

Master of Fine Arts Thesis

Penumbra

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**Submitted in partial satisfaction of the requirement for the degree of
Master of Fine Arts, School of Art and Design
Division of Sculpture/Dimensional Studies
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Alfred, New York**

2016

Signature line

Joshua A. Hershman, MFA

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Angus Powers, Thesis Advisor

List of Illustrations:

Fig. 1)

Title: Penumbra

Year: 2016

Material: Glass, steel, LED light

Technique: Cast glass, polished

Size: 34"L x 34"W x 78"H

Fig. 2)

Title Installation view of Penumbra exhibition. Upper mezzanine.

Material: Digital print on archival giclee, digital print on archival watercolor paper, blown glass, water

Technique: cameraless photography, digital printing, blown glass

Size: varies

Fig. 3)

Title: Torus 1 (black hole)

Year: 2016

Material: large format digital print on archival giclee, glass, water

Technique: cameraless photography, blown glass

Size: 48"w x 85"H

Fig. 4)

Title: Sound Finding Form

Year: 2016

Material: Aluminum, steel, pottery wheel, Contact mic, amplifier, LED light

Technique: Cast aluminum, fabricated steel, amplification

Size: 35"L x 39"W x 46"H

Fig. 5)

Title: Transparent Repair

Year: 2015

Material: Concrete, glass

Technique: Site-specific installation, cast glass, polished

Size: 8"L x 84"W x 4"H

Fig. 6

Title: Installation view of Penumbra exhibition. Lower floor of Turner Gallery.

Year: 2016

Material: Glass, aluminum, pottery wheel, sound, light, steel

Technique: NA

Size: NA

A Problem With Perspective

When very young, I regularly walked into walls. I spilled the milk at every family dinner. It turned out I had an amblyopia or Lazy eye; a severe eye condition, which affects the relationship that the eyes have with the brain. Because, as a child, one eye looked inward while the other look straight ahead, both eyes were not able to simultaneously look at the same thing at the correct angle, causing constant blurry double vision. You could say I had a problem with perspective.

Through a life-long process of having my vision corrected, I came to appreciate the curious nature of visual disorders and began to recognize the governing power that our eyes have over all our other senses. Through the journey from first experiencing the world as a flat plane to eventually learning how to see in three dimensions, I was transformed. This crossing of borders, from one dimension to another continues to drive the ideas behind my work, and constantly affects the unique way I perceive the world.

Rather than fighting these visual challenges, they found their way into my studio practice, which began to investigate and even mimics the anomalies that occur when I see. Consequently, preconceived notions about normalcy, disability or function are reconsidered, and the definitions of what's considered to be broken and what is considered to be working are broadened.

Penumbra

The original meaning of penumbra is a space of partial illumination between full shadow and full light. Astronomer Johannes Kepler introduced the

term in 1604 to describe the shadows that occur during eclipses¹. The contrasting and opposite nature of light and dark are combined during this phase, creating a gray area that exists on the fringes between two opposite forces as they combine. My work also seems to exist in a penumbra - a sort of in-between space - which blurs the lines between concepts such as big and small, near and far, push and pull, or light and dark.

After a life of looking through lenses, a deep interest in vision, observation, and perception developed. In the glass and metal sculpture titled *Penumbra* (fig. 1), the importance of the glass lens and its relationship to vision is shown by drastically increasing the size of the optical form. The scale and weight of the glass lens highlight the primacy of the human visual system over all other types of observation.

By shining a single LED through the center of the lens, a large shadow that could resemble an eclipse is cast upon the wall adjacent to the sculpture. The detailed landscape within the lens captures the light inside, so it appears to gently glow on its own accord. It has the weight, feel, and sensation of ice but without the cold, and like an iceberg, it emits a soothing and contemplative blue light that washes over the space. The inherent flaws within the lens cause the projections to become further distorted, resulting in patterns that closely resemble eyes, creating a clear relationship to the images that are shown in the *Torus* photographs on the second floor of Turner Gallery.

¹ *Britannica Academic*, s. v. "penumbra," accessed May 10, 2016, <http://academic.eb.com/EBchecked/topic/450494/penumbra>.

