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# Site Machines

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**Abstract**

Site Machines

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*Site Machines* is a multimedia artwork installed at Seattle's Suyama Space Gallery in 2014. Organizing neon light and live video feeds from six motion controlled cameras, the project works as a mechanism for both creating and viewing images, and thus emulates the functions of the Suyama Building: an active architecture studio and an art venue; a site of production and of presentation.

This dissertation describes the thematic and technical development of *Site Machines* by placing it in context with two previous artworks, *A Macrocosmic Zero* (2010) and *Arcade Zero* (2012). It further documents the art-historical and site-specific research that contributed to each project, research conducted during studies at the University of Washington's Center for Digital Art and Experimental Media (DXARTS), and a year of Fulbright-supported work in Seoul, South Korea.

Chapter one provides a brief, practical overview of *Site Machines*. Chapter two establishes a historical backdrop for the ongoing studies of visual and digital culture that inform the artwork. Chapters three through five detail the site-specific research, working process, and actualized viewing experience of each individual installation. The document concludes with reflections on the body of work as a whole, and possible extensions of these ideas into future projects.

## **Acknowledgements**

I wish to express deep gratitude to my supervisor Juan Pampin, who constantly challenged me to look at my artistic practice through the logic of other experimental media. The help, expertise, and extensive knowledge of professors James Coupe, Rebecca Cummins, Paul Berger, and Richard Karpen have also been invaluable during my time at DXARTS.

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Appreciation also goes to the curators who supported the projects described in this document: Scott Lawrimore of Lawrimore Project for *A Macrocosmic Zero*, Hyejeong Bae of the Seoul Museum of Art for *Arcade Zero*, and Beth Sellars of Suyama Space for *Site Machines*.

## **Dedication**

To Cindy, Jackson, and my Parents.

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## Chapter 1 - Introduction

### 1.1 Site

*Site Machines* is a continuation of two previous site-specific projects, each of which works with video, light, space, and sound to explore the nature of image production in contemporary digital and visual culture. Installed in the Seattle studios of the Suyama Peterson Deguchi architecture firm, *Site Machines* was developed in response to the building's preserved historical image as well as its current role as a mixed-use commercial, retail, and art space.



*Figure 1 - Suyama Space gallery, between retail storefront and architecture studios*

The various functions of the Suyama building combine to create a hybrid space that projects a number of overlapping images: the nostalgic image of the original 1890's livery stable; the industrial image that remains from the building's time as an automobile garage; the curated portfolios of designs and models in the architect's studios; and the transient display of artworks in the central gallery (Suyama Space).<sup>1</sup> Observing the histories and materials that lie beneath the many functions of the building, *Site Machines* works to create an additional layer of representation in a space that is constantly alternating between the production and the presentation of images.



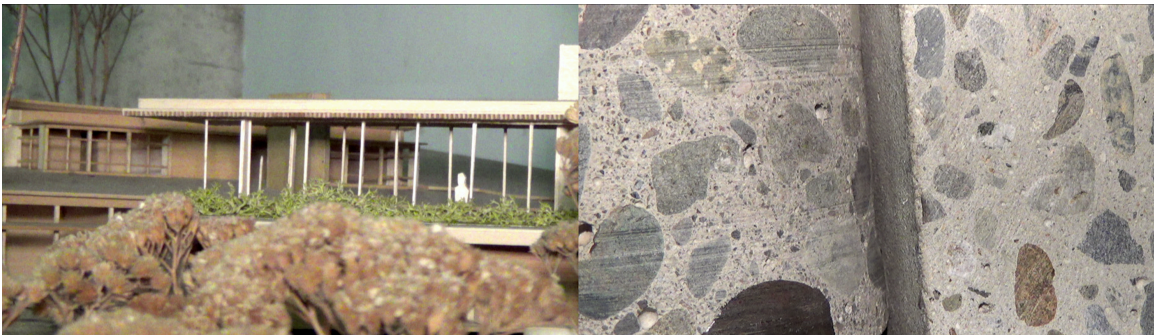
Figure 2 - "Site Machines" monitors, neon, and live video cameras on motorized rails in Suyama Space

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<sup>1</sup> <http://www.suyamapetersondeguchi.com/commercial/spd-belltown-office>

## 1.2 Overview

*Site Machines* inhabits a number of different zones throughout the Suyama building with unique image-making and display devices. Two cameras scan the main floor, moving along motorized rails. They see visitors, clients, or workers passing through an array of flashing neon lights in the gallery, before returning their gaze to a pair of CRT video monitors. These monitors cycle through a circuit of images from two other zones, similarly observed by motion-controlled video cameras. In the basement (otherwise inaccessible to visitors), two cameras search across an informal archive of materials, samples, and models used by the studio architects. Two additional cameras, mounted in the ceiling above the gallery, look through rafters, windows, and thresholds – the architectural framing devices for the building’s interior and exterior.



*Figure 3 - “Site Machines” composite image from two live video cameras in basement*

As all of the live video feeds are cycled through the monitors on the main floor, the gallery becomes an interface between the circuit of electronic images that flows throughout the building, and one’s firsthand experience of the materials, objects, and light therein. This threshold between screen-based images, and the immediate, physical experience of space is central to all three of the installations detailed in this thesis.

## Chapter 2 - Historical Background

### 2.1 - Introduction

The projects described in this document make reference to specific works of literature, cinema, visual/sonic art, and philosophy. Accordingly, each chapter contains further relevant research. What follows in this chapter is an overview of themes in visual history that inform this body of work as a whole. These reflections are not meant to assert a comprehensive history of images and their effects on human perception, but rather point to some precedents for understanding our current relationship to images and the devices of their production, transmission, and reception.

Using Paul Virilio's language to traverse some past moments of radical technological change, we can see the development of optical and anamorphic devices in the 15<sup>th</sup> century as "technology's first stab at leading the senses astray".<sup>2</sup> Fast-forward to the 19<sup>th</sup> and 20<sup>th</sup> century's "industrialization of the traditional enterprise of images," and it is clear that photography, film, and electronic media precipitated a profound reimagining of the way a culture sees itself.<sup>3</sup>

Indeed, *fast-forward* seems to be an appropriate term. The interval of these paradigmatic shifts have become so compressed that organizing them in time as a "linear progression" inadequately describes the potentially complex interrelationships between rapid,

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<sup>2</sup> Virillio, Paul. *The Vision Machine*. Bloomington: University of Indiana Press, 1994. 4.

<sup>3</sup> Virillio, Paul. *Negative Horizon*. New York: Continuum, 2005. 118.

successive shifts.<sup>4</sup> With this in mind, the form of a nautilus may better illustrate the accelerating frequency and proximity of such moments. Spiraling inward, the potential self-reflexivity between image-making paradigms increases, and we approach a kind of feedback loop in which our contemporary visual culture may well see itself is as *a culture that sees itself*.

## 2.2 - The Fall of the Image

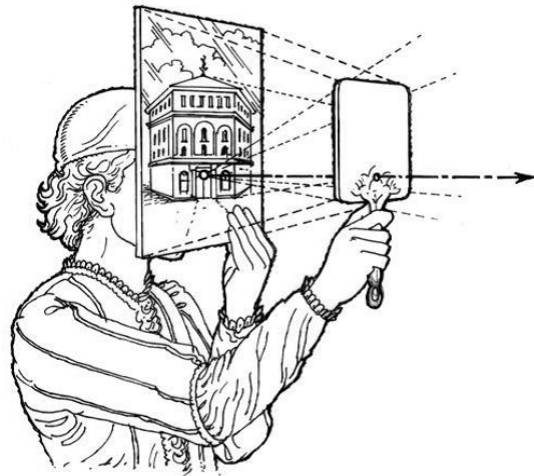


Figure 4 - Illustration of Brunelleschi's mirror-apparatus

Looking back on the history of technical image production, Filippo Brunelleschi's 15<sup>th</sup> century demonstration of linear perspective provides an easy entry point to the use of optical devices in painting, drafting, design, and architecture. This being said, one must also recognize the importance and objective utility of anti-perspectival, parallel, and

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<sup>4</sup> Rebecca Cummins, in her thesis *Necro-Techno: Examples from an Archaeology of Media*, further questions the idea of "linear technological progression" in visual media, recognizing that the contemporary use of image making devices from past and present creates a cumulative set of visual possibilities that is greater than the sum of its parts.

oblique drawing techniques, and the widespread use of camera obscuras beyond Europe for hundreds of years prior to Filippo's "Peepshow."<sup>5</sup>

Images like those created by Brunelleschi's device do, however, create an interesting set of boundaries between real space and the depiction of that space. The apparatus initially serves solely as an interface between the artist and the scene. By extension and because of the "reality effect" of the resulting technical image, the picture also becomes an interface between the viewer and a real space, somewhere else, out there in the world.<sup>6</sup>

Video Artist Bill Viola describes the expanded spatial dimensions proposed by 15<sup>th</sup> century technical images:

*... describing Brunelleschi's breakthrough as simply the discovery of the vanishing point places an inordinate emphasis on the picture itself as the locale of this revolutionary change. What Brunelleschi achieved was the personification of the image, the creation of "point of view" and its identification with a place in real space. In doing so, he elevated the position of the individual viewer to an integral part of the picture by encoding this presence as the inverse, in absentia, source of the converging perspectival lines.<sup>7</sup>*

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<sup>5</sup> Arnheim, Rudolf. "Brunelleschi's Peepshow." *Zeitschrift für Kunstgeschichte*. Vol. 41, 1978.

<sup>6</sup> The "reality effect" is a term often used by Virilio to describe the acceptance of reality through the perceptual logic of new technologies. "the reality effect replaces immediate reality." (Lost Dimension 24, The Vision Machine 4)

<sup>7</sup> Viola, Bill. "Video Black: The Mortality of the Image." *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings*. Ed. Kristine Stiles and Peter Howard Selz. Berkeley: University of California Press, 1996. 480.

Temporality, of course, is also dislocated by the interval between the *recording* of an image at a given time, and its reception by an audience at some later time. For a viewer, these dissociations of space and time are implicitly contingent upon the artist's use of a technical apparatus. Less than a century later, more explicit relationships between the audience, the image, and some form of decoding mechanism would emerge. Bosch's hinged triptychs and the anamorphosis seen in Holbein's painting "The Ambassadors" required some form of active reconfiguration of the frame or repositioning of the viewer in relationship with the frame to access additional layers of information within the image.

*Apart from the displacement of the observer's point of view, complete perception of the painted work could only happen with the aid of instruments such as glass cylinders and tubes, the play of conical or spherical mirrors, magnifying glasses and other kinds of lenses.*<sup>8</sup>



Figure 5 - Details of "The Ambassadors", Hans Holbein the Younger, 1533. On the left, the image of a skull is anamorphically skewed. The resolved image on the right may only be seen through optical instruments or an extreme viewing angle alongside the painting.

