ART AND TECHNOLOGY UNITE:
THE QUIEPALPATORIUM, AN INTERACTIVE KINETIC INSTALLATION

A Thesis
Presented in Partial Fulfillment of the Requirements for
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1999

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ABSTRACT

In this report, I escort the reader on an experiential walk through my virtual reality installation, describe my creative process, relate historical and personal influences that provoked this work, and discuss the technical aspects involved in the fabrication of this multidisciplinary installation. I also brainstorm my plans for the future evolution of this project.

I have left "art as object" behind as I transform a space into a dynamic field of actions, interactions, and reactions to create a multisensory phenomenological environment. Participants enter a reality that is temporal, spatial, and immediate. Viewers' senses and imaginations are stimulated. This work hovers somewhere on the edge of panic, serenity, seduction, and vertigo. All participants actively discover and complete the work through their first hand experiences.
To my heroes
Reabelle Emdin
and
Matt Suer
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Dedication</td>
<td>iii</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>iv</td>
</tr>
<tr>
<td>Vita</td>
<td>v</td>
</tr>
<tr>
<td>List of Figures</td>
<td>vi</td>
</tr>
<tr>
<td>Introduction: Art and Technology Unite: An Interactive Kinetic Installation</td>
<td>1</td>
</tr>
<tr>
<td>Chapter 1: The Quiepalpatorium</td>
<td>3</td>
</tr>
<tr>
<td>Chapter 2: Historic and Contemporary References: 20th Century Kinetic and Installation Artists</td>
<td>12</td>
</tr>
<tr>
<td>Chapter 3: Influences</td>
<td>16</td>
</tr>
<tr>
<td>Influences of My Recent Past</td>
<td>17</td>
</tr>
<tr>
<td>Life / Art - A Serendipitous Quest</td>
<td>20</td>
</tr>
<tr>
<td>My Past Influences the Present</td>
<td>24</td>
</tr>
<tr>
<td>Influences of the Natural World</td>
<td>26</td>
</tr>
<tr>
<td>Chapter 4: From Virtual to Reality</td>
<td>30</td>
</tr>
<tr>
<td>Chapter 5: Riding the Night Winds... Feeling My Way Along the Path</td>
<td>35</td>
</tr>
<tr>
<td>Conclusion</td>
<td>37</td>
</tr>
<tr>
<td>Endnotes</td>
<td>38</td>
</tr>
<tr>
<td>Selected Bibliography</td>
<td>40</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>The Quielpalpatorium - View from the entrance</td>
</tr>
<tr>
<td>Figure 2</td>
<td>The Quielpalpatorium - View from the path</td>
</tr>
<tr>
<td>Figure 3</td>
<td>The Quielpalpatorium - View looking down an arc</td>
</tr>
<tr>
<td>Figure 4</td>
<td>The Quielpalpatorium - View from the vortex</td>
</tr>
<tr>
<td>Figure 5</td>
<td>The Quielpalpatorium - View from the vortex</td>
</tr>
<tr>
<td>Figure 6</td>
<td>The Quielpalpatorium - Close up view</td>
</tr>
<tr>
<td>Figure 7</td>
<td>The Quielpalpatorium - View from the vortex</td>
</tr>
<tr>
<td>Figure 8</td>
<td>The Quielpalpatorium - Overview of the installation</td>
</tr>
<tr>
<td>Figure 9</td>
<td>The Quielpalpatorium - Cyberwear costume prototype</td>
</tr>
</tbody>
</table>
INTRODUCTION

ART AND TECHNOLOGY UNITE: AN INTERACTIVE KINETIC INSTALLATION

“In the beginning was the Pulse”  
William Blake

I have created an installation that exists within the realm of fantasy, where pulsating rhythmic energy is expressed through light and sound. It is a phenomenological environment where viewers enter an imaginative dimension of time and space. Viewers become participants as they feel transported into an unknown world. In this exotic environment, visceral feelings, intangible emotions, and elusive images are evoked. The senses are stimulated and there is an urgent need to be wide awake. In this altered state of consciousness, whether participants feel as if in a hypnotic, meditative, or dreamlike hallucination, they are immersed in the drama, mystery, and vitality of the present. Normal thinking is suspended... perhaps, threatened. Participants enter a reality that is temporal, spatial, and immediate. This work hovers somewhere on the edge of panic, serenity, seduction, and vertigo. In transforming a space into a dynamic field of actions, interactions, and reactions, my goal, inspired by Robert Irwin, is to reinvoke the pure wonder of perceiving and experiencing. As Irwin explained it, “you just have to experience it,” “here,” now. 2. Participation and engagement are essential since everyone perceives and responds differently. As Irwin states, “...the work is all about the sort of attention that precedes verbalization, about...
what it is to experience -- before being overwhelmed by words.” 3. Unlike other interactive experiences of today, I do not lead, pace, control the outcome, or effect participants’ actions in any way. I merely provide paths through an environment. Viewers are completely free to find their own interactive experiences. I purposely have kept the title of the exhibition ambiguous because I believe that in its finished state, participants actively discover and complete the work through their own experiences. My personal artistic explorations may serve to focus viewers’ minds, emotions, and perceptions.

