Figures 36 and 37.

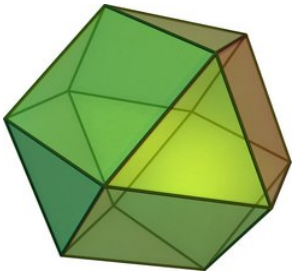


Figure 36. Faces of solid geometry, pentagonal bi-cupola.

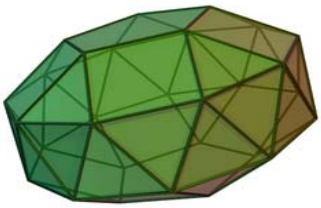


Figure 37. Gyro-elongated pentagonal bi-cupola.

Each organism must perceive its environment on many levels to survive, and "has evolved a set of sensory preceptors to perceive what of the environment that species needs to survive," as shown in Figures 38 and 39 (Shaw & Bransford, 1977, p. 79).

Figure 38. Bat ears, Pteropus.

Figure 39. Spider eyes.

Because each species has unique perceptual systems to obtain needed information for survival, they all have different perceptions of the same environment. Gibson described this phenomenon as perceptual spheres. A perceptual sphere is a theoretical area around an organism within which it has perception, as show in Figure 40.

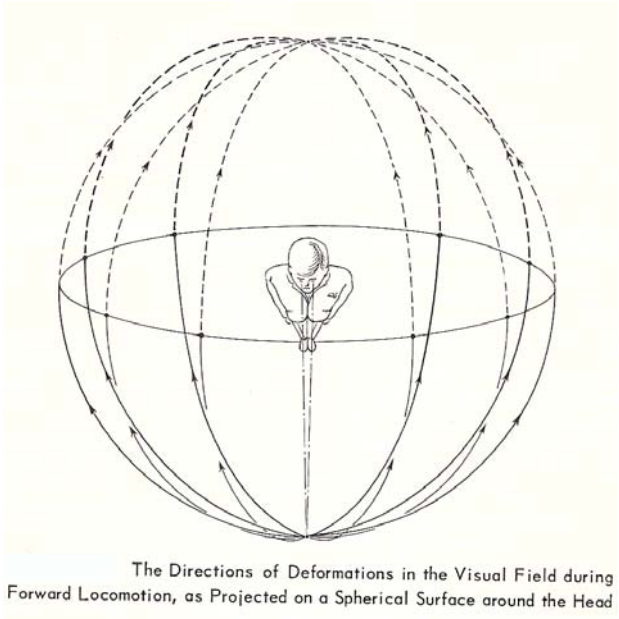


Figure 40. Perceptual sphere.

Each sensory orientation dictates a different perceptual sphere, and is dependant on that sensory organ's structure. "An animal could have one perceptual sphere for sight and different perceptual spheres for hearing, smell, touch and so on" (Gibson, 1966, p.68). All of the perceptual spheres of an organism work in unison. Gibson's system can be discussed as separate components or together in corresponding systems as deemed necessary to the given body of research (Gibson, 1966, p. 70). In building an art installation the artist is often aware of presenting specific components to be perceived by the different perceptual spheres of the audience.

Gibson started developing this system of perceptual orientation by looking at the perception of light and surface in the environment. While perceptual spheres are the tools used to perceive the environment, the optic array is the visual information offered

by the specific environment. In other words, an optic array is everything in the organisms' visual field, as shown in Figure 41.

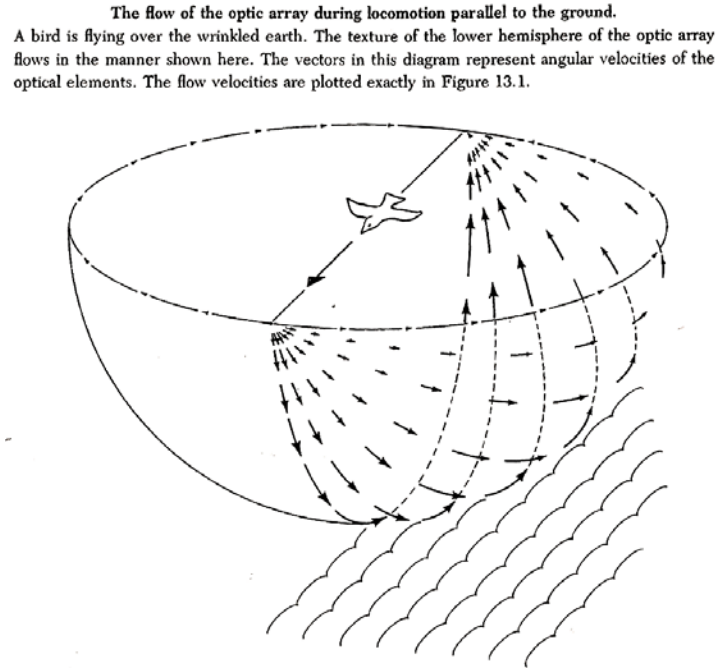


Figure 41. Flow of an optic array from the perspective of a bird.

Gibson wrote, "Natural perception as I conceive it, is the study of an array of solid angels that correspond to certain distinct geometrical parts of a terrestrial environment that is separated by edges and corners" (Gibson, 1986, p. 71).