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<sup>8</sup> Virillio, Paul. *The Vision Machine*. Bloomington: University of Indiana Press, 1994. 5.



Figure 6 - "The Ambassadors", Hans Holbein the Younger, 1533.

Moving beyond The Renaissance, this contingency upon mechanisms for both the production and reception of images presented a series of challenges in the 19<sup>th</sup> and 20<sup>th</sup> centuries. Further complicating these relationships was the incremental shift from visible, tangible apparatuses—mirrors, lenses, and the printing press—to increasingly invisible processes of mediation—chemical photography, sound recording, and high-speed chronophotography (cinema).

### 2.3 - An Image is More than an Image

P.G.

*When the artist interprets movement, he is in complete disagreement with photography, which is an unimpeachable mechanical witness. He evidently alters the truth.*

A.R.

*No, it is the artist who tells the truth and photography that lies. For in reality time does not stand still.*

Paul Gsell and Auguste Rodin



*Figure 7 - "Boulevard du Temple - huit heure du matin (8 a.m.)", Louis Daguerre, 1838*

As speed and the threshold between visibility and invisibility became primary features of post-industrial image production, new critiques of perception emerged in response to photography and cinema. Arguments surrounding the *truth* or *reality* of these media were numerous and contentious, as typified by Gsell and Rodin's conversations in 1910, and indeed earlier when Daguerre's *Boulevard du Temple* (1838) only revealed those forms

and figures in the urban landscape that remained still during the 10-minute exposure. This dialectic identified that the “photographic instant”<sup>9</sup> both asserts the objective truth about a given moment, and simultaneously creates a “moment stricken with paralysis”<sup>10</sup> as motion is disconnected from our normal vision. This *paralysis* was of primary concern to Rodin who sculpted *appearance* through the “decomposition and recomposition of a movement”<sup>11</sup>, thus imbuing a static representation of a figure with the dynamism of a body in motion.



Figure 8 - "The Walking Man", Auguste Rodin, 1878

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<sup>9</sup> Pisano, Guisy. “The Photographic Instant and the Chosen Instant in Painting and Sculpture.” Trans. Nicola Whyley. *Sequences: Contemporary Chronophotography and Experimental Digital Art*. Ed. Paul St George. Wallflower Press: New York, 2009. 58.

<sup>10</sup> Rodin, Auguste. *Art: Conversations with Paul Gsell*. Trans. Jaques de Caso and Patricia B. Sanders. Berkeley: University of California Press, 1984. 76.

<sup>11</sup> Pisano. 64.

For early practitioners of chronophotography, however, the borders of natural vision were meant to be conquered by technical apparatuses. The impossibility of witnessing any one frozen moment of an otherwise moving body was a bygone limitation of the pre-industrial world.

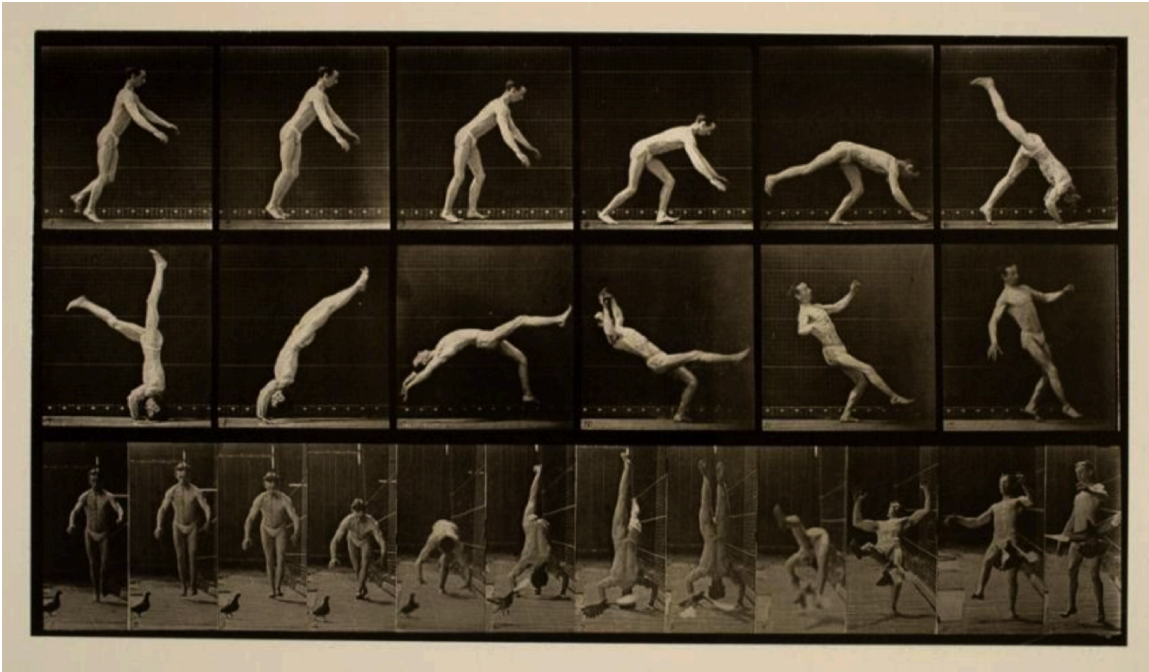


Figure 9 - "Head Spring", Eadweard Muybridge, 1885

While interesting in regards to the *reality effect* of early photography, arguments surrounding the body “petrified in its pose” may once again place *inordinate emphasis on the picture*, to revisit Viola’s earlier statement.<sup>12</sup> The more radical shift once again occurs at the site of the mechanism as it becomes an interface between a space, a time, and the recorded image. Étienne-Jules Marey’s chronophotographic device provides an example of one such interface, made additionally complex by its reliance upon the photo-chemical

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<sup>12</sup> Rodin. 76

developing process (when compared to the mirrors and lenses used to create early technical images).



*Figure 10 - Étienne-Jules Marey's fusil photographique (photographic rifle) 1882*

Here we have the image of a man standing on a beach, holding a mechanism that can only be described as a rifle. He pulls the trigger, but no report is heard, no bullet is fired from the barrel. Rather than sending material out into the world, the mechanism invisibly collects and registers light upon a glass plate. Only at some later time will a chemical treatment, working at a microscopic level, crystallize the light's inscription to reveal

recognizable pictures. The resulting images – views over the Bay of Naples – are printed and then sent out into the world to become a part of its growing photographic universe.<sup>13</sup>

The layers of mediation and complexity created by Photography— from the natural scene, through the camera, to inscribed film, to printed image— were only to become more complex when cinema and recorded sound entered the conversation. As cinema’s explicit temporal dimensions were developed—the duration of the shot, the movement of the camera, and the montage of images from past, present, and speculative future—a parallel set of epistemological theories emerged, aiming to understand reality through the logic of the era’s modes of image production.

*Such is the contrivance of the cinematograph. And such is also that of our knowledge. Instead of attaching ourselves to the inner becoming of things, we place ourselves outside of them in order to recompose their becoming artificially. We take snapshots, as it were, of the passing reality, and, as these are characteristic of the reality, we only have to string them on a becoming... Perception, intellection, language so proceed in general. Whether we would think becoming, or express it, or even perceive it, we hardly do anything else than set going a kind of cinematograph inside us. We may therefore sum up*

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<sup>13</sup> The “photographic universe” refers to Vilém Flusser’s idea that image production works toward creating a “totality of combinations (or significations) of a code”, in this case the totality of possible photographic images. Flusser will be discussed further in later chapters (Flusser, Vilém. *Towards a Philosophy of Photography*. Trans. Anthony Mathews. London: Reaktion, 2014. 65).

what we have been saying in the conclusion that the mechanism of our ordinary knowledge is of a cinematographical kind.<sup>14</sup>



Figure 11 - "Man with the Movie Camera", Dziga Vertov, 1929

While Bergson's "Cinematographical Mechanism of Thought"<sup>15</sup> would later be challenged by Deleuze in *Cinema 1: The Movement Image*, it is clear that the 20<sup>th</sup> century's technical modes of representation—photography, cinema, and the phonograph—concerned wider spheres of thought than those strictly focused on the *surface* or the *truth* of the image. Soon, electronic apparatuses would expand the scale, speed, and distances involved in these perceptual challenges, affecting the structure of modern culture vis-à-vis global image production.

*An image is more than an image*

Paul Valéry

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<sup>14</sup> Bergson, Henri. *Creative Evolution*. Trans. Arthur Mitchell. Dover: Mineola, 1998. 332.

<sup>15</sup> *Ibid.* 296.

## 2.4 - Screens

The primary apparatus in the contemporary world of image production is the screen – the television screen, the computer monitor, and the mobile device. As mechanisms, they are both a point of arrival and departure: a physical destination for the flow of electronic images, and a virtual entryway for the viewer into the spaces from which those images originate.



*Figure 12 - "Videodrome", David Cronenberg, 1983*

For the individual, screens are interfaces between an internal perceptual space and impossibly vast external spaces, thus becoming the site of the “contemporary sublime encounter”<sup>16</sup> as described by Artist James Coupe:

*What are the dimensionalities of the various spaces that we occupy? How do we verify the borders of where we are, and how do we authenticate what we find in them? The relationship between space, geography and information has undeniably shifted, leading us to become accustomed to non-linear simultaneous events as substitutes for successive, linear actions. Central to this simultaneity is the screen, which in most cases defines the edge of our perception of such spaces.*<sup>17</sup>

The “contemporary sublime” or encounter with the incommensurable, specifically in relationship with screens, is the subject of much late 20<sup>th</sup> century postmodern art. In his manipulated television sculpture *Moon is the Oldest TV* (1965) Nam June Paik quietly disrupts the normal operation of 12 cathode ray tubes, pointing through the screen toward a much-bigger celestial picture. Far less contemplative but equally vast in its implied spatial dimensions, *Global Groove* (1973) presented a “permanent rupture of flow of images of culture” as appropriated videos ranging from traditional to avant-garde streamed through the Paik/Abe synthesizer to local television screens.<sup>18</sup>

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<sup>16</sup> Coupe, James. *(re)collector*. Dissertation. DXARTS, University of Washington, 2009. 35.

<sup>17</sup> Ibid. 34-35.

<sup>18</sup> Zerbib, David. "Contributions to and Artistic Anthropology." *Nam June Paik Reader 1*. Ed. Youngchul Lee and Henk Slager. Nam June Paik Art Center, 2010. 66.