Irwin feels that photographic images and words used to describe a work of this type are contrary to its purpose since they deny the very essence of the work -- presence and experience. Nonetheless, in the following descriptions and images I will attempt to further describe my own virtual reality: The Quielpalpatorium.
CHAPTER 1
THE QUIEPAALPATORIUM

"Inseparable from the fire
its light
takes precedence over it." 4
William Carlos Williams

The outer room is dimly lit. The amount of light further diminishes as I climb up a few steps to the entrance of The Quielpalpatorium. At the top of the steps, standing in the doorway, it is so dark that I cannot move. I cannot see, hear, or feel anything. I'm on the edge of panic. It is so dark I think I can eat the darkness. Lizard-like, I open my mouth and stick out my tongue for a taste. Nothing. I hesitate and wait for my eyes to adjust. While standing and staring into the blackness I notice a very faint sound to my left. Turning in that direction, I see something low, just in front and to the left. It's an illusive image, unfamiliar and undefinable -- it appears to be floating, whirling fast, circular, but flat, emitting white light and a quiet sound like the wind. What is it? Fire? Instinctively, I edge in that direction, unsure of my footing, I slide my feet along the floor to feel my way. I move with caution, the darkness slows me down. Looking out now, vaguely, I see brighter, moving circles of light in the distance, moving toward infinity. Are these whirlwinds blowing sand? Slowly moving in their direction, I raise my arms to feel my way along what seems to be a path. My fingers touch
something soothing, tight and buoyant, slick and soft. It's dark and diaphanous. It's a soft wall of some sort. I realize that I've been looking through it. It gives when I touch it, offering little support, but in some way, it guides me.

As if in a tunnel, I sense enclosed darkness overhead. My eyes have adjusted somewhat and having found a path, I feel a little more sure of my footing, but nevertheless proceed slowly. In the distance I hear a faint pulsation... a ringing sound. To the right, a little further ahead, I see more moving circles of light hovering above the ground. They sweep back into space, making a graceful curved arc. As I walk further, I can see more clearly. The arcs of light alternate; on my left, then on my right. The light circles appear to generate subrhythms of light, like ripples in water. Are these "lily pads" reflecting in water? Adjacent arcs whirl in opposite directions. The number of arcs seem to multiply as I proceed further along the path.

As the quantity and density of spinning lights increase, so does their visceral effect upon me. I feel a rhythmic pulsation -- their energy. Beyond the walled path, space is ambiguous -- infinite. My perception of three dimensional space has shifted. Am I in deep space surrounded by stars and planets? The swirling lights seem to float in space below me. Transported into another dimension, this hallucination (or illusion) alters my normal thinking. As if in a mystical dream, but wide awake, this serene velocity evokes intangible emotions. My senses are stimulated and keen. In this altered state of consciousness, I focus on the present.

Up ahead I see two moving lines of red flashing lights. One second they are parallel, the next swirling, the next, bent into opposing arrows, then they form one horizontal line. I move forward to investigate this enigma.
I arrive at the end of the long path and move into a space that feels more open. There is a sense of vastness above and beyond me. The soft walls are now barely tangible, nearly transparent. I am surrounded by the swift circles of soft energy. Looking in all directions, I realize that I am at the vortex. There is a frenzy of activity, yet I no longer feel panic. I sense being in a sacred place, maybe, at an Aboriginal waterhole in dreamtime, bringing the ancestors closer. The circles move in cycles; sometimes synchronized, at times nearly colliding, and some seem to pass right through one another. They are very dense and moving very fast. Little red flashes and streaks, like insects drawn to light, chase around the dark center of each light swirl. The light circles seem to be generating a soft whirling sound and a louder rhythmic ringing, creating minimalist music. I am enveloped in light and sound. The gently sweeping arcs of light-circles radiate out in all directions around me. As I turn in a circle, they move outward toward the horizon of this immense world, becoming slower and further apart as they move off into the distance. Void of my mental and emotional baggage, I find myself surprisingly calm and remain still to see and hear the subtle details. As if in a garden at night, I observe and enjoy these brilliant white flowers, the sounds of insects, the wind, and spirits.