According to Gibson, surfaces of an environment have different looking textures as a result of their geometric angles. The light and dark patterning of the textures add variance. "The differences in the textures from one visual plane to another give indicators of spatial relationships, which gives indicators of shape and depth of field in

Ecological Psychology," as shown in Figures 42 and 43 (Reed Quoting Gibson, 1982, p. 4).

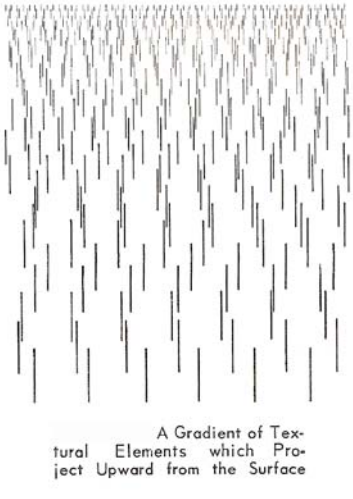


Figure 42. Change of gradient into space.

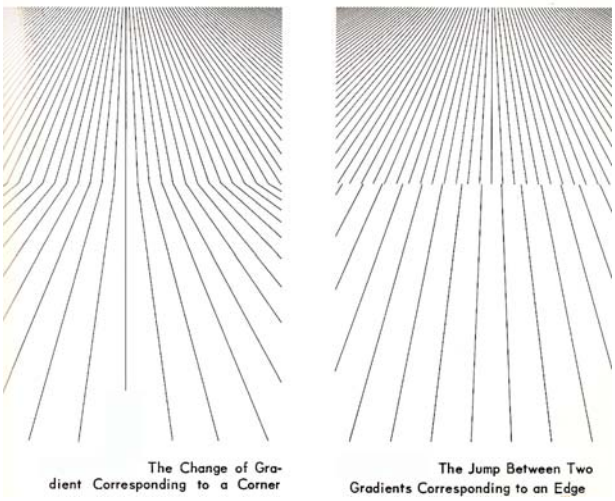


Figure 43. Texture gradient falling back into space.

"When texture is blurred or smaller it will appear farther away. When the texture is well defined the object appears closer" (Gibson, 1966). An example of this would be looking across a living room floor with shag carpet. The phenomena of the texture of the carpet will look different as it falls back into space, as shown by the diagram in Figure 42 and the flowers in Figure 44. If there was another type of floor surface, for example wood, next to the carpet, there would be two differing surfaces abutted; this would create perception of space and indication of depth, as shown in Figure 43. In an artistic installation the audience will perceive surface and texture, thus adding depth to the environment.

Figure 44. Field of textured flowers falling back into space.

As the perceiver moves about and changes angles, the shapes of the faces of solid geometry change. Scale or overall size of angles and solid geometry create an environment that will be perceived differently in accordance to the body size of the perceiver. With each shift of movement, the viewers will perceive a new optic array. Conceptually, one can think of a single stationary optical array, however; organisms are never completely still, and thus they perceive numerous optic arrays in a given moment.

Gibson went on to describe ecological psychology in terms of motion. Gibson came to the conclusion that people do not see still objects in their environments. Rather, people are continually observing their environments in motion, based on both the person's motion and the environment's motion. Perception of the environment does not actually consist of single arrays strung together, but instead, as an organism moves or there is motion in the environment, there will be a continuous flow of these arrays. This is known as the flow of the optic arrays or as a centrifugal flow. We automatically

assimilate centrifugal flow without conscious thought. Many artists are aware of this change in continual motion, from both the viewers and the artwork, changing the perception of the art.

Although describing two different fields respectfully, art and Ecological Psychology, Krauss and Gibson both discuss motion in similar terms. In *Passages in Modern Sculpture*, Krauss discussed motion in terms of the subtle continual movement of the viewers and in terms of the artwork having inherent visual or physical motion in it. In the development of his theories, Gibson came to the conclusion that people are designed to see their environments in motion. A film shows how one thing varies with another. According to Gibson, "It can show a continuous co-variation in time" (1986, p.170). Most installations have motion components. *Conic Sea and Peculiar Angels* installation uses movement of the built structures and film to create a time and motion-based environment. This attempts to entice viewers to explore.

Affordances

While documenting integrated perceptive systems, Gibson developed the ideas of affordances and constraints. Gibson defines affordances thus: "Affordances of anything are a specific combination of the properties of its substance and its surfaces taken with reference to an animal" (Gibson, 1966, p. 67). They can be "anything the environment offers an organism the ability to do" (Gibson, 1966, p. 69) and are "a combination of physical properties of the environment that an animal can use to exist or survive" (Gibson, 1966, p. 70). Based on the structure of human eyes, light would give humans the affordance to see, or see-ability. Constraints are things inherent in the environment

that limit or stop an organism's ability to utilize aspects of the environment. A lack of light would be a constraint for humans. It would limit the see-ability in the environment (Gibson, 1966, p. 71).

Gibson's work describes organisms using their perception to ascertain and use the affordances in their environment. An environment has affordances and constraints for all organisms at the same time, and it offers more affordances and constraints than a given organism can use. This means that the given organism will not be able to perceive all the aspects of the environment. "An object is valuable relative to a given action system" (Gibson, 1966, p. 70). Because all species are built differently, and thus have different needs, the value of an object is different to each species. A surface layout has a locomotor value relative to the kind of feet the animal possesses, as shown in Figures 45 and 46.