Figure 13 - "Moon is the Oldest TV", Nam June Paik, 1965



Figure 14 "Global Groove", Nam June Paik, 1973

Postmodern cinema and literature thoroughly identify the video screen as a threshold between interior and exterior, private and public, local and vast. In Jacques Tati's *Playtime* (1967), a series of potentially warm, personal encounters are interrupted by the cold glass and steel architecture of modern Paris. In one such meeting Mr. Hulot enters a friend's condominium, designed (by Tati) to mimic the repeated frames of the ubiquitous, centrally-located televisions. Hulot finds himself alone in a crowd. As each apartment is tuned to the same program, the eyes of individuals in each room only meet virtually, through the opaque window of the TV screen.



*Figure 15 - "Playtime", Jacques Tati, 1967*

Screens are also present throughout Don DeLillo's novels, often as a psychological boundary between an isolated personal space and the crush or void of the outside world. In *Cosmopolis* (2003), a panorama of digital screens in Eric Packer's otherwise hermetic

limousine provides the billionaire with constant real-time economic and political data, while buffering him from the reality on the street. In the *Body Artist* (2001) the central character escapes the isolation of her secluded New England home by habitually watching internet feeds of far-away traffic and weather cams.



Figure 16 - Traffic camera, Kotka, Finland, December 22, 2015

*She chopped firewood. She spent hours at the computer screen looking at a live-streaming video feed from the edge of a two-lane road in Finland. It was the middle of the night in Kotka, in Finland, and she watched the screen. It was interesting to her because it was happening now, as she sat here, and because it happened twenty-four hours a day, facelessly, cars entering and leaving Kotka, or just the empty road in the dead times. The dead times were best.<sup>19</sup>*

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<sup>19</sup> Delillo, Don. *The Body Artist*. Simon and Schuster: New York, 2001.

Architecture has also become the domain of omnipresent screens, as otherwise bare interior and exterior surfaces provide opportunities for embedded video interfaces. While conventionally used for advertising or information (maps, directories, etc.), more radical conceptualizations of architectural video can be seen in early projects by Diller Scofidio + Renfro, such as *Jump Cuts* (1996) and *Slow House* (1991).



Figure 17 - "Slow House" Long Island, Diller Scofidio + Renfro, 1991

*..DS+R have sometimes projected an aspect of vision into the very building. This approach was already programmatic in Slow House (1991), a scheme for a beach home on Long Island, New York, that is structured in its entirety as though it were a view—a vector of sight that bends and expands from a narrow entrance to a large picture-window*

*one hundred feet away (the view was to be redoubled on a monitor that relays a live video feed of the water).<sup>20</sup>*

Projects such as this present not only the screen, but the *situated experience* of approaching and addressing the screen as both a physical surface and a virtual interface. It is perhaps this aspect of our relationship with the screen that reinforces its position as a primary site of the sublime encounter in a post-digital world.

*The difference between the modern and the postmodern attitude toward the sublime and the incommensurable is only one of emphasis or tone. While the modern emphasizes the failure of representation, the postmodern stresses the complimentary experience of that failure – the realization that an unrepresentable exists.<sup>21</sup>*

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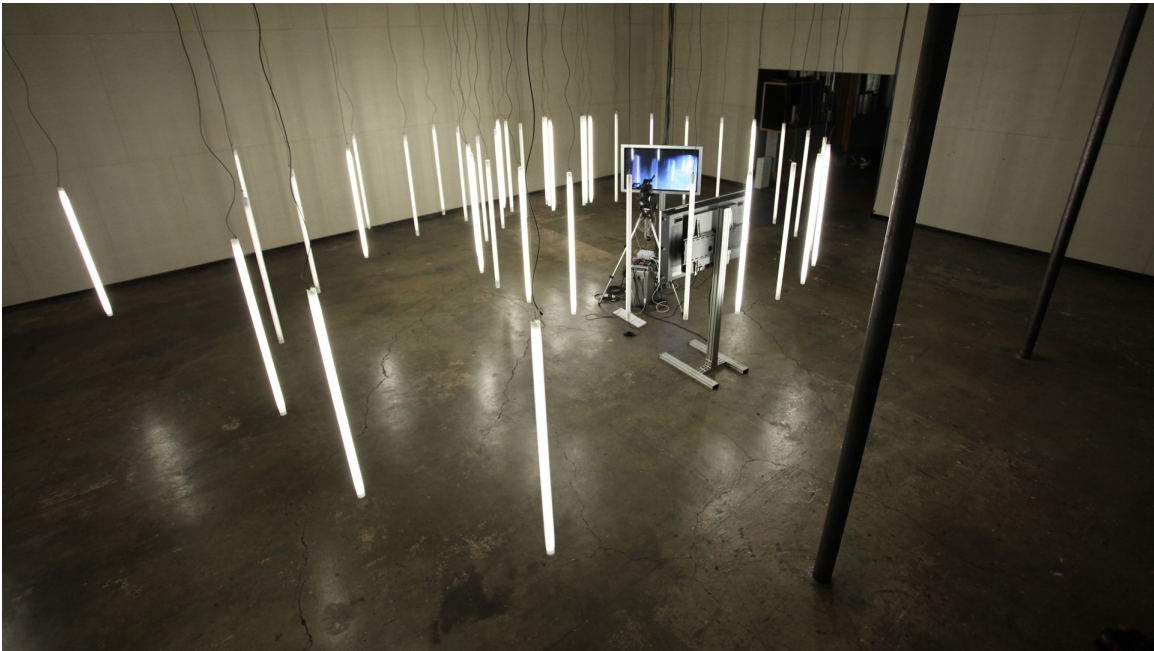
<sup>20</sup> Foster, Hal. *The Art-Architecture Complex*. London: Verso, 2011. 90.

<sup>21</sup> Welsch, Wolfgang, and Mike Sandbothe. "Postmodernity as a Philosophical Concept." *International Postmodernism: Theory and Literary Practice*. Ed. Johannes Willem Bertens, Hans Bertens, and Douwe Fokkema. John Benjamins: Philadelphia, 1997.

## Chapter 3 - A Macrocosmic Zero

### 3.1 - Introduction

Created in Spring 2010 at Lawrimore Project gallery in Seattle, *A Macrocosmic Zero* was the first in a series of three live-video installations developed to explore how memory and direct perception have become increasingly entangled with the spheres of media and image production.



*Figure 18 - "A Macrocosmic Zero" installation view at Lawrimore Project*

In describing and contrasting these three projects, it is important to note that each one addresses the nature of image production in the context of a specific paradigmatic space of modernity. While *Site Machines* is focused on architectural space, and *Arcade Zero* on heterotopic urban space (a particular, modernist commercial space in downtown Seoul), *A Macrocosmic Zero* addresses this theme within the framework of the art gallery, a space explicitly organized for image consumption.

### 3.2 - Site

The original Lawrimore Project gallery operated between 2006 and 2010 at the boundary of Seattle's industrial and business districts. Formerly owned by a sign-making company, the warehouse was redesigned by the architects of Lead Pencil Studio to create a number of distinct viewing spaces throughout the building. Moving from front to back, one first encountered a 2000 square foot, open, concrete **Project Space**. This was followed by the **White Cube**, a space consciously built to address "The Ideology of the Art Space" as explored by Brian O'Doherty.<sup>22</sup> Moving to the back, the **Black Box** took the form of a small movie theater, and similarly made institutional critique of the conventions of viewing that one typically encounters in modern cultural spaces. Taken as a whole, the gallery itself seemed to embody a contemporary reading of O'Doherty, and create a space that "connects in two directions: backwards to the modern history of art, and forwards to contemporary spatial practices."<sup>23</sup> With this in mind, *A Macrocosmic Zero* was designed as a mechanism for creating, displaying, and ultimately erasing images within the paradigmatic space of the contemporary art gallery.

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<sup>22</sup> O'Doherty, Brian. "Inside the White Cube: The Ideology of the Gallery Space". Berkeley: University of California Press, 1999.

<sup>23</sup> Sheikh, Simon. "Positively White Cube Revisited". *e-flux*, February 2009. <http://www.e-flux.com/journal/positively-white-cube-revisited/>

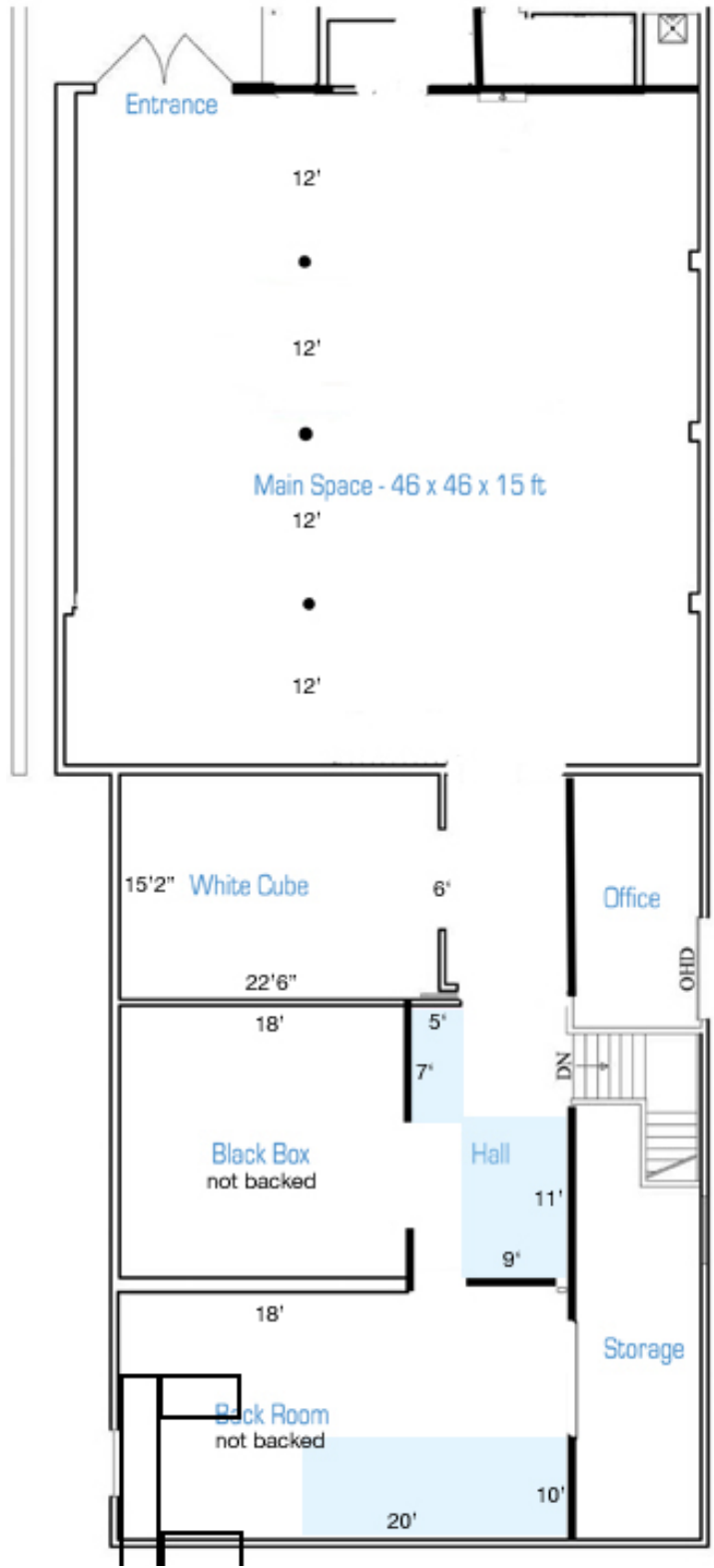


Figure 19 - Lawrimore Project floor plan

### 3.3 - Organization

At the center of the gallery's project space, a digital video camera is mounted to a motorized tripod head. It periodically pans across the gallery, which is illuminated by concentric circles of fluorescent lights suspended from the ceiling. The resulting images are fed into a video-delay ranging from 0-4 minutes before being displayed on one of two monitors. Because these screens are positioned within view of the camera on its path across the gallery, the lens comes to rest on a delayed instance of its own image, and creates a slow, controlled version of a video feedback loop.