I move down another path. The swirling lights and their music lessen while the walls become almost opaque. The path becomes darker. A dim light at the end of this hall appears to be an exit. As I slowly exit this world, a sense of mystery and wonder still absorbs me.
Figure 1. *The Quiepalpatorium* - View looking down the path from the entrance.
Figure 2. *The Quipealpatorium* - View looking toward the vortex from halfway down the path.
Figure 3. *The Quiepalpatorium* - View looking down an arc.
Figure 4. The Quenepatatorium - View from the vortex.
Figure 5. *The Quiepalpatorium* - View from the vortex.
Figure 6. The Quielpatorium - Close up, view from the vortex.
CHAPTER 2
HISTORIC AND CONTEMPORARY REFERENCES:
20TH CENTURY KINETIC AND INSTALLATION ARTISTS

"I am wide
awake. The mind
is listening." ⁵
William Carlos Williams

THE PIONEERS - The art movements at the early part of the century: Cubism, Dadaism, Surrealism, Constructivism, Futurism, and the Bauhaus, actually the entire scope of modern art. are the roots of today's kinetic, installation, and computer-mediated art. More specifically, the notion of actual space, time, motion, and light as artists' tools and the intermingling of everyday life and art were directly responsible for this evolution. Moholy-Nagy and Duchamp were pivotal in this progression.

The Dadaists suspended all preconceptions and played with the adventure of the moment. They accepted the moment as an opportunity to capitalize on chance. This moved them toward the edge of new experience. Moholy-Nagy, a Dadaist, sought to extend perception. He transformed space into dynamic fields of interactions and endeavored to rearrange spatial relationships -- to push and pull space to create a strangeness in the familiar or a sense of vertigo. Moholy-Nagy declared light a medium of plastic and universal expression. He used it to dematerialize everyday objects to create abstract effects. His light space
modulators, “space articulations”, designed long before they were actually built, were some of the first kinetic sculptures/installations. His motorized machines, made of rotating glass and metal perforated disks, cast light and shadows on surrounding walls to create photograms in motion. His use, along with many other artists, of nontraditional materials and the print media of the day, have become part the foundation of contemporary kinetic and installation art.

Duchamp’s influence is also evident today in installation and kinetic art. Time, speed and motion first became elements of concern to Duchamp in his paintings as he articulated multiple still frames on a single plane to express movement. He sought to expose the relativity and deceptiveness of perception with his motorized glass disks, “rotoreliefs”, which spun to create dynamic spacial effects and optical illusions. He also used contemporary media and everyday found objects in his work. His assemblages, “ready-mades”, beginning with The Bicycle Wheel, (mounted to a stool) challenged the very concept of the aesthetic object and caused quite an uproar when displayed in a gallery. He, too, was one of the first kinetic/installations artists and paved the way for the modern and avant garde movements that soon followed.

THE MODERN AND AVANT GARDE ARTISTS - Many artists, including Moholy-Nagy and Duchamp, continued to move the art world forward toward kinetic and installation art. Calder and Tinguely expanded time, motion and space way beyond the previous approaches. They created their own art forms.

Inspired by the geometric abstractions of Mondrian and the biomorphic surrealism of Miro, and mixed with his own sense of playfulness and mechanical engineering background, Calder choreographed and composed motion. As his mobiles grew from small, free standing and tabletop size experiments to monumental outdoor sculptures and freely moving, ceiling-hung sculptures, they
became intrinsic performers in their own space. Originally rejecting the use of motors, and relying instead on balance and counterbalance, Calder became a pioneer of art in motion.

Tinguely was greatly influenced by Calder, as well as the Dadaists, Mondrian, Miro, and Klee. In an attempt to move beyond the dominant power of Mondrian and to find something new, he combined his sense of play and irony with physical/temporal elements. When his motorized “automated abstractions” or “Meta-Malevichs” (meta-mechanicals) moved off walls and pedestals and became larger, they took on lives and languages of their own. They performed, and they danced through space. They lived in the moment and confronted the viewer with lively, playful experiences for the senses. He declared, “Art is communication. The only conceivable stability in life is development -- is movement.”

More artists began taking their work off the walls or actually making their art right on the walls. Art shifted from object to process. Art occurred when a viewer responded to stimulus. In the 60's these “environments” were “site-specific” and the space itself created its own dialogue with the viewer. Space and time were recognized as art materials. Life and art had completely merged. Happenings combined art, music, theater, and life. Artists such as Cage, Paik, Warhol, Segal, Oldenberg, Grooms, Stella, Agam, Oppenheim, Turrell, Irwin, and many others became the new pioneers of modern art.