Figures 45. Surface layout has locomotor .

Figure 46. Value is relative to the animal.

"Surfaces afford posture, locomotion, collision, manipulation and general behavior" (Gibson, 1966, p. 80). A floor affords walking because it supports locomotion. Some

organisms have legs making a hard surface walk-able, while other species have fins making a liquid environment swim-able. The same environment may offer or afford different things to different species. Water affords fish a place to swim or swim-ability, while for mammals it also affords drinking or drink-ability. Organisms of varying sizes are offered different affordances in relation to the scale of their environments. A bench affords an adult a place to sit, yet simultaneously it affords a child a place to play. A hat could be worn on a human head, while a mouse could build an entire home into it.

Exploration is a type of behavior that helps organisms to learn about their environments. Different perceptual spheres will allow for different forms of exploration. With physical exploration, the participants can walk around and touch things as they interact. Moving about allows an organism to gain differing vantage points, giving different information about the environment. An organism's perceptual sphere discerns the abilities an environment has to offer. Organisms must then assess the value of the ability an environment affords them and respond accordingly. The process of getting from perception of the environment to understanding the environment is done by exploration. In other words, exploration is a behavior used to learn about one's environment. Eleanor Gibson, colleague and wife of J.J. Gibson, theorized that as organisms explore their environments they learn what affordances are available to utilize. This knowledge will then affect their future actions (Gibson, 1996). Exploration through perception is what the *Conic Sea and Peculiar Angels* installation attempted to enable.

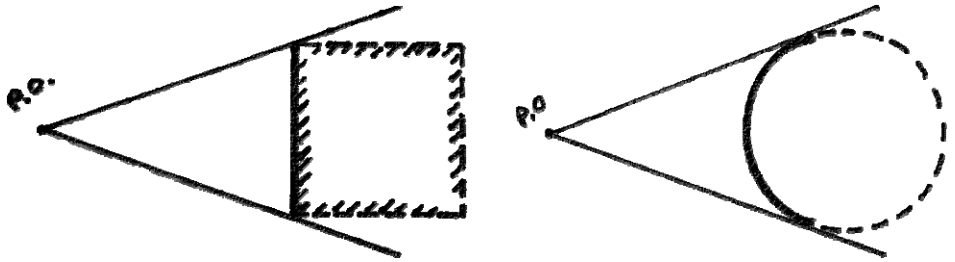


Figure 47. An organism's point of view of a single optic array when occlusion is a possibility. Illustration by Gibson

When looking at a structure with a visually impermeable edge, you can only see up until the margin of that physical structure. This phenomenon is known as occlusion and is shown in Figure 47. A good example of this is looking through a doorframe, as shown in Figure 48:

> The edge of the frame is the focal point or focal edge around which the angle of visual perception changes as you move… Any face or surface, of the layout, that is progressively hidden during a displacement is progressively unhidden during its reversal. (Gibson, 1986, p. 79)

Figure 48. Doorway.

When multiple objects descend back into a room and overlap one another visually, these structures create layers of occlusion, as shown in Figure 49. Thus, the environment is layered and three-dimensional.

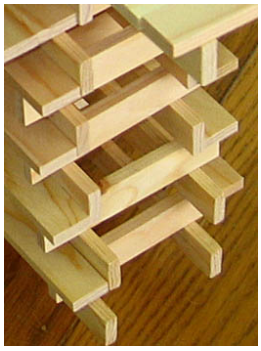


Figure 49. Structures create layers of occlusion. Multiple objects descend back into a room and overlap one another visually.

The perceiver gets a single perspective relative to the environment when in a fixed position or from a stationary perspective. As an organism moves its angle in relation to the structure changes, allowing the organism to see around corners revealing hidden surfaces. This creates a different field of vision. When it moves there is a flow of changing, yet overlapping and coherent perspectives. Even the slightest movement can alter the visual field, and thus afford occlusion. At this point, as a person looks around a corner or back through the occluded layers, different information becomes see-able or explore-able, as shown in Figure 50. Artists often use the properties of occlusion and dis-occlusion to entice the viewers to explore their work.

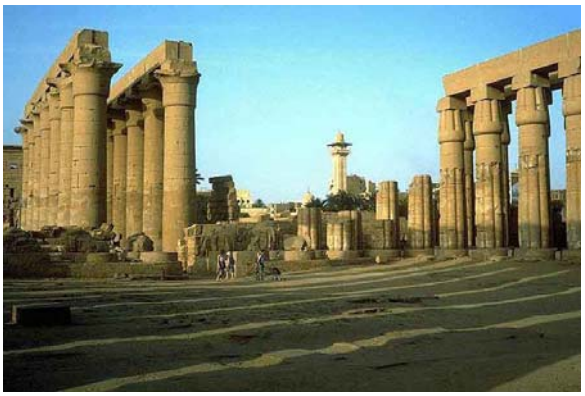


Figure 50. *Hypostyle Hall*, Karnak.