*Figure 20 - "A Macrocosmic Zero" detail of digital video camera on motorized tripod head*

These images can be viewed on the screens in the main gallery – sited within the volume of that immediate space, surrounded by the vertical forms of fluorescent tubes, and accompanied by the audible clicking of lighting relays. Alternatively, as a viewer exits this main space, they find another version of the video circuit in the gallery's black box theater. Here, a large projection of the delayed image presents a view from inside the

system. As this re-framed, mediated format strips away many of the material and spatial cues present in the larger installation, it creates additional orders of temporal and visual abstraction. Sitting in the theater, an audience may well reencounter a delayed image of their own passage through the gallery, an image heavily affected by the time and space between these two zones.

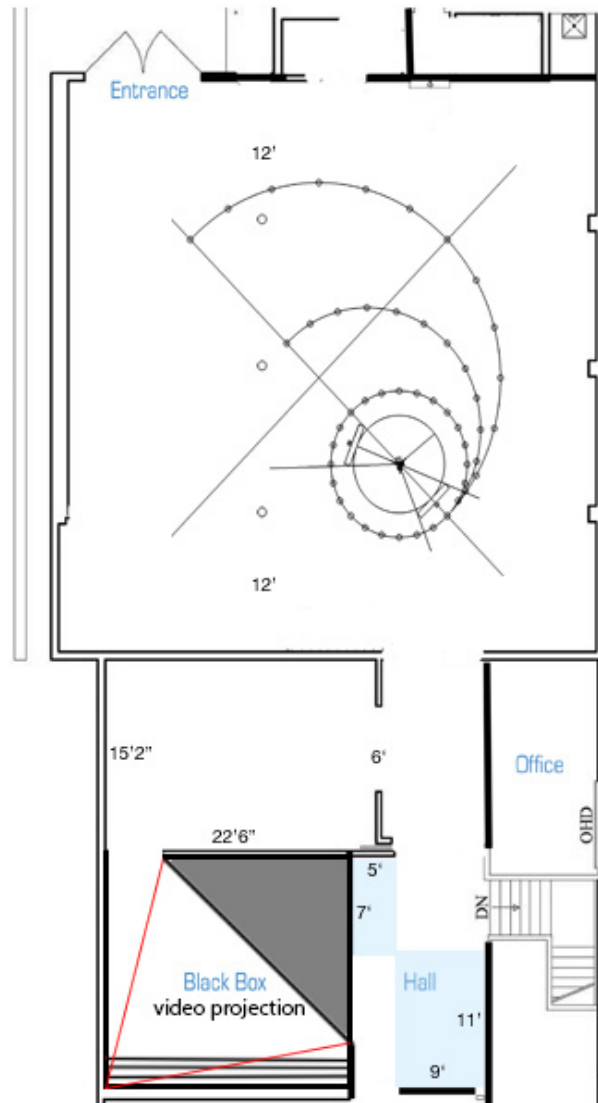


Figure 21 - "A Macrocosmic Zero" floor plan of main gallery and black box theater spaces

### 3.4 - Mise-en-abyme

The periodic re-scanning of delayed video in this system can be seen as a kind of *mise-en-abyme*, a placing of the image into an abyss where it recursively appears in the frame of the successive image. While *mise-en-abyme* often describes a self-reflexive situation in which a **smaller** version of the image is infinitely embedded in the larger frame, the feedback-loop in *A Macrocosmic Zero* may be better described as creating successively **eroded** versions of the previous frame. The image of a *photocopy of a photocopy* describes this erosion well, as the once-clear images of vertical lights, the gallery, and any spectators in that space are steadily reduced to create a formless aggregate of the original visual components.



Figure 22 - "A Macrocosmic Zero" 5:02 pm, March 26, 2010

In visual arts, a number of techniques and conceptual frameworks for feedback loops were developed in early works by Nam June Paik, Lynda Benglis, Peter Campus, and the Vasulkas. Central to many of these video projects is the centering of the artist's body

“between two machines that are the opening and closing of a parenthesis.”<sup>24</sup> In Gary Hill’s video tape *Black White Text* (1980), the artist’s presence is both accumulated and deconstructed by feedback as Hill’s own voice is simultaneously piled on top of itself and reduced to its smallest syllabic component.

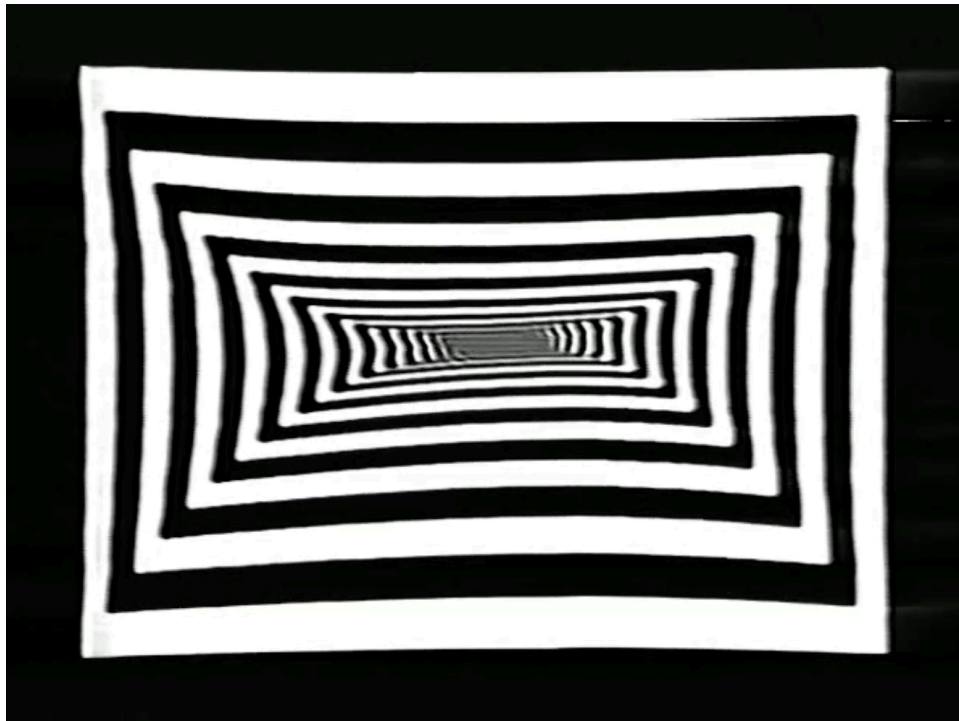


Figure 23 - “Black White Text”, Gary Hill, 1980

Accompanying the sonic feedback is a visual counterpart in which the repeated frame of a rectangle is multiplied beyond the limit of the video mechanism’s ability to faithfully convey its form. This contingency upon the “structural properties” of the feedback mechanism (a mechanism which often incorporates spatial relationships between camera/screen or microphone/speaker) creates an interesting threshold between a space of immediate experience, and an invisible space – the *black box* of an electronic process.<sup>25</sup>

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<sup>24</sup> Krauss, Rosalind. “Video: The Aesthetics of Narcissism.” *October*. Vol. 1, Spring 1976. 52.

<sup>25</sup> “Gary Hill.” *UbuWeb Film*. [http://www.ubu.com/film/hill\\_text.html](http://www.ubu.com/film/hill_text.html)

While Hill's *Black White Text* presents a fixed composition created through his own interactions with the feedback mechanism, installation projects like *Glass Onion* (1981) begin to place the "body of the responding viewer" within the threshold between physical space, and the internal logic of the audiovisual system.<sup>26</sup> Alvin Lucier's many configurations of his sonic performance *I am Sitting in a Room* (1969) further explore hybrid arrangements of the artist's and the audience's bodies. Initially, this threshold between the body and the mechanism is activated by Lucier's offering of his own voice, and indeed his own personal narrative as the subject of the feedback process:

"I am Sitting in a Room"

For voice and electromagnetic tape.

Necessary Equipment:

1 microphone, 2 tape recorders, amplifier, 1 loudspeaker.

Choose a room the musical qualities of which you would like to evoke.

Attach the microphone to the input of tape recorder #1.

To the output of tape recorder #2 attach the amplifier and loudspeaker.

Use the following text or any other text of any length:

*I am sitting in a room different from the one you are in now. I am recording the sound of my speaking voice and I am going to play it back into the room again and again until the resonant frequencies of the room reinforce themselves so that any semblance of my speech, with perhaps the exception of rhythm, is destroyed. What you will hear, then, are the natural resonant frequencies of the room articulated by speech. I regard this activity not so much as a demonstration of a physical fact, but more as a way to smooth out any irregularities my speech might have.*

Rewind the tape to its beginning, transfer it to tape recorder #2, play it back into the room through the loudspeaker and record a second generation of the original recorded statement through the microphone

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<sup>26</sup> Krauss, Rosalind. "Video: The Aesthetics of Narcissism." *October*. Vol. 1, Spring 1976. 52.

attached to tape recorder #1.

Rewind the second generation to its beginning and splice it onto the end of the original recorded statement on tape recorder #2.

Play the second generation only back into the room through the loud speaker and record a third generation of the original recorded statement through the microphone attached to tape recorder #1.

Continue this process through many generations.

All the generations spliced together in chronological order make a composition the length of which is determined by the length of original statement and the number of generations recorded.