CONTEMPORARY, POST MODERN ARTISTS - The word “installation” in reference to art was coined a decade ago. Today, installation art (including kinetic, video, and digital media) is accepted as the convention. The message conveyed and the participant’s experience have become primary concerns. Installation art, a vast hybrid, “art-of-the-moment” changes too quickly to be
categorized. Art today functions personally and experientially with no concern for limits or aesthetics, but with great concern for making statements and presenting moral positions. Installation artists, Boltanski, Holtzer, Hamilton, Beuys, and Dove, to name just a few, are the newest pioneers. In diverse media, they express their concerns about today's complicated world. Working today, they are my contemporaries. Yet, I feel part of a continuum of artists and recognize that I would not be creating my work if those before me had not paved the way by influencing our collective consciousness. Technological advances also play a significant role in our present creative process and end products. I can't help but wonder, what the early 20th Century pioneers of art would be creating if they had our present technology.
CHAPTER 3
INFLUENCES

"... one's own dreams are the
little myths of the private gods, antigods,
and guardian powers that
are moving and shaping oneself;
revelations of the actual fears, desires,
aims, and values by which
one's life is subliminally ordered." 7

Joseph Campbell

My life and art are inexorably intertwined and so, too, are the many influences upon both. Many influences that have played a role in the development of The Quielpalpatorium are subconscious. They range from our cultural aesthetic (art history and contemporary art), our post modern life in the information age, and digital technologies, to science fiction, nature, personal experiences, and expressions of my inner self. I can now define and describe some of these subconscious influences. There are also many direct influences that I can consciously recognize.
INFLUENCES IN MY RECENT PAST

"...I would rather be a cyborg than a goddess" 8.

Donna Haraway

In the past year there have been many influences that have consciously contributed to the creation of my current work. The people and topics that have influenced me all have one thing in common - the creation of alternative environments based on cognition and perception. I have had the opportunity to see and experience the work of installations artists Robert Irwin, David Graham, and Gregory Barsamian; the theatrical direction, set designs and costume designs of Julie Taymor; and the installations and photographs of Sandy Skoglund. These influences have combined with my ongoing passion for technology in the arts, cyberspace, and the information age.

Like Robert Irwin, I am committed to creating an illusive reality -- an immediate, phenomenological experience, perceived through the senses - tenants of the mind and body, where every individual responds differently. I was influenced by his Excursus: Homage to the Square, 1998. I experienced an intriguing and nearly spiritual illusion as he redefined space through light and volume. My goals are similar, the feelings I try to evoke are similar, some of the basic media (light and fabric) are related, however, our work is very different. Irwin’s work is generated by site specific forms and light and then altered or augmented. My installation is also site specific, but I rely on the absence of all light and form and generate both, in total darkness. Irwin’s environments are still, quiet, minimalist, and meditative. My installation is also meditative, yet active, kinetic, and interactive.
David Graham’s Rooftop Urban Park Project inspired me as well. His two-way mirror glass structure is transparent, translucent, reflective, and opaque. I was intrigued by its spatial ambiguity, my simultaneous panoramic view of the city while experiencing an inside/outside consciousness, a sense of time, and my presence within its flow.

Gregory Barsamian’s hallucinogenic animations emerge from the darkness. He expertly uses the language of dreams. In Die Falle, he presents a dream within a dream to depict his inner turmoil. His facile use of his dreams impressed and encouraged me. I was also attracted to his use of motors and strobe lights to create his kinetic stories.

Theater, set design and installation art have many traits and goals in common, especially their sense of time, drama, magic, and poetry. They live for the moment and require the viewer to participate -- to take a hint or suggestion of an idea and imagine or fill in the rest with their imagination or interpretation. They have a suggestive power to seduce or cast a spell and a kinetic, abstract essence of emotion or an action that creates the magic, drama, and poetry. I have found inspiration, above all, in Julie Taymor’s direction, set designs, and costumes. In performance everything moves by too quickly to really be seen. I would love to linger and wander through the scenes. Almost any scene in her many productions could be an installation, with a little adaptation, of course.