A second-hand affordance is something in an environment that appears to have affordances but does not, such as an optical illusion. A common second-hand affordance is a two-dimensional image that is perceived as a three-dimensional space. Three-dimensional spaces generally have the affordance of being enter-able. However, in second-hand affordances the image is flat, and despite appearance is not enter-able. This would be inherent in an artistic image like a photo, a painting, or a video. Gibson did not believe that these images created a full optic array (Gibson, 1986).

Ganzfelds are another form of second-hand affordances or optical illusions. They appear to be voids that extend eternally into space, when in reality they are physical spaces with physical boundaries. When describing Turrell's work, an article from PBS notes "Ganzfelds are visual phenomena where depth, surface, color, and brightness all register as a homogenous whole" (PBS.ORG, *James Turrell: Art in the Twenty First Century*, 2004). Historically, arctic explorers were the first to describe the Ganzfeld effect. After gazing into a field of snowy white, they reported experiencing a form of snow blindness or loss of normal perception due to lack of perceptual information, as

shown in Figure 51. Upon further research in the 1930s it was discovered that when people gazed into a featureless field of vision, such as a Ganzfeld, they quickly and consistently entered a profoundly altered state (Koenderink, & Richards 1992).

Figure 51. Ganzfeld phenomena.

Affordances are the properties in an environment an organism can utilize based on its physical and psychological make-up. Constraints are aspects of an environment that limit a creature's ability to utilize the environment. These attributes and constraints are intrinsic to an organism's survival. They must understand, intrinsically or consciously, these affordances and constraints as they progress through life in order to exist. To discover and understand these affordances, organisms must continually explore. Artists often utilize a participant's natural curiosity to explore.

CHAPTER VI

AFFORDANCES OF ARTISTS INFLUENCING *CONIC SEA AND PECULIAR ANGELS*

Artistic installations invite observation and interaction from the participants. All of the installations influential to this project have affordances and constraints built into them that trigger explorability. Different ways to explore an environment include listening, seeing and touching. Each of the works discussed below highlight different techniques used to entice exploration. They are examples of the affordances used in *Conic Sea and Peculiar Angels*.

All of these installations create environments that are encompassing. The participants physically enter inside the artistic arena, thus being surrounded by the work. In the influencing works, either the expectation is altered or the physical space is distorted. In this way, a state of heightened perception or active participation is maintained by continually challenging the viewer's perception of normalcy, thus triggering explorability.

John Cage

Cage is known for his use of sound to create process in his work. His sound scapes are unique in that he uses taped sound loops, continuous notes, or at times no sound at all. This keeps his audience intent on hearing the work, and creating the affordance of listen-ability.

Cage often keeps his audience engaged by creating events with unexpected outcomes. In his work *4.33*, he sets up a performance where there is an alteration to what

one would normally expect. As the audience seeks to perceive their surroundings, they become hyperaware of their environment. This need for understanding creates the desire to explore, or the affordance of explorability. Figure 52 shows Cage performing.

Figure 52. John Cage performing.

James Turrell

Turrell gives minimal information in the environments he builds. The built terrain is so minimal it is hard to identify, and thus alters perception. This triggers the experience of an optical illusion or a second-hand affordance. He uses the optics of light on surfaces falling into space and minimally built structures, along with occlusion and dis-occlusion to create affordances. As previously described in “Atlan,” as shown in Figure 53, he built windows or portals with walls to optically appear to have no

thickness around the edge of the portal (PBS.ORG, *James Turrell: Art in the Twenty First Century*, 2004).

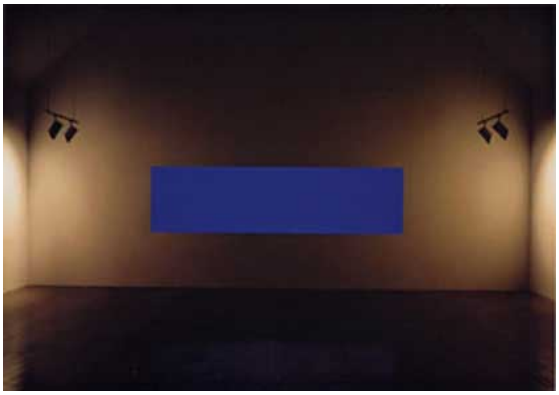


Figure 53. *Atlan* by Turrell at Art Tower Mito, Japan, 1995.

This alters the effect of occlusion and dis-occlusion creating, the illusion of a solid rectangle floating where the portal or hole actually is located. He then orients the participants into a position to enhance the illusion, strengthening the second-hand affordance.

In some of his works, Turrell has constructed room-sized Ganzfelds. The viewers walk into a space where the walls, floor, and ceiling are seemingly blurred or missing. The lighting is altered and the corners of the room are rounded. This removes the optical cues many organisms, including humans, utilize to discern spatial boundaries, thus creating an optical illusion of boundlessness, as shown in Figure 54. This Ganzfeld effect is a second-hand affordance of an endless void where there is actually a room.

Figure 54. Turrell, *Wide Out*, 1998.

At the Houston Art Museum, a hallway has been transformed with such an illusion. Walking through this installation creates an all-encompassing experience as one seeks to process and understand their environment. This heightened perception is a psychological and physiological phenomenon. “Turrells work also oddly draws attention to how we function and the perceptive process” (Henry Art Gallery, 2005).