The versions in which one recorded statement is recycled through many rooms.

Make versions using one or more speakers of different languages and in different rooms.

Make versions in which, for each generation, the microphone is moved to different parts of the room or rooms.

Make versions that can be performed in real time.<sup>27</sup>

Unlike the passive experience of listening to the resulting 15'23" tape recording of this performance, the final prompt in Lucier's instructions, to "make versions that can be performed in real time," proposes an additional set of interactions between the bodies of the audience, the feedback mechanism, and the surrounding space.<sup>28</sup> When spectators physically occupy the "room the musical qualities of which you would like to evoke,"<sup>29</sup> they enter an embodied, self-reflexive situation where they become both a witness to and a physical part of the architectural-sonic instrument that is the feedback mechanism. In *A Macrocosmic Zero*, the different "zones of spectacle" in Lawrimore Project (the concrete installation space and the black box theater) become components of an

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<sup>27</sup> "Alvin Lucier." *UbuWeb Sound*. <http://www.ubu.com/sound/lucier.html>

<sup>28</sup> Ibid

<sup>29</sup> Ibid

architectural-visual instrument for the generation of images.<sup>30</sup> The incorporation of the audience in this visual system further works to invert the normal conditions of the image-making/image-consuming dynamic that generally exists in an art gallery. While this kind of *role-reversal* can be seen in installations dating back to Bruce Nauman's *Live-Taped Video Corridor* (1970) and Dan Graham's *Time Delay Room* (1974), the feedback mechanism in *A Macrocosmic Zero* proposes a reevaluation of the art gallery as a paradigmatic space within the larger contemporary world of image-production. By 2010 (the year of *A Macrocosmic Zero*'s debut and Instagram's initial release<sup>31</sup>), the repeated act of looking at and framing oneself through digital media had become a condition of a televisual culture that favors *the meme*, *the share*, and the "*poor images*" described by Hito Steyerl.

*The poor image is a copy in motion. Its quality is bad, its resolution substandard. As it accelerates, it deteriorates. It is a ghost of an image, a preview, a thumbnail, an errant idea, an itinerant image distributed for free, squeezed through slow digital connections, compressed, reproduced, ripped, remixed, as well as copied and pasted into other channels of distribution.*<sup>32</sup>

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<sup>30</sup> The "zone of spectacle" is a term borrowed from a proposed rebranding of Busan Station in South Korea as a "Hub of Creative Economy", but more importantly references the spaces of conditioned spectatorship described by Guy Debord in *The Society of the Spectacle*.

<sup>31</sup> "Instagram." *Wikipedia: The Free Encyclopedia*. Wikimedia Foundation, Inc. November 2015. <https://en.wikipedia.org/wiki/Instagram>

<sup>32</sup> Steyerl, Hito. "In Defense of the Poor Image." *e-flux*, November 2009. <http://www.e-flux.com/journal/in-defense-of-the-poor-image/>

### 3.5 - The Crystallization of the Image



*Figure 24 - "A Macrocosmic Zero" 4:28 pm, March 23, 2010*



*Figure 25 - "A Macrocosmic Zero" 4:33 pm, March 23, 2010*

In *The Crystal World*, Ballard describes surreal images of a slowly evolving disaster: a shimmering, crystalline growth that merges time and matter in an infinitely reflecting organization of states:

*Just as a super-saturated solution will discharge itself into a crystalline mass, so the super-saturation of matter in our continuum leads to its appearance in a parallel spatial matrix. As more and more time "leaks" away, the process of super-saturation continues, the original atoms and molecules producing spatial replicas of themselves, substance without mass, in an attempt to increase their foot-hold upon existence. The process is theoretically without end, and it may be possible eventually for a single atom to produce an infinite number of duplicates of itself and so fill the entire universe, from which simultaneously all time has expired, an ultimate macrocosmic zero beyond the wildest dreams of Plato and Democritus.*

J.G. Ballard, *The Crystal World* (1966)



Figure 26 - "Spiral Jetty", Robert Smithson, 1970

As in many of his novels and short stories, Ballard begins with some form of fictitious disaster.<sup>33</sup> In these scenarios, he is given license to create an “unstable ground on which new notions of history and identity are endlessly being constructed and destroyed.”<sup>34</sup> While built upon scaffoldings of fantastic near-future catastrophes, these fictions examine history (time) and identity (representation) with intense post-modernist scrutiny, presenting images of an endless present and “the multiplication of objects so that all the different versions, past, present and future, exist at one and the same time.”<sup>35</sup> This “eternal recurrence of the same” recalls Vilem Flusser’s description of *entropy in the photographic universe* – a “tendency toward more and more probable states” in images generated by machines.<sup>36</sup> Today, this can be extended to the wider production of images, images made not only through the apparatuses of photography and multimedia, but through the mechanisms of urban development and architecture. As urban spaces, cultural spaces, and landscapes are now imagined, constructed, and perceived through the lenses of digital media, we have arrived at an endless series of thresholds between immediate physical experiences and the images that undergird them. To paraphrase Baudrillard, we find ourselves “between a very high-frequency virtual space and a zero-frequency real space.”<sup>37</sup>

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<sup>33</sup> Ballard’s disaster scenarios include environmental crises in *The Drowned World* and *The Crystal World*, dystopian landscapes in *Chronopolis* and *The Ultimate City*, and modern urban/social/architectural catastrophes in *Concrete Island* and *High Rise*.

<sup>34</sup> Depper, Corin. “Death at Work: The Cinematic Imagination of J.G. Ballard.” *J. G. Ballard: Contemporary Critical Perspectives*. Ed. Jeannette Baxter. London: Bloomsbury, 2009. 52.

<sup>35</sup> Holliday, Mike. “Ballard and the Vicissitudes of Time.” *Ballardian*. July 2008. <http://www.ballardian.com/ballard-and-the-vicissitudes-of-time>

<sup>36</sup> Flusser 76, 83.

<sup>37</sup> Baudrillard, Jean. *Screened Out*. London: Verso, 2002. 57.

## Chapter 4 - Arcade Zero

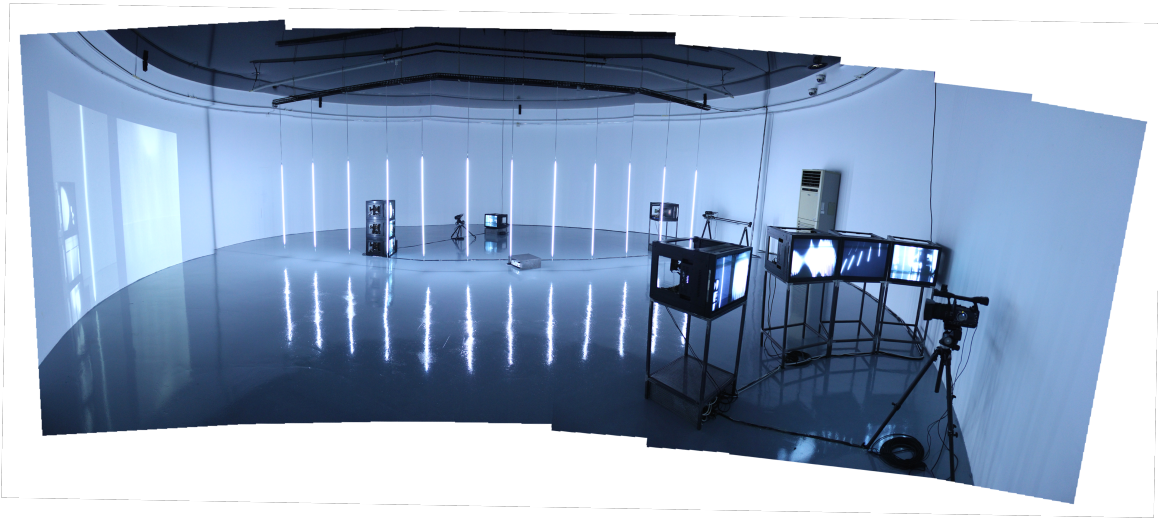


Figure 27 - "Arcade Zero" installation view at Seoul Museum of Art, Nanji Residency Gallery

### 4.1 - Introduction

After the completion of *A Macrocosmic Zero* in 2010, the following project, *Arcade Zero*, shifted focus from the space of the contemporary art gallery to much larger urban and exurban landscapes, specifically downtown Seoul and Gyeonggi-Do (the province surrounding Seoul). This research was conducted between 2011- 2012 with generous support from a number of diverse organizations including the Fulbright Korean-American Educational Commission, the University of Washington Center for Digital Arts and Experimental Media (DXARTS), and the Seoul Museum of Art.<sup>38</sup>

While *Arcade Zero* was created during this one-year residency in South Korea, the project's themes had been incrementally developed during successive visits to Seoul

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<sup>38</sup> Additional support was provided by the University of Washington Boeing International Graduate Fellowship, Seogyo Art Space, and the family of Sang and Linda Lee.

between 2003-2010. In the interval between each of these visits, the pace and scale of industrial urban-development became one of the most recognizable features of the landscape. Upon each return to Korea, the natural landmarks that once guided the journey south from Seoul had either been replaced with another “New City” or leveled in preparation for similar construction.



Figure 28 - Dongtan 2 New City, Gyeonggi-Do, South Korea 2015

The political, economic, and cultural histories of urbanization in South Korea are indeed complex, with their roots in the Japanese colonial period and post-war modernization during the dictatorship of the 1960's.<sup>39</sup> These histories became important to *Arcade Zero*

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<sup>39</sup> For a more comprehensive study of South Korea's architectural and urban modernization see (Kwak, Heui-Jeong. *A Turning Point in Korea's Urban Modernization: The Case of the Sewoon Sangga Development*. Dissertation. Harvard University, 2002.)

in that they *lie-beneath* the appearance of contemporary Korea that is being built today. Image production, in this sense, is not limited to the output of standard visual media (photographs, advertisements, news broadcasts, etc.) but encompasses all aspects of vision, including the way *a culture sees itself*. With this in mind, the research that contributed to *Arcade Zero* was focused on identifying zones of radical optic change or conflict – spaces where the image being constructed stood in stark visual or functional opposition to the surrounding landscape.

#### **4.2 - Ruins in Reverse**

*That zero panorama seemed to contain ‘ruins in reverse’, that is – all the new construction that would eventually be built. This is the opposite of the “romantic ruin” because the buildings don’t ‘fall’ into ruin ‘after’ they are built but rather ‘rise’ into ruin before they are built. This anti-romantic ‘mise-en-scene’ suggests the discredited idea of ‘time’ and many other “out of date” things. But the suburbs exist without a rational past and without the “big events” of history...no past – just what passes for a future. A Utopia minus a bottom...<sup>40</sup>*

The following images locate the former home of Sang and Linda Lee on the outskirts of Osan City, 50km south of Seoul. This small country house, built along a hillside ginseng farm, was the starting point or *home-base* for much of my research in Korea beginning in

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<sup>40</sup> Smithson, Robert. "A Tour of the Monuments of Passaic, New Jersey." *The Writings of Robert Smithson: Essays and Illustrations*. Ed. Nancy Holt. New York: New York University Press, 1979. 72.