Sandy Skoglund’s installations are like frozen moments of a surreal play. Her massively intricate sets suggest an obsessive amount of object making. The vast numbers of multiples required to make her installations, her exquisite craft, and attention to detail inspired my endeavor. My installation required equal amounts of obsessive object making, assembling, and attention to details.
I have also been greatly influenced by cyberspace, the information age, and digital media. It seems that the boundaries between virtual worlds and the real world continue to blur and coalesce at the convergence of computing and communication. As social and technical worlds continue to meld, the fields of art and technology are reuniting, and old and new technologies are combining in new ways. The possibilities seem endless and I find this juncture very exciting and challenging. In the recent past, I have used digital media to create my inner realities and dreamscapes through manipulated photos, graphic imagery, collage, multiple image sequences, animation, interactivity, audio, video, and text. The computer has great creative potential, but I have also found that the experience, for the viewer is removed - it is passive and safe, as they sit outside of my world, comfortable, in a home, at a computer. Virtual reality, however, with helmets and body suits equipped with sensory devices can “actually” transport the viewer into a virtual place. Virtual reality intrigues me, whether creating multisensory imaginary virtual environments like Brenda Laurel or translating real environments into imaginary virtual ones like Ben Britton. Helmets and body suits are not (yet) the computer enhanced body parts and computer jacks imbedded into our necks as William Gibson’s characters have in his book *Neuromancer*, but his virtual visions and predictions seem to be on their way to becoming (a type of) reality. My interest in virtual environments and the related human interface led me from the computer screen, cyberspace and virtual reality to science fiction and back to the real world where I try to recombine and transform these elements into an actual/physical virtual world. Presence is physical, emotional, and totally immersive. My illusions, or other realities are guided by my intuition and inspired also by my inner reality -- my dreamscapes, my dream consciousness, and my emotional reality.
LIFE / ART - A SERENDIPITOUS QUEST

"An artist does not create the way he lives, he lives the way he creates" ²
Jean Lescure

I ride on the back of my winged pink pig!
Eyes and mouth wide open, in awe and delight.
We leap over clouds and fly through rainbows,
We spin, we whirl, we dance, I search.
I live my life as an adventurer,
Intuitively leaping into new experiences,
Then feeling my way along their zigzag paths.

Not knowing exactly where I'm going has never bothered me. I always end up somewhere exciting! I'm a curious person by nature, and a lover of surprises. I delight in making discoveries. I live spontaneously, by my wits, my heart on my sleeve. I play passionately. I've always lived and dreamed in a state of play, removed from reality. I create in this state. I dream, I fool around; with my camera, on the computer, with music, a toy, or concept, and suddenly -- a spark -- an idea, a solution, an "oh, what if...", ignites me. In this state of dreamtime and creative play, the initial idea for The Quielpalpactorium was generated. Standing in the dark, in front of a mirror, I discovered the awesome qualities and potential of kinetic fiber optic light effects. Further exploration led me down many unknown paths: set design, mechanical and electrical engineering, carpentry,
and fashion design. Soon this process took on a life of its own. I did not know exactly what I was doing, why, or where it would lead, but without question, I followed. I wondered daily: "what am I doing? why? what does it mean?"
Weekly, I had different responses.

The vision that inspired *The Quiepalpatorium* has been somewhere in my subconscious for a long time. During the creative process, my mother remembered and described a personality test that I took with her students. In the last section of the test, there was a 3 inch x 3 inch square in which to draw anything that came to mind. She told me that I colored the whole square solid black except for three white circles. The similarity to my installation is amazing. This project has also suggested my ancestral past; the Jews wandering through the endless desert. The spinning circles could be a primal memory of whirlwinds blowing sand. The white circles also have something in common with traditional Aboriginal dreamtime paintings where concentric circles mark their sacred waterholes in the desert. This work has always been some type of inner reality - perhaps, its a visualization of my inner fire that can keep me safe or burn me up when it mixes with the fires of others as I go out into the physical world. It is a dream and a daydream. It is my visualization of the matrix of cyberspace. This project is a virtual night garden complete with insects, white flowers, and environmental sounds. Ultimately, this work is about my identity and my self discoveries.

Digital aspects of our Post-modern culture, the information age, virtual realities, science fiction, and being a cyborg have captured my imagination. As we approach the next millennium, I wonder what impact our newest technologies will have on me, art, other artists, and our life in general. I search to combine art and technology in new ways. Much of my creative process is intuitively based on play, risk, trial/error, and discovery.
Ironically, I found myself reassured in “not knowing”, but forging ahead anyway, by Robert Frost who wrote in 1915, “A poem...positively must not begin thought first. It finds the thought and the thought finds the words.” Henry Lyman elaborated, “A poem, that is, whether it begins with the vaguest notion, a feeling, a mental image, a phrase, or a combination of these, usually discovers what it is thinking about only as it is being written.” 10. I was equally inspired by Frances Densmore who wrote, “...the form of a man's rattle may be in accordance with instructions received in the dream by which he obtained his power” 11, and by a statement attributed to Goethe, “Whatever you can do, or dream you can, begin it. Boldness has genius, power, and magic in it.” 12.
MY PAST INFLUENCES THE PRESENT

“When one door closes, another opens.”¹³

Mom

I jump on my bike
with every revolution, it grows... taller.
I sweep the s-curve onto Victory Parkway
and I'm level with the tops of trees.
They're a blur, as I whiz past.