Turrell’s work tends to function much the same for adults as it does for children. Whether a person is short or tall, similar affordances remain. The installations create a sense of wonder no matter the size of the participants.

Ann Hamilton

Hamilton used physical surfaces in her work to create encompassing environments. All of the surfaces in the environment are intriguing and touchable. Participants travel from one tactile surface to the next.

In the installation *Privation and Excess*, as shown in Figure 55, the participants were asked to remove their shoes and proceed to shuffle through pennies on the floor.

Figure 55. *Privation and Excess*, Capp Street, 1989.

The participants did not simply move around the room to see behind surfaces, rather they had to feel their way through. The floor laden with pennies afforded touch-ability and walk-ability.

This work captured the attention of multiple senses. A person compulsively washing their hands in a bowl of water and pennies marked the passage of time and effort. This added the physical aspect of sound, or hear-ability to the work. The light reflected off of their luminescent surfaces, enhancing the affordance of see-ability. Finally, the sheep's noises and their pungent odor housed in the installation further captured one's attention with smell-ability.

This piece was a poetic discussion about commerce. Making the viewers feel dwarfed projected part of the work's meaning. Thus, whether a large adult or a small child experienced this work, the perceptual size was similar. The dense combination of these physical aspects taken out of their ordinary context, along with the absence of any significant constraint, afforded unencumbered exploration.

Bill Viola

Viola creates his work with an awareness of grandeur of scale and spatial relationships. He uses second-hand affordances of projected images onto irregularly shaped screens strategically placed. This combination takes the participants on an experiential journey.

The irregularly shaped screens are mounted at differing angles and placed at varying intervals and heights. They do not depict screens that we are accustomed to, but instead cause the viewers to contemplate them. Not only are the screens distorted, but the images projected onto them are distorted as well. To see all the available information the space has to offer, on the differing screens at different angles, the participants must change vantage points in the space, as in *The Veiling* in Figure 56. As mentioned earlier, "different layouts afford different kinds of behavior and different sorts of encounters" (Gibson, 1986, p. 68). Viola uses occlusion and dis-occlusion with spatial relationships and differing angles as a way to guide the participant through his installations creating explorability.

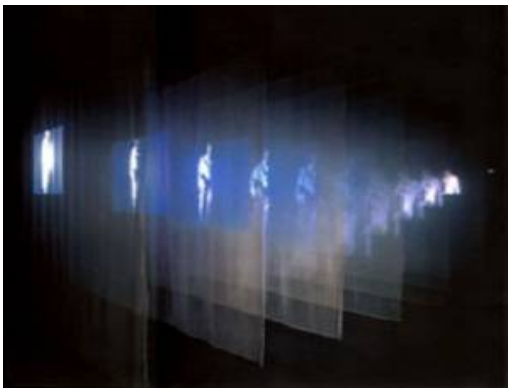


Figure 56. *The Veiling* by Viola.

Viola's work also uses second-hand affordances. An image of a man walking forward is projected onto a screen. He stops directly facing the viewers and proceeds to burst into flames, as shown in *The Crossing* in Figure 57. Although this is only a two-dimensional image, the man appears to be walking towards the viewers giving the optical illusion of depth. The video imagery appears to be three-dimensional when the video is actually flat, giving the work a second-hand affordance.

Figure 57. Shows the front and back screens of *The Crossing.* By Viola, 1995, at The Art Institute of Chicago.

Due to the imagery, scale, and placement of screens in *The Crossing*, we relate to the piece as larger-than-life. Imagery of a person approaches and stands in a posture much the same as the participant, creating the effect of the viewers looking at their own image in a mirror. The large screen is mounted several feet above ground level so the viewers must look up, making both adults and children feel small. Although one can

psychologically identify with the image in *The Crossing*, the larger-than-life scale actually becomes a constraint to physical interface.

CHAPTER VII

CONIC SEA AND PECULIAR ANGELS DESCRIBED IN TERMS OF ECOLOGICAL PSYCHOLOGY

This work has described key artistic concepts, studied basic theory of Ecological Psychology, and has related them to influential artists. This work will now proceed to describe the affordances and constraints noted in *Conic Sea and Peculiar Angels*. These consist of differing levels of light affording see-ability and gauze surfaces affording touch-ability. There are surfaces that form angles and geometric structures, along with layers creating occlusion and dis-occlusion. The geometric structures also create spatial relationships between the components, which strive to entice explorability. This installation has two types of second-hand affordances created by video footage in the environment. The scale in this installation is important. Different scale orientations offer different affordances and constraints for different body sizes. As the participants enter into the installation, they perceive the combination of these characteristics.

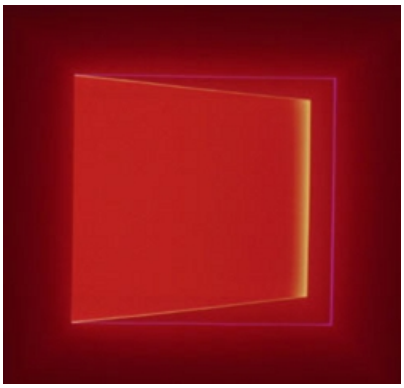
As with Viola, this installation relies heavily on lighting. The overall light level in *Conic Sea and Peculiar Angels* is low. The projected digital imagery is a brighter form of light focused on the screens, creating a spotlight effect and the affordance of see-ability.