2003.<sup>41</sup> In 2008 the area was identified as the future site of “Dongtan 2 New City” and clearing began for the project in 2010. During this excavation, the Lee family was forced to relocate their family’s burial mounds and raze the adjacent ginseng farm. In early 2014 the house was demolished and the Lee family moved 10km south to Songtan City.

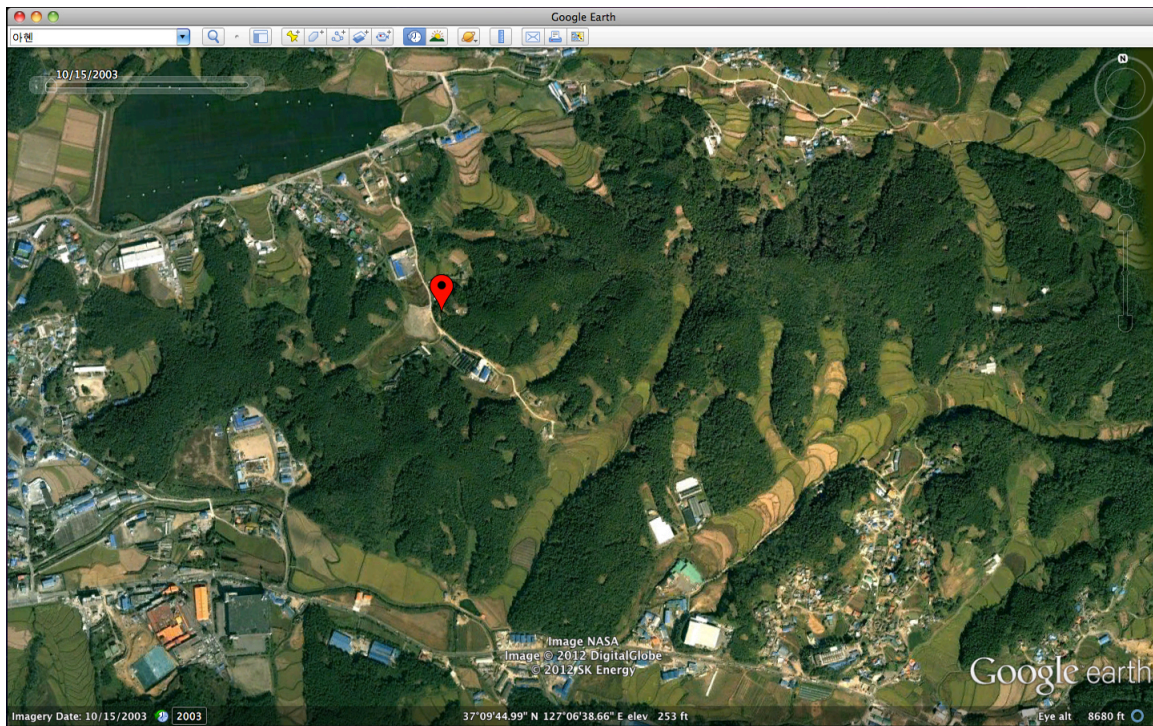


Figure 29 - Sancheok-ri, Gyeonggi-do, South Korea, 2003<sup>42</sup>

<sup>41</sup> A personal note: this was the home of my wife’s parents. Their family had lived in this neighborhood for decades, and my wife could identify features in the landscape that she remembered from childhood visits in the 1980’s: the small fishing lake (sancheok reservoir), the ancestral burial mound in the hills south of the house, and the foundation of her great-grandmother’s former home.

<sup>42</sup> “Sancheok-ri, Gyeonggi-do, South Korea.” 37°09’44.99”N 127°06’38.66”E. Google Earth. October 15, 2003.

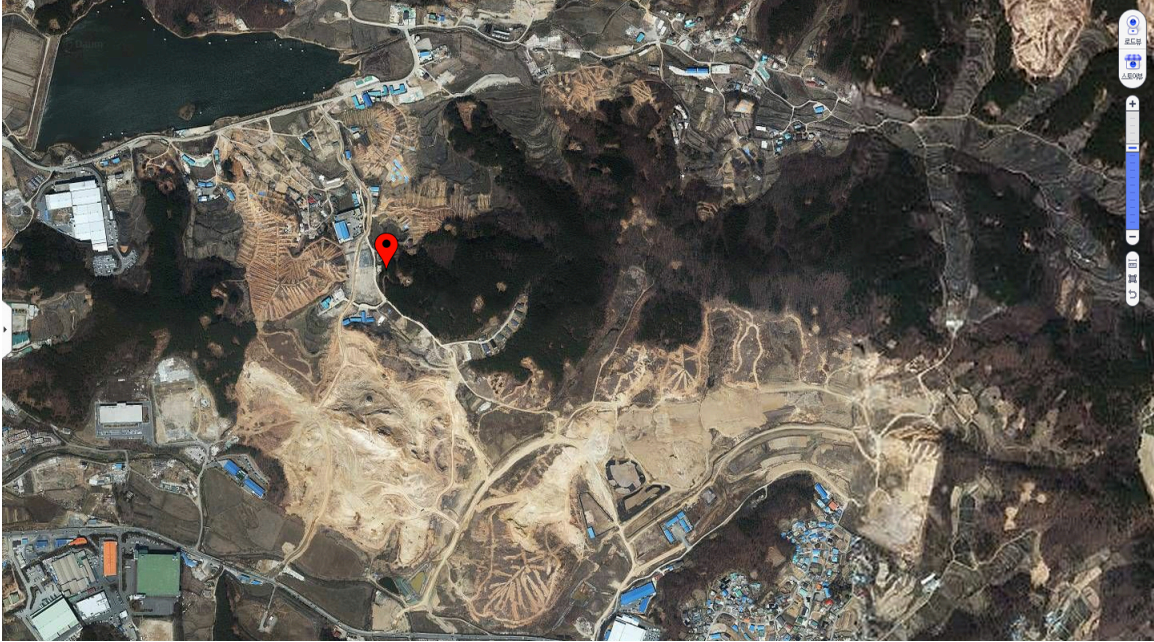


Figure 30 - Sancheok-ri, Gyeonggi-do, South Korea, 2010<sup>43</sup>

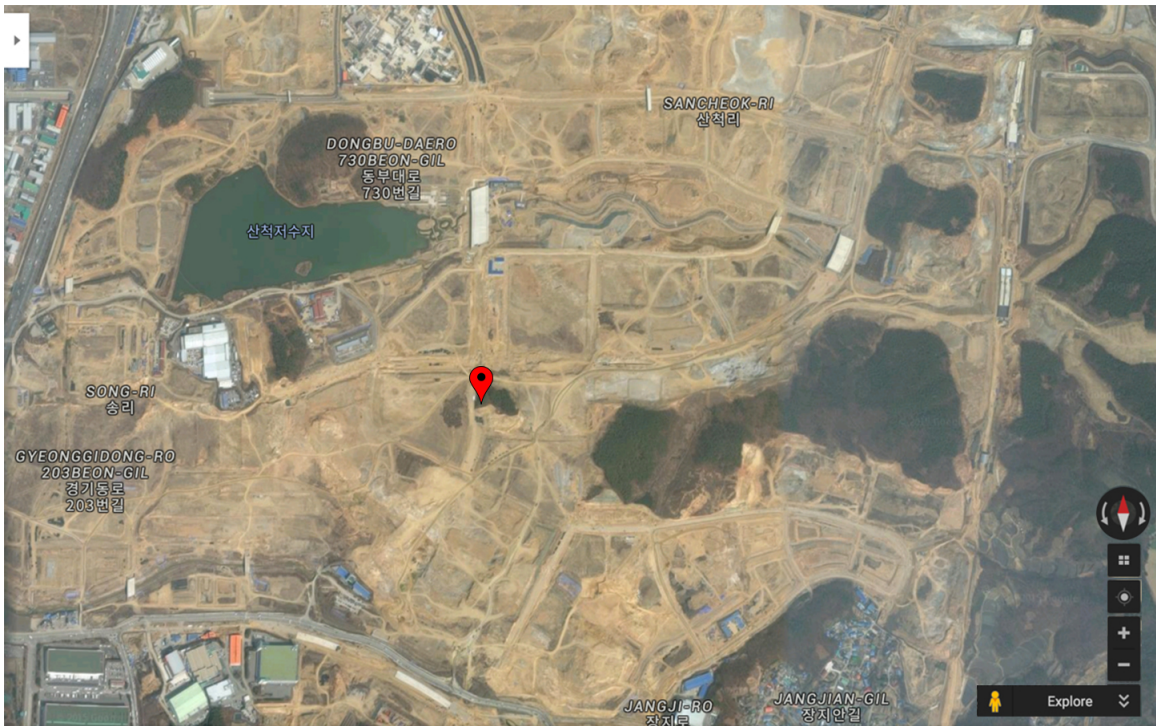


Figure 31 - Sancheok-ri, Gyeonggi-do, South Korea, 2015<sup>44</sup>

<sup>43</sup> “Sancheok-ri, Gyeonggi-do, South Korea.” 37°09’44.99”N 127°06’38.66”E. Daum Maps. November, 2010.



*Figure 32 - Former site of Lee family burial mounds, Sancheok-ri, Gyeonggi-do, South Korea, 2015*

While *Arcade Zero* does not directly incorporate images of this development, they provide a starting point for understanding the mutability of the Korean landscape. Rather than evoking a sense of nostalgia or loss, the project aims to identify how these dialectic forces – accumulation/erosion, appearance/disappearance, repetition/disruption – become “confounded into a unitary chaos.”<sup>45</sup> With this in mind, the erasure of the natural landscape must be placed along a continuum of image production that includes both the construction of the next residential development and its inevitable decay at some time in the future.

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<sup>44</sup> “Sancheok-ri, Gyeonggi-do, South Korea.” 37°09’44.99”N 127°06’38.66”E. Google Maps. December 15, 2015.

<sup>45</sup> Smithson. 71.