I grew up in an atmosphere of artistic activity. My mother, an artist and art educator, was always making something -- working on her own artistic projects or experimenting to create projects that she would later assign to her students. I learned art through osmosis. I was always peeking around her elbow asking if I could do it too -- whatever “it” was. So, we'd work side by side and often, she would stop to help me.

Creativity found its way into every aspect of our lives, like cooking and gardening. Chopped liver was rarely a mound on a plate, rather, it looked like a turkey, a creature, or even a portrait of a guest or Mom's host. Salmon on a platter looked like a fanciful fish with lemon slice scales and a black olive eye.

I also developed an eclectic taste for art at an early age. My mother and I went to museums and openings where we would meet fellow artists and sometimes we would buy their work. Early influences, although, I didn’t know it
were leading 20th century artists. I was encouraged to build medieval castles, roman coliseums complete with chariots and riders, and animal sculptures using everyday found objects. I also spent a lot of time blowing and bopping our table top Calder clone mobile. Its gyrations and counter balancing actions absorbed me. I loved to make crayon resists - a process where brilliant colors show through a field of black. I collected “stuff” and recycled Mom’s Vogue magazines by cutting them up and recombining the elements with my eye catching junk to make collages, layouts, and books; hence my burgeoning career in graphic design began.

Later educational influences left an impression on me. While studying visual communications, I learned the relationship between art, communication, and technology from research and concept through execution. This process has been absorbed into the intuitive way that I now work. Through my study of photography I developed an instinctual awareness for light. Whether the contrast between light and shadow is subtle or dramatic, it has always intrigued me and provoked a response. My continual fascination for light and its opposing darkness is directly evident in my current work.

Throughout the years, I have observed that as my own style and concerns evolve, many traits remain consistent. I consistently find references to natural forms as well as the use of strong diagonal elements that create active, complex compositions, often attempting to redefine spatial relationships. I gravitate toward creating illusions that evoke a mysterious, surreal, dramatic, eccentric or idiosyncratic version of “reality”. I seek out strange, ritualistic, phenomenological events or places that are new to me. I usually find myself at the eye of a storm. I feel a momentary high, a spiritual sensation, when my hand, heart, head, and eye respond simultaneously. Always, whether using a still camera, video
camera, computer, or another media related tool, I'm playing with the world and
dreaming. A night owl, whether awake or asleep, I'm dreaming - off in my own
reality.

Mondrian, Pollock, Marin, Klee, Miro, Matisse, Magritte, Saul Steinberg,
Calder, and many others are part of my subconscious as I create. Moholy-Nagy,
the other Dadaists, the Surrealists, and the Futurists echo through my work.
I find my own Dadaist/Surrealist moments in my own inner reality.
INFLUENCES OF THE NATURAL WORLD

"The earth recedes from me into the night, 
I saw that it was beautiful.....and see that what is not 
the earth is beautiful." 14.
Walt Whitman

At night, while I sleep, 
branches grow into my room through the open window. 
A squirrel comes in and whispers in my ear, "Come, follow me"
Without hesitation, Tippy and I climb onto a branch. 
It undulates and we hold on tight as it retreats back out the window, 
taking us into the night sky. 
Naked, we ride!

The natural world and its related phenomenon, real or fantasized, have 
become an inspirational and integral part of my life. When young, I'd sneak off 
into the woods with a friend - she to smoke stolen cigarettes and play with fire, 
I to poke around like a dog... sniffing, contemplating, discovering. (Luckily I never 
"discovered" poison ivy!)

Later, I learned more about nature from my scottie dog, Tippy, who liked to 
walk very very slowly in order to sniff and inspect everything. I, therefore, had 
plenty of time to look around as we inched our way down sidewalks, through the 
woods, and into the park beyond. These daily walks, became a kind of 
contemplative - moving - meditation. We'd explore. I'd reflect and dream, she'd
find something nasty to eat. In a sudden spurt of energy, Tippy would run off and not return. So, I'd have to go in search of her. Upon finding her, I'd see that she had found something wonderful; some amazingly small blue “dots” (flowers) in the grass, an incredible bug, or a completely camouflaged box turtle. I saw and studied the subtle daily details of each season and became a very keen observer.