Hamilton uses the sense of touch to help facilitate an encompassing environment. Even though *Conic Sea and Peculiar Angels* was not designed with the intention to appeal to touch, the gauze screens afford touch-ability. The affordance of touch-ability is augmented, as the environment is perceived in terms of surface and translucency.

The layout of the physical structure guides the participants through the work. The gauze screens are constructed of geometric structures and strategically placed in the space to create angles, layers, and spatial relationships to view and walk around or through, as shown in Figure 58. This creates occlusion and dis-occlusion, which causes a constraint from seeing the complete work at once. If the participants want to see the entire installation they have to move to different vantage points. This phenomenon in

Figure 58. Gauze screens in *Conic Sea and Peculiar Angels.*By Trina Cooper.

Conic Sea and Peculiar Angels functions similarly to Turrell's work, which uses portals and walls to create occlusion and dis-occlusion. This is shown in Figures 59.



Figures 59. Turrell's work *Milk Run* using portals.

There are two forms of second-hand affordances present in this installation. The two-dimensional video footage used in the installation gives a three-dimensional effect, thus creating a second-hand affordance, as shown in Figure 60. An additional second-hand

Figure 60. Video to create second-hand affordance.
The *Conic Sea and Peculiar Angels* by Cooper.

affordance is created from the images falling onto irregularly shaped screens causing the imagery to become contorted as it curves around the screens, as shown in Figure 61. Scale is a pertinent factor in this installation. The proportions of the spatial relationships between the different components create differing affordances and constraints in terms of body size. Although the installation is encompassing to both children and adults, they will perceive the environment differently. This will offer each group different affordances and constraints.

The encompassing environments of the influential artistic works were able to show explorability by the viewers responding to the affordance and constraints as they investigated their surroundings. By observing viewers as they entered into the *Conic Sea*

Figure 61. Images on irregularly shaped screens create second-hand affordances. *Conic Sea and Peculiar Angels by Cooper*

and Peculiar Angels installation, one can assess their reaction to the affordances and constraints described above. The desired effect is to entice the participants to explore the artistic installation as they enter into the environment.

CHAPTER VIII

METHODOLOGY

The installation *Conic Sea and Peculiar Angels* was mounted twice in the Langford Gallery at Texas A&M and once at the Austin Museum of Digital Arts. The Austin Museum of Digital Arts is a virtual museum housed on a website chronicling the shows it has mounted at multiple locations. Each time this installation was mounted, it was observed to obtain general patterns of response to specific aspects of the installation. Approximately 550 participants were observed. Of these participants, approximately 95% were adults, and the remainders were school-aged children. Once participants entered the room, over two thirds approached the installation and watched or interacted with it. At least half of those people stayed for longer then 15 minutes.

The house structure and the sea of conic kite-like structures seemed to draw equal attention from participants. While some participants only visited one or the other of the structures, over 80% visited both. When viewing the house structure, participants generally walked around the perimeter, pausing at the four different panels. While the vast majority of participants paused near the entrance and seemed to consider entering, only about one third actually went inside. The walls of the house were made of tightly stretched gauze. This created a surface against which participants saw their own shadows. Some interacted with their shadows by dancing with them.

Generally, people were interested in watching the unfamiliar image of a human-scaled virtual quark sculpture inside the house structure, as shown in Figure 62.

Figure 62. Shows a virtual quark particle. *Conic Sea and Peculiar Angels* by Cooper.

Sometimes, however, they would poke at the suspended structure to set it into motion or to feel the surface of the structure.

Participants approaching the sea of conic kite-like structures generally traversed the edge, stopping approximately every five feet to view the effect from different vantage points. Often, they would enter the sea of conic kite-like structures about half-way around, and weave through them. Most participants made subtle movements indicating a desire to touch the structure, however less than one quarter of participants actually did so.

The scale of the installation was different for children and adults. The scale of the installation was built to accommodate the size of an average adult. The scale for children was large. Most of the visual emphasis of the installation was above their eye level. Children were more aggressive in their explorations. They traversed more of the physical space in exploration and reached out and up to touch the surfaces of the units.

CHAPTER IX

CONCLUSION

An analysis of whether the art installation *Conic Sea and Peculiar Angels* afforded explorability requires an understanding of the history of art installations and the theoretical framework of Ecological Psychology. The first part of this work touched on the evolution of contemporary art theory, with an emphasis on the works of influential artists. The latter part of the work discussed Ecological Psychology, focusing on the role of perception of affordances and how they enable a range of activities available in an environment to the inhabitant. Using this understanding, the work then highlighted the affordances of influential artists. The principal affordances in *Conic Sea and Peculiar Angels* to promote explorability include see-ability, touch-ability, occlusion and dis-occlusion, second-hand affordances and scale in relation to the body size.

The first indicator of explorability was whether or not the participants stayed in the installation. If people were not interested in exploring the environment they would leave shortly after arriving. Of those interested, participants walked to a vantage point where they would stop and stare to assess the entire environment. They then proceeded closer to the gauze structures.