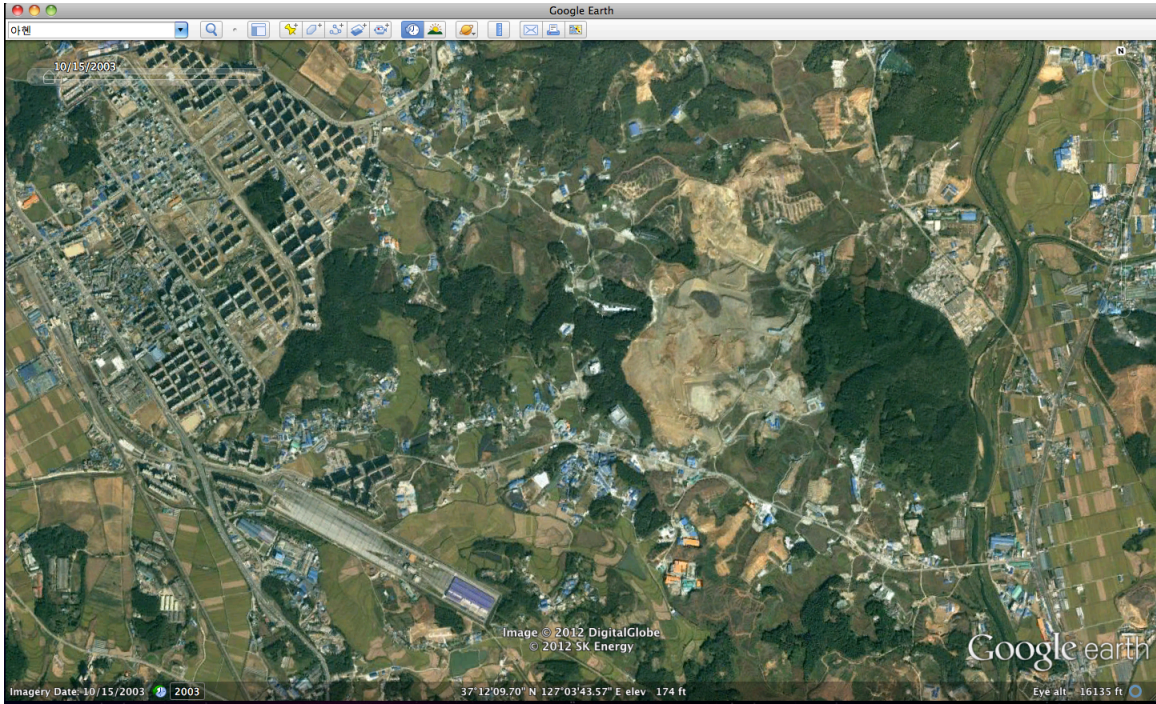


Figure 33 - Dongtan "Ubiquitous City", Gyeonggi-do, South Korea, 2003<sup>46</sup>

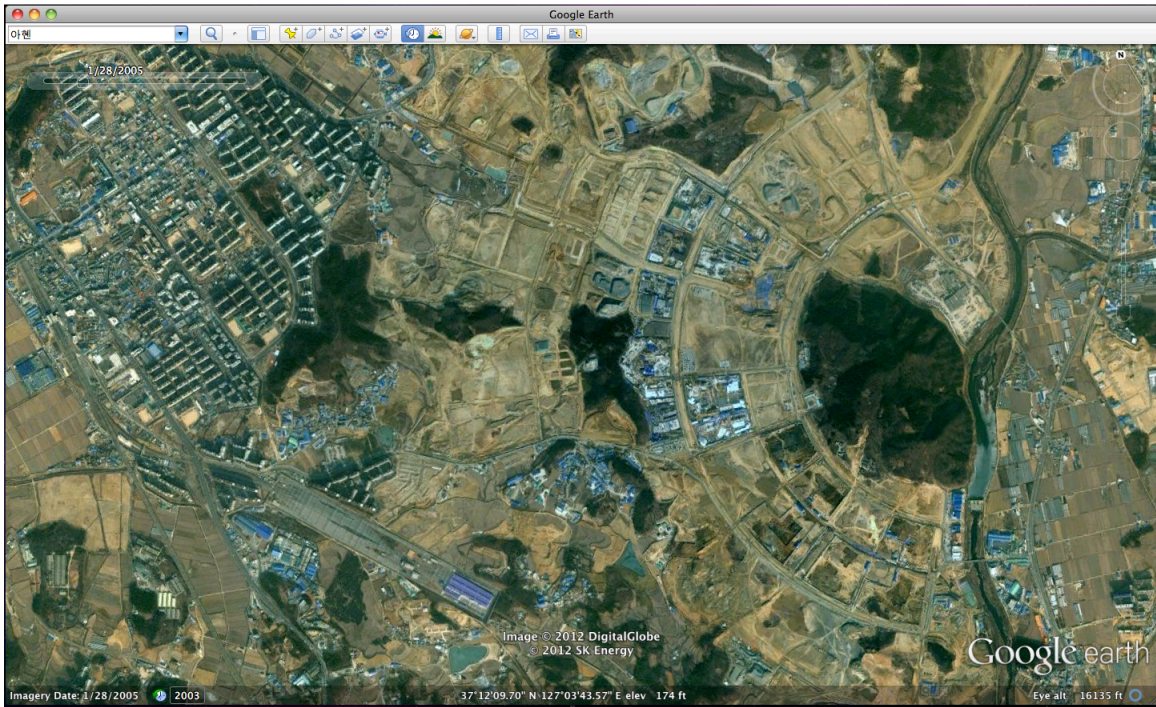


Figure 34 - Dongtan "Ubiquitous City", Gyeonggi-do, South Korea, 2005<sup>47</sup>

<sup>46</sup> "Dongtan Ubiquitous City, South Korea." 37°12'09.70"N 127°03'43.57"E. Google Earth. October 15, 2003.

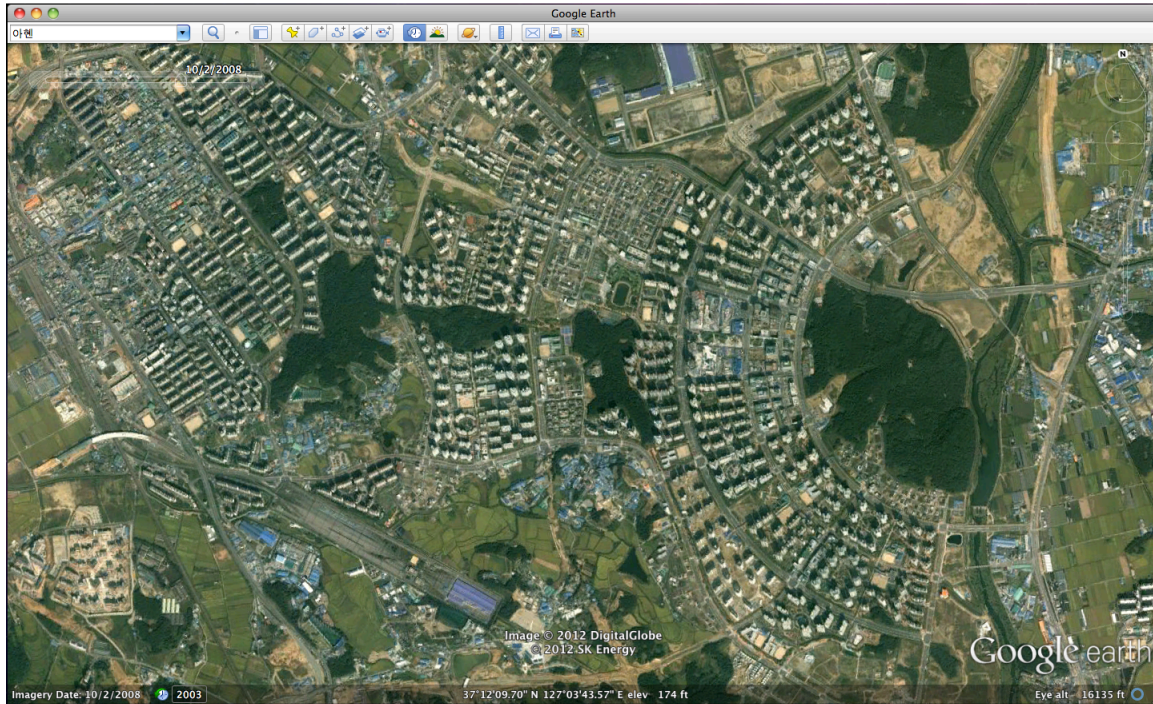


Figure 35 - Dongtan "Ubiquitous City", Gyeonggi-do, South Korea, 2008<sup>48</sup>

Here, the exurban growth seen in the first phase of Dongtan seems to simultaneously eradicate and incorporate the landscape as the few remaining topographical features are embraced by the encroaching arcs of apartment buildings.<sup>49</sup> These uncanny spatial and architectural situations became the focus of research for *Arcade Zero* as the project shifted its gaze from Korea's rural development to urban growth and decay in downtown Seoul.

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<sup>47</sup> Ibid. January 28, 2005.

<sup>48</sup> Ibid. October 2, 2008.

<sup>49</sup> "Hwaseong-Dongtan U-City" is the development adjacent to and preceding "Dongtan 2 New City." Completed in 2007, the official title of "Ubiquitous City" refers to the total integration of information technology systems with all aspects of civic life (traffic, transit, parking, medical, crime prevention, trash collection, etc.). There were at least 15 so-called "Ubiquitous City" projects in Korea at the time of this document's writing. While the name's reference to IT integration is explicit, there is an implied subtext that imagines the eventual merging of all such developments into one, giant, mega-city surrounding Seoul.

### 4.3 - Sewoon Arcade

As the image of the Korean countryside is constructed through a dialectic of rural, community-centered economies and industrial-scale corporate developments, so too have urban centers been shaped by a multitude of conflicting cultural and political forces.<sup>50</sup> An icon of – or perhaps a monument to – the contradictory imaginations of downtown Seoul is Sewoon Arcade (Sewoon Sangga).



*Figure 36 - Sewoon Sangga, Seoul 1967*

Imagined as a showpiece for Seoul’s socioeconomic modernization in the 1960’s, Sewoon’s developers looked to European architectures of experimental civic, commercial,

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<sup>50</sup> Many of Korea’s major construction and civil engineering companies are subsidiaries of larger parent corporations which operate throughout the country’s industrial and consumer economies, e.g., Daelim, Daewoo, Hyundai, and Samsung.

and residential complexes, referencing both the form and social function of Le Corbusier's *Unité d'Habitation*. Ultimately, only 4 of the arcade's 8 intended blocks were realized as vast incompatibilities between the project's vision and the economic reality of downtown Seoul became evident. This precipitated the development's decline and left its apartments vacant only 10 years after their construction. At the time, the image and indeed the spectacle that was built around Sewoon Sangga was irreconcilable with the everyday-lives of the small stores, family-owned restaurants, and individually-run manufacturers that operated in the maze of shops and alleyways below.