As I watched the “call of the wild” nature in my dog, I developed an interest in wolves. I learned the Native American walk-like-a-wolf technique. I then, could silently steal through the woods, conscious of any movement in a 360 degree radius. Hikes took on a whole new experience. Being a wolf on a night hike, under the full moon, observing owls flapping their wings to balance on the highest branches that swayed in the wind, discovering white wildflowers, making offerings to the directions and forces of nature, and howling at the moon was magical, mystical, spiritual.

When I moved to Columbus, I experienced an absence of nature. I was removed from all my natural retreats and gardens. Not wanting to accumulate too much stuff in a temporary living situation, I resisted transporting houseplants from Cincinnati. Too busy to seek out new asylums, I tried to bring nature to me. I did succeed. Almost any time, within 20 seconds I could have a squirrel on my window ledge. This, however, didn’t really satisfy my need for nature. I really missed my dreaming/walking meditations, being surrounded by nature, and my “full moon hike-and-howls”.

In the middle of winter, it is customary to most avid gardeners to pore over seed catalogues and contemplate their spring gardens. I too, pored over catalogues, but not seed catalogues. Rather, I searched scientific catalogues and ordered anything that attracted my eye or seemed interesting. I didn’t know
it then, but this was the beginning of a new type of garden that I would plant in Spring. I planted my garden - a traditionally white, night garden in my emptied bedroom. The room was transformed into a greenhouse with sloping sides and a domed roof. However, the walls and ceiling were opaque and all light was blocked out. The only light emitted came from my self illuminating plants. (soft, surprisingly plantlike fiber optic cables) Roles reversed, they spun and whirled while I sat silently, surrounded by them. I played with my “plants”... as I touched them, they sent lightning and fire, flying through my fingers.

Influenced by the White Garden (night garden) at Sissinghurst and expansive Victorian, French, Dutch, and Italian formal gardens, I continued to explore and expand the possibilities for my night garden. “On these nightly walks, perhaps the luminosity of white flowers in the blackness, glimmering ghostly as moon replaced sun, was the inspiration.” 15. My garden quickly outgrew my greenhouse and I moved to a larger space. The garden metaphor further developed and took on greater meaning as I spent weeks/months crawling around in the dirt (on a filthy floor), bent over planting, weeding, and fertilizing, (cleaning, positioning and wiring) each “white flower” module.
Figure 7. The Quielpalatorium - View from the vortex.
CHAPTER 4
FROM VIRTUAL TO REALITY

"To see is to forget the name of the thing one sees." ¹⁶.  
Paul Valery

Diverse skills and materials were used to build the many components of The Quielpalpatorium. The main elements were the architectural structure, the motorized light modules, the digital and electrical networks, and my Cyberwear costume prototype. Since all these elements were interdependent, they required continual joint testing, evaluation, and redesign. In order to facilitate this, all areas were brought to congruent levels of completion throughout the development process.

The architectural structure of The Quielpalpatorium, is based on theatrical set design. All components were modular, reusable, light weight, and transportable. The installation’s dimensions were 40ft. x 80ft. in a warehouse-like space. Solid black panels, (4ft. x 8ft.) were joined together and braced from the back to create long solid walls. These walls were generally used to section off unsightly and unused areas of the room. Frames, (8ft. x 8ft.) on which sheer black nylon fabric was stretched in thicknesses that varied from two to four layers, made scrim walls. These wall modules were joined to each other and attached to the floor in two parallel lines spaced three feet apart. They created pathways with translucent walls. The entry path, 40 feet long, followed a diagonal
line from the entrance to the center of the room. Another shorter path at an opposing angle moved from the center of the room to an exit door. Barrel vaults spanned opposing frames to create the ceiling for both halls. The entrance hall opened into a center hexagon space with no roof. Made in a similar manner, these frames (6ft. x 8ft.), were stretched with only one layer of sheer black nylon. Both the entrance and exit paths were connected to the center hexagon to make a totally enclosed space through which the viewers walked.

Beyond the architectural pathway, the motorized light modules were arranged in an organic pattern based loosely on the Fibonacci series, and the helical growth pattern exemplified in sunflowers and daisies. The swirling fiber optic cables were activated using motors. The cables spun in a 2 foot diameter. Flashing LED's (light emitting diodes) were mounted to the centers of most units. Over 200 units were used. Light modules located near the center where all the arcs converged were positioned to hit crystal wine glasses. The soft ringing sounds created the minimalist music.