If the participants did remain the properties of light and surface offered the affordance of see-ability. The translucent qualities of the gauze structures allowed the ability to see only some information, creating a constraint of only partial see-ability. This altered depth perception. The constraint of dimmed light made the audience stop and get their bearings. Bright light on the two main components in the room gave the affordance

of easy see-ability to the installations main subjects. This was noted as the participant's heads moved to view the different structures.

An unanticipated form of exploration noted in the environment was a desire for the participants to feel the structures. The structures were not necessarily designed to be touched or set into motion. However, as participants further identified what they saw, hand gestures were noted reaching toward the structures, or actually touching the surfaces. As they moved around the installation the surfaces allowed the affordance of touch-ability.

Awareness of the physical spatial layout of the components in the installation created occlusion and dis-occlusion. Occlusion and dis-occlusion allowed for the affordance of see-ability and the constraint from see-ability around edges. This guided participants through the work. Upon assimilating the information presented, most people approached either the sea of conic kite-like structures or the house formation.

The irregular screens of the conic kite-like structures were orientated to overlap, creating multiple layers of occlusion, as shown in Figure 63. This was observed when participants walked through the sea of conic kite-like structures weaving in, out, and around them. The affordance of see-ability and the constraint from see-ability was created by the use of occlusion and dis-occlusion. This instigated explorability as noted by the participants moving to different vantage points to seek a complete appreciation of the installation.

Figure 63. Overlapping kite-like structures create multiple layers of occlusion. *Conic Sea and Peculiar Angels* by Cooper.

The surfaces of the house walls created a constraint that forced people to circle its perimeter to see the complete structure. As viewers progressed, they stopped at each surface and watched it. In the initial installations, the house structure had no door. Nonetheless, in an effort to continue their investigation the participants forced their way inside. They would lift up the corner of the gauze panel and crawl under the edge. The affordance to enter the space was not present, although notably the affordance of explorability was present. In the later showings, a door was built into the house structure to allow for the affordance of easy access-ability.

It was observed that second-hand affordances in this installation created explorability. The video of the woman trying to fly with a ladder was formed by two-dimensional video imagery. It gave the optical illusion of three-dimensions, thus creating a second-hand affordance, as shown in Figure 64. It was apparent from observing the viewers that the scenes took some adjusting to identify.

Figure 64. Two-dimensional video imagery gives a three-dimensions effect. This is an optical illusion or second-hand affordance. *Conic Sea and Peculiar Angels* by Cooper.

There was also the second-hand affordance of the contorted images created by the irregular screens. Participants often explored the work by passing their hands or other appendages through the projected light directed at the screens. They tried to identify what the light stream was and where the imagery was coming from. This caused the shadows to be altered as they were cast through the layers of gauze. The gauze would break out the light spectrum as it curved around the corners of the irregular screens and across the layers, as shown in Figure 65.

Figure 65. Irregular screens created contoured images. *Conic Sea and Peculiar Angels* by Cooper, 2005.

The installation afforded different levels and forms of explorability in adults and children. In the case of exploring the house structure the children tended to explore both the exterior and interior of the space by traversing its parameters, whereas the adults tended to only traverse the exterior. With the sea of conic kite-like structures the adults tended toward staying on the outside of the groupings, whereas the children wove back and forth through the structures with their arms out touching them. In terms of scale of the installation, the space was quite large in scale for the children. For them to view the conic kite-like structures they had to look up which created a constraint for them. With adult the conic kite-like structures were at eye level creating the affordance of visible access-ability.

The compilation of all of these affordances together in *Conic Sea and Peculiar Angels* created an environment that was encompassing and out of the norm. The work

changed continually by the motion of the piece and by the motion of the viewers as they altered their vantage point. Being immersed in this environment created heightened perception that captured the participants' attention and took them on an experiential journey affording explorability.

CHAPTER X

FUTURE WORK

There were several disciplines observed in this thesis creating multiple areas of focus for future work. By elaborating on the artistic aspects of *Conic Sea and Peculiar Angels,* new affordances designed to trigger different patterns of exploration could be added. Alterations could include adding a sound dimension and using new technology for the screens. Another direction to expound on would be to use psychophysiology to design more precise data collection. This would allow for observation of more subtle reactions to the work and could be used to promote interaction. Finally, one could further illuminate on some of the parallels that were noted between Gibson's Ecological Psychology and Krauss's organization of contemporary art.

From the artistic perspective, new affordances could be added to *Conic Sea and Peculiar Angels* to trigger different patterns of exploration. One could incorporate hear-ability by adding intriguing abstract noises to compliment the physical structures and video vignettes. Soundscapes of interest for this work could include rain, frogs chirping at night, wind in the trees, or a river flowing. An alternative sound could be the pure tone of a tuning fork or bells with a sustaining note. The tone would start with the intensity of the first strike and linger until it faded into silence. In an environment that was previously devoid of intentional noise, augmenting the installation with a captivating affordance of hear-ability would enhance the explorability.

The introduction of new highly technical materials could evoke different patterns of exploration and interaction. Polymer Vision screens, or E-paper, are thin flexible

computer monitors that can be bent and shaped allowing for ease in creating irregular sculpted screens. Another screen option would be translucent glass blocks with the ability to carry video images inside of them. The video imagery would come from within these screens, allowing for much higher resolution and image saturation that would flow throughout the architectural structure. This higher resolution and higher chroma imagery would effectively create a sculpted “TV Land.” This would be much different than the present muted colored images that were projected onto the more subtle semi-transparent gauze screens. The bold video imagery would command more focus as the participants investigated these new modalities. The very nature of these new materials would allow for more flexibility to alter the video images enhancing the optical illusions or second-hand affordances.