Torus

In physics, a torus represents a process concerning the dynamic flow of energy, not just a particular form. It consists of a central axis with a vortex at both ends. Energy flows in one vortex, through the central axis, out the other vortex, and then wraps around itself to return to the first incoming vortex. The simplest description of its overall form is that of a donut, though it takes many different shapes, depending upon the medium in which it exists².

In the large format *Torus* images (fig. 2 & fig. 3), blank white space takes up most of the frame, allowing for a singular experience with the black and white imagery. The larger than human scale print makes us feel stunted while being directly confronted with highly contrasted imagery that could either show micro images of a cell or macro images of a black hole.

The hollow spaces found within the blown glass forms are collapsed, inverted, and flattened onto two-dimensions using a form of cameraless photography. These compositions, which appear to be floating in an immense void, represent the concept of infinite space. The torus forms fold the inside and outside together into an endless unbroken surface similar to a Mobius strip, upsetting our understanding of solidity, surface, and three-dimensional space.

Light Sounding Form

In *Light Sounding Form* (fig.4), the concept of scale is again reconsidered when confronted with the very slow, unbalanced rotation of a 32” diameter

² Lefferts, Marshall. "The Torus - Dynamic Flow Process." *Cosmometry*. 2014. Accessed May 11, 2016. <http://www.cosmometry.net/the-torus---dynamic-flow-process>.

aluminum disk-shaped sculpture. This work turns in an orbit that suggests the thrust and movement of a planetary object as it fights the grip of a strong gravitational pull. This miniature representation of a tremendously large event throws us off balance as we struggle to find a single stationary point on the sculpture for our eyes to focus on. Inertia, moving shadows, and a live sound feed further expand the physical footprint of the sculpture, filling the empty space surrounding the work with sonic and kinetic energy.

A single light source perched atop a thin curving metal stand casts immense moving shadows against the inside walls of the disk, creating ominous mountainous formations within the silver interior as well as on the outer walls of the gallery. The combination of these elements, surrounded by the large empty space of the gallery is destabilizing and eventually becomes disorientating. After looking at the center of the spinning object for long enough the feeling of weightlessness occurs, sometimes making viewers feel as if they are falling into the orbiting sculpture.

The amplified sound of the motor as it struggles to pull the weight of the sculpture object is hidden within the walls of the gallery, making it difficult to locate its source. The pulsing hum of the electric motor follows the momentum of the sculpture as it speeds up and slows down, and seems to emanate out of the architecture itself. This encompassing noise, which resembles the resonances of planetary harmonics, causes the large space of the gallery to grow larger as we hear the sound as it bounces off the ceiling, walls, and floor.

Process and Time

By balancing tightly controlled processes with momentary lapses of control, dueling universal constants such as momentum/drag, hot/cold, contraction/expansion, mold the work in ways that the hand or tool cannot. In order to resemble surfaces and forms created over time by natural cycles, it was necessary to put the materials through extreme processes such as hammering, stressing, and rapid heating than cooling. This harsh treatment causes the substances to degrade almost immediately, often creating a raw surface or form that appears to have been created by a powerful natural event that took place over an extremely long period of time; such as an iceberg carving through a mountain.

For example, in the site-specific works titled *Transparent Repair* (fig. 5), found cracks in the floors and walls of the degraded architecture around my studio are repaired with kiln cast glass. In doing so, the erosion of the structure is highlighted making visible the story that is told by the decaying and crumbling environment. This work draws attention to, and celebrates the fleeting aspect of the present moment, and asks viewers to pay closer attention to the space they occupy. Through the use of architecture and cast glass, I show how all things, breath, shift, and slowly give in to the combined forces of pressure, expansion, and contraction.

The cracked, broken, or eroded aesthetic that is present in almost all my work is in direct contrast to my previous art practice, which focused on the perfection of form and surface. I have become inspired by Zen Buddhism and the

Japanese art of Kintsugi, where potters repair broken ceramics with gold to honor the history of the damaged object. In my recent work, the repetitive uses of the crack or fissure, and the unabashed allowance of flaws represent my belief regarding the acceptance of the inevitable decay of all things and embraces imperfection.