The light modules were electrically wired individually, in series, and in parallel circuits to create varying speeds. Each arc was one circuit with five to eighteen light modules per arc. Two circuits, in opposing locations were run on one DC power supply. The power supplies were equipped with mosfets which were controlled digitally through a PLC (programmable logic control) to turn the arcs on and off. Due to time and space restrictions, the digital program was not completely synchronized at the time of the exhibition. The goal was to create an illusion that the entire floor was spinning. To achieve this, two opposing arcs would spin momentarily and stop, then arcs adjacent to the first two arcs (and still opposing each other) would spin momentarily then stop, and so on around the room. The eye's persistence of vision would complete the illusion just as it
completes the circles of spinning fiber optic cables. This spin illusion was to be only momentary. Other combinations, patterns and intervals were orchestrated to compose a twenty minute loop. The loop was to begin when a motion sensor sensed a viewer's movement at the entrance and triggered the program to run.

The Cyberwear costume prototype that I wore was a black body suit outfitted with flashing LED's. The flashing lights traveled up the outside of my arms and around my neck. I have not included it previously in my description of this installation since I was not always viewed in the space and was not continually "performing" as an integral part of the environment. This component, still under development, did not remotely control any part of the installation, however, for those who saw me, the costume did add another dimension to the overall illusion.

This project, with all its multiple and complex components, was perhaps too ambitious. I believe that I have merely scratched the surface of possibility. This prompts me to realize that after a year of research and development, the resultant exhibition was not an end but a beginning -- the first iteration of this evolving project.
Figure 9. The Quielpalpatorium - Cyberwear costume prototype in the vortex.
CHAPTER 5
RIDING THE NIGHT WINDS... FEELING MY WAY ALONG THE PATH

"I am not afraid...of rough spots...or lonely times...I don't fear...the success of this endeavor...I am Ra...in a space...not to be discovered...but invented..."¹⁷

Nikki Giovannni

Looking back at my progression through the many variations and iterations of this project, I realize that looking forward presents even more opportunity for further invention and future evolution. This installation will expand in several directions simultaneously. The space itself will be reconfigured, most light modules will be digitally controlled, and the digital program will be adapted to the reconfigured design. I will add a "performance" component in which "interactors" will be equipped in Cyberwear costumes, and new kinetic "light forms" and their sounds will be introduced.

The installation space (or future performance space) can be site specific in endless ways since all the elements are modular. Venues that now interest me involve the juxtaposition of my world with the natural world by integrating it into a forest, a field of high grass, on a riverbank or floating down a river. Inserting the installation into the urban landscape interests me also; on a rooftop with the lights of the city below and the night sky above, in an empty swimming pool, down a long flight of outside steps, or on top of a pavilion. The scrim
covered wall/path panels are intrinsic elements in this installation and will be
used whether the installation is inside or outside.

Future showings will likely include “inter-actors” (dancer/conductors) who will
be equipped to partially control or augment the kinetic installation, through
Cyberwear costumes. These are digital wearables that will interact with
computer controlled devices in the installation making the wearer an integral part
of the environment. Inspired by the MIT Media Lab, where computational textiles
are under development, I will seek to combine fashion and function in a new way.
Using computational textiles and fashion accessories there is the opportunity to
explore new avenues of communication, entertainment, and artistic expression.
My Cyberwear ensembles will add another facet and another level of
communication into the installation space.

The existing “light-forms” and their accompanying minimalist music will still
dominate the installation. They will be controlled digitally through PLC’s which
will enable them to spin and stop in predesigned patterns and intervals.
Additional kinetic “light forms” (also made of fiber optic cables) will be introduced
to add their own light effects and distinct sounds.

The expansion of this project in the above areas will not only increase its
complexity, but will also change its very nature. I foresee that it will transform
itself in several ways. This phenomenological work will have a life cycle of its
own. This will make it an even more experiential environment. It may become
more like a performance than an exhibit, as viewers are drawn to watch the
“inter-actors”. Perhaps I will provide benches and limit the number of viewers per
performance. Lastly, perhaps viewers will become performers if they choose to
don Cyberwear clothes or accessories.
CONCLUSION

The new millennium is nearly upon us and the boundaries between virtual worlds and the real world continue to blur and coalesce due to the convergence of computing and communication. As technical and social worlds continue to meld, the fields of art and technology continue to move toward reuniting. Old and new technologies are combining in unique ways, and bring together multidisciplinary functions. Our culture, the arts, and technology seem to be in a state of flux and acceleration. The future of 21st Century art is the creation of alternative realities.

*The Quielpalpatorium* is synchronized with and in response to the digital medium that dominates our lives. The cultural impact of computing is enabling new modes of thinking, communicating, and creating. This installation approaches the exploration of these avenues with the curiosity, creativity, and freedom that technology encourages.
ENDNOTES

1. Attributed to William Blake.


3. Ibid., 153.


12. Attributed to Goethe.


38

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42