This work showed exploration by the participants by observing their actions as they progressed through the installation. Monitoring a person’s physiological response to the environment would allow for a much more precise data collection system. Galvanic skin response and heart rate are predictable body reactions to surrounding stimuli. By using these responses to the work, subtle interactions can be displayed. The artist could use Max MSP interactive software to translate these physiological responses. Based on the data collected, differing interactive options could be programmed. It would be possible to have the psychophysiological data trigger different video vignettes based on the participants’ reactions to the surrounding stimuli. Thus, by collecting heart rate and galvanic skin response, and translating it through Max MSP software, each participant could alter the environment as he or she progressed through it. This would create a

unique exhibit for each individual entering into the installation. This information could be used in exploring and creating virtual realities and video games.

In the philosophical orientation of phenomenology, the mind and the body work together intrinsically. In phenomenology, humans act and re-act rather than analyzing each intrinsic action. By using the participants' physiological reactions as data input for the computer-interface program, the participant's responses to the work would drive the environment as they were experiencing it. This would be a direct embodied interface that would allow for visual monitoring of participants' state of being, or their phenomena of being. It could be argued that real time data collection, which reflects one's state of being on a moment-to-moment basis, exemplifies his or her being in a pure from.

During this work, similarities between Gibson's Ecological Psychology and Krauss's organization of contemporary art were noted. Gibson started by looking at physical attributes. As his work progressed, it became oriented to time and motion. Finally, his research evolved into the study of events. This is similar to how Krauss described the organization of contemporary art. Future work could entail this artist further delineating the parallels of Gibson's Ecological Psychology and Krauss's organization of contemporary art in her book *Passages in Modern Sculpture*.

REFERENCES

Birnbaum, D., Noever, P., & Turrell, J. (2001). *James Turrell: The other horizon.* New York: Cantz.

Bois, Y-A., Buchloh, B., Foster, H., & Krauss, R. (2004). *Art since 1900: Modernism, postmodernism, anti-modernism*. New York: Thames & Hudson.

Bone, R., Ocvick, O., Stinson, R., & Wigg, P. (1965). *Art fundamentals, theory and practice.* Bowling Green, OH: Wm. C. Brown Publishers.

Giannini, C. (2001). *Installations, mattress factory*. Pittsburgh: University of Pittsburgh Press.

Gibson, J. (1966). *The senses considered as perceptual systems*. Boston: Houghton Mifflin Company.

Gibson, J. (1986). *The ecological approach to visual perception.* Hillsdale, NJ: Lawrence Erlbaum Assoc., Publishers.

Gibson, J., Reed, E., & Jones, R. (1982). *Reasons for realism: Selected essays of James J. Gibson*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Henry Art Gallery. (2005). *James Turrell*. Retrieved February 18th, 2006, from http://www.henryart.org/skyspace.htm.

Junkerman, C., & Perloff, M (Eds.). (1994). *John Cage composed in America*. Chicago, IL: Chicago Press.

Kaprow, A. (1993). *Essays on the burring of art and life.* (Kelly, Jeff, Ed.) Berkeley, CA: University of California Press.

Koenderink, R., & Richards, W. A. (1992). Why is snow so bright? *Journal of the Optical Society of America A., 9(5),* 643.

Krauss, R. (1977). *Passages in modern sculpture*. Cambridge: MIT Press.

20th Century Art (1974). *Laurie Anderson: Duets on Ice*. Retrieved July 2007, from http://www.humboldt.edu/rwj1/104i/anderson3.html.

PBS.Org. (2004). *James Turrell: Art in the twenty first century*. Retrieved March 5, 2006, from http://www.pbs.org/art21/artists/turrell/index.html.

PBS.Org. (2003). *Jasper John: American masters series.* Retrieved August 10 2006, from http://www.pbs.org/wnet/americanmasters/database/johns_j.html.

PBS.Org. (2003). *John Cage: American masters series*. Retrieved July 25, 2005, from http://www.pbs.org/wnet/americanmasters/database/cage_j.html.

Rubin, W. S. (1968). *Dada and surrealist art.* New York: Harry N. Abrams, Inc., Publishers.

Russell, B. (1925). *The ABC of relativity*. New York: Harper & Brothers.

Selz, P (Ed.) & Stiles, K (Eds.). (1996). *Theories and documents of: A sourcebook of artists' writings*. London, England: University of California Press.

Shaw, R., & Bransford, J. (Eds.). (1977). *Perceiving, acting, and knowing: Toward an ecological psychology*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Simons, J. (2002). *Ann Hamilton*. New York: Harry Abrams.

Townsend, C. (Ed.). (2004). *The art of Bill Viola*. New York: Thames and Hudson.

VITA

Name:	Trina Cooper
Address:	241 SE 55th Ave Portland OR, 97215
Email Address:	trina_cooper@hotmail.com
Education:	B.F.A., Kansas City Art Institute, 1987 M.F.A., University of California at Berkeley, 1992