The repeated application of movement in my work stems from my fascination with the physical state of our world, specifically how everything, every atom in the universe is in a constant state of flux. There is something comforting knowing that there is no such thing as a straight line, or a perfect circle because all matter is either in the process of expanding or contracting, heating or cooling. Even on a very large or very small scale, everything is in the process of transformation at all times.

In *Satellite*, I challenged myself to use motion to activate a gigantic space using only the most minimal amount of actual sculptural mass. The work consists of a small aluminum cube slowly spinning in the air from an aircraft cable attached to a turning pottery wheel hanging from the 25-foot ceiling. The cube, which because of its extremely fractured form resembles an asteroid frozen in a violent process of expansion, repeatedly hurls itself at the viewers, as it remains tethered in an orbit, like a planet caught in a gravitational pull.

Directly under the spinning cube is a grid of large black sheets of glass lying on the floor. Each 4x4 foot sheet is tiled together to create a completely flat 16x16 foot black mirror, which reflects the movements of the installation from above back down into the ground. This large mirror serves as a barrier for which

viewers cannot cross, and doubles the volume of the installation by opening up a dark pool of negative space created by the black reflection. The mirror also manages to disrupt our understanding of the concept of up and down because the reflection of the spinning object appears to be coming up out of the ground defying gravity.

Although this large scale installation of glass and metal is mostly comprised of empty space, the use of reflection to expand the volume of the room downward, in correlation with the circular momentum of the cube that cuts through the unused space in-between the ceiling and the floor, manages to hold the entire room in tension. This installation demonstrates how with only a very little amount of mass, motion can materialize and expand the presence of space exponentially.

Conclusion.

In this exhibition, kinetic works of art primarily utilize motion, light, and sound to distort the sense of physical space in the gallery (fig. 6). The active environment presents shifts over time; its visual and sonic elements reflect gradual processes. Viewers are free to move through the dimly lit room and watch the composition of the work change in relation to their relative perspective.

This work essentially questions our grasp and understanding of our environment by quietly suggesting alternate realities through experimental uses of kinetic, optical, and sonic art. Using the empty space within the gallery as the primary material for my sculpture, the vacant areas surrounding the installations

are as considered as much as the sculptures themselves. To create an experience between the viewer and the environment, I try to disrupt the physical normality of the gallery in order to challenge preconceived notions about the space we occupy.

Fig. 1

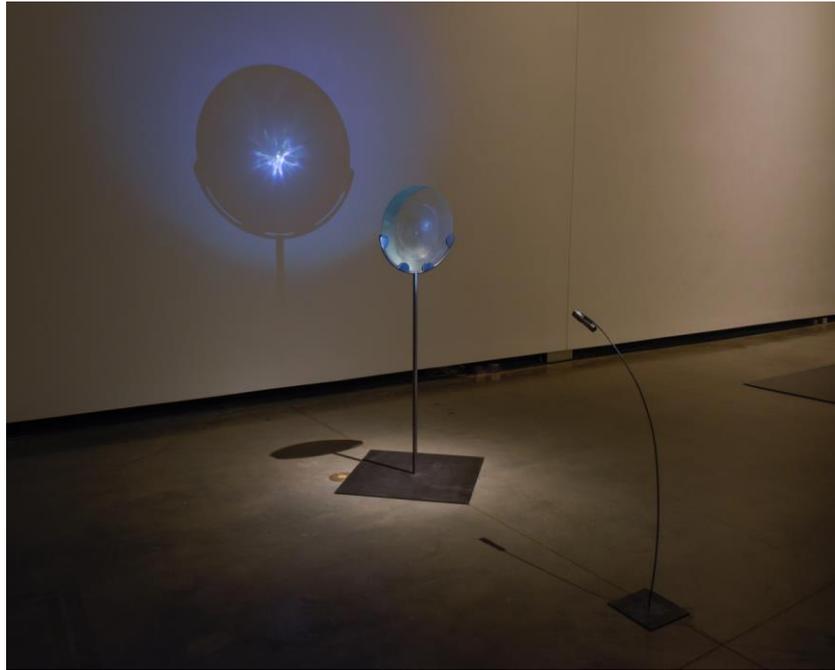


Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Bibliography:

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