Figure 37 - Sampoong apartment advertisement from Daelim Industrial Co., Ltd.<sup>51</sup>

<sup>51</sup> Although the entire four-building development is often referred to as “Sewoon Sangga”, each building had a different name, including “Sampoong” and “Daelim.” See (Ahn, Changmo & Jin Yeoul Jung. *Tracing Changes in Metropolitan Seoul from the Korean War to Present*. 2011. Publication for mixed-media installation. Artsonje Center, Seoul).



*Figure 38 - Sewoon Sangga and surrounding neighborhood*



*Figure 39 - View west from Sewoon Sangga's exterior platform*

Today, the concrete shells of the arcades are still incised upon the topography of downtown Seoul. From ground level, they appear to cut through the texture of low-lying buildings like a procession of ships, or the ghosts of Seoul's modernization. Interestingly, as the arcade's form and intended functions have steadily eroded during the decades after their construction, they have seemed to merge with the milieu of the surrounding neighborhood. Slowly, residents, shopkeepers, fabricators, and the like began to re-occupy the buildings and construct a new image of the arcades therein. Pharmacists, florists, metal smiths, and wood workers mix with restaurants, tea shops, and small stores. Currently the arcades are filled, floor-to-ceiling, with tools, motors, pornography, and used electronics – primarily surveillance, video game, and karaoke equipment.

Rather than the image of modern utopia borrowed from Europe, a composite image has emerged in Sewoon Sangga, one representative of the complex realities of downtown Seoul. This recalls Foucault's description of *heterotopic* spaces: "...in which the real sites, all the other real sites that can be found within the culture, are simultaneously represented, contested, and inverted."<sup>52</sup> Indeed, the layers of "superimposed meanings" are piled high in the arcades, as the architecture, accumulated artifacts, and current social functioning within the building embody slices of time from the 60's, the 80's, through to the present-day.<sup>53</sup>

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<sup>52</sup> Foucault, Michel. "Of Other Spaces." Trans. Jay Miskowiec. *Diacritics*. Vol. 16, No. 1, 1986. 24.

<sup>53</sup> *Ibid.* 25.



*Figure 40 - Surplus electronics from a store on Sewoon Sangga's exterior platform*

*Even the run-down nature of the high-rise was a model of the world into which the future was carrying them, a landscape beyond technology where everything was either derelict or, more ambiguously, recombined in unexpected but more meaningful ways.*

*..sometimes he found it difficult not to believe that they were living in a future that had already taken place, and was now exhausted.*

J.G. Ballard, *High Rise* (1975)

#### 4.4 - The Collector

As Sewoon Sangga became the primary research site for *Arcade Zero*, the materials, electronics, and formal (dis)organization found therein contributed to a growing collection of objects and images from the market and surrounding neighborhood. While navigating these economies – in the labyrinthine marketplaces of second-hand and re-purposed goods – it became clear that the model of Walter Benjamin’s *Collector* exemplified much of the arcade’s operation in its “relationship to objects that does not emphasize their functional, utilitarian value – that is their usefulness.”<sup>54</sup>



Figure 41 - Inside Sewoon arcade, second floor

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<sup>54</sup> Benjamin, Walter. “Unpacking my Library. A Talk about Book Collecting.” *Illuminations*. Ed. Hannah Arendt. Trans. Harry Zohn. New York: Schocken. 1969. 60.

*Being past, being no more, is passionately at work in things. To this the historian trusts from his subject matter. He depends on this force, and knows things as they are at the moment of their ceasing to be. Arcades are such monuments of being-no-more. And the energy that works in them is dialectics. The dialectic takes its way through the arcades, ransacking them, revolutionizing them, turns them upside down and inside out, converting them, since they no longer remain what they are...and nothing of them lasts except the name: passages.<sup>55</sup>*



Figure 42 - "Ghosts"<sup>56</sup>

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<sup>55</sup> Benjamin, Walter. *The Arcades Project*. Trans. Rolf Tiedemann. Cambridge, MA: Belknap, 1999. 833.

<sup>56</sup> *Ghosts* 2011-2012 is an archive of 20 photographs taken in Sewoon Sangga during research for *Arcade Zero*. Each image is of an unplugged screen that showed the same image for so long that it is now permanently burned into the phosphors, creating a ghostly trace of the spaces they once observed.

[http://www.tivonrice.com/Tivon\\_Rice/Projects/Pages/Ghosts.html](http://www.tivonrice.com/Tivon_Rice/Projects/Pages/Ghosts.html)

If Korea's landscape is reflected off the glass high-rises of its *New Cities*, Sewoon represents an opaque panorama of concrete and steel. While those corporate apartments are uniformly branded with the shifting colors of LED accent lights, the flickering buzz of hand-made neon tubes illuminate Sewoon's alleyways and broken façades. If the projected image of 21<sup>st</sup> century Korea is broadcast in high-definition, the reality of downtown Seoul's history is burned onto a stack of disused surveillance monitors in the basement of Sewoon Sangga.



*Figure 43 - Sewoon apartments, 7th floor*

#### 4.5 - Site

*Arcade Zero* was completed with support from the Seoul Museum of Art (SeMA), through a program that provides 2-year residencies to early and mid-career Korean artists, and 3-month residencies to international artists. The site of the residency, Nanji Park, may well deserve the same psycho-spatial research as was given to Sewoon Sangga, as the artist's studios are located between what used to be the two tallest piles of garbage in the world.<sup>57</sup> The notorious Nanji-do dump site was ultimately capped and converted into a campus of “ecology parks” in preparation for the 2002 World Cup, but not before a contentious period of hasty evictions and gentrification in the surrounding neighborhoods. Nanji's previous function remains a visible part of the SeMA campus, as former water treatment tanks have been converted into the residency's two main galleries.



*Figure 44 - Seoul Museum of Art, Nanji residency galleries*

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<sup>57</sup> The dubious title of “world's tallest dump site” is unconfirmed, but the scale of the artificial landmark is undeniable. The rigidly uniform geometry of the park's two 100m tall, truncated pyramids also add to the uncanny nature of the rehabilitated landscape. (“Nanjido.” *Wikipedia: The Free Encyclopedia*. Wikimedia Foundation, Inc. December 2015. <https://en.wikipedia.org/wiki/Nanjido>).

Formally, the 12-meter diameter, concrete and steel galleries fit well with the aesthetic established by *A Macrocosmic Zero*. The round internal architecture implied a path for both viewers and the images that would circulate through the video installation. The glossy concrete floor, as well as a reflective black ceiling initiated a double-reflection that echoed the system's sonic and visual feedback. While the repurposed galleries presented a potentially interesting entry point to the history of Nanji-do, *Arcade Zero* remained conceptually focused on the situation surrounding Sewoon Sangga. This thematic was materially manifested in a collection of used electronics purchased from the market – CRT monitors, analog CCTV cameras, audio equipment, motors – and custom hardware fabricated in the small shops below the arcades – neon tubes and steel plinths.



Figure 45 - "Arcade Zero" materials collected in the Nanji International Artist in Residence Studio

#### 4.6 - Organization

Similar to *A Macrocosmic Zero*, *Arcade Zero* organizes the installation space as an interface between a series of material encounters and a circuit of image-making devices. Unlike the previous project, which located a single camera in the center of the gallery, this version adds greater density to the production and display structure with 4 live-delayed video cameras, 9 monitors, and a large projection.<sup>58</sup> This complexity, however, is not intended to be a technical exercise. Rather, the resulting “frenetic viewing dynamic” suggests a kind of *vertigo* brought about by the crises of image production that exist in modern Korea.<sup>59</sup>

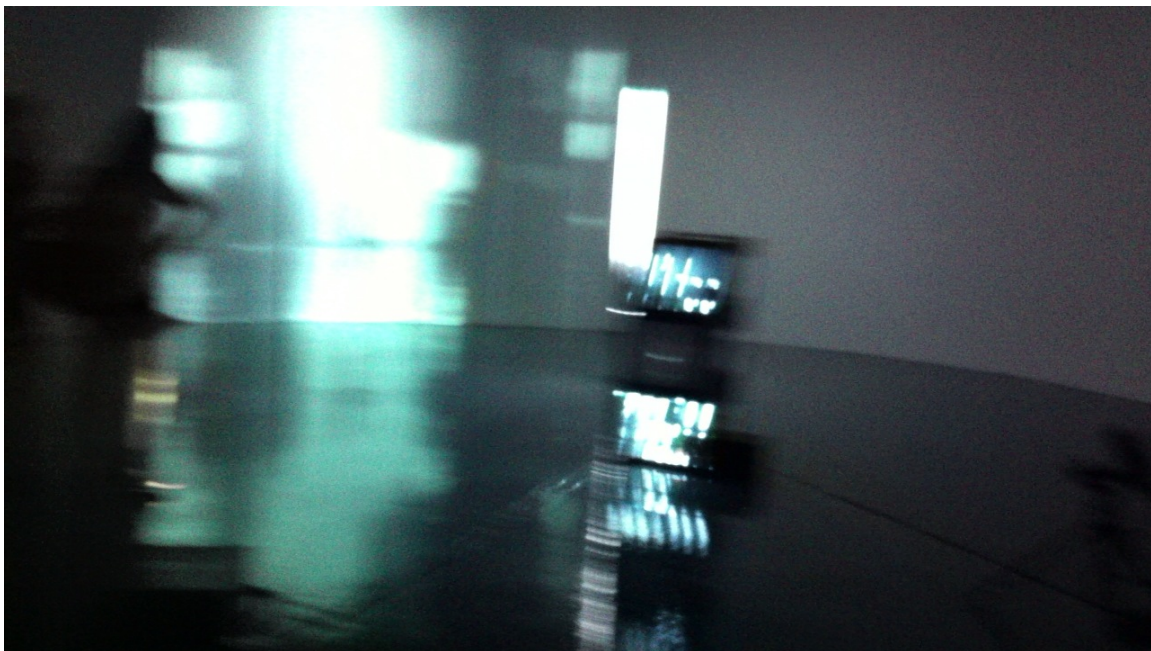


Figure 46 - "Arcade Zero" (photo courtesy of Kim ChungJae)

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<sup>58</sup> See Appendix B for *Arcade Zero* technical schematics.

<sup>59</sup> Rice, Kolya. *Site Machines: Installation by Tivon Rice*. 2014. Catalog for installation. Suyama Space, Seattle.

12 vertical neon tubes establish the primary physical situation in the gallery. Cutting through the circular space, the columns create an implied architectural feature, a volume of light, and a threshold between the two halves of the gallery. In addition to the reflections of light seen between the gallery surfaces and the video screens, the echoing clicks of the neon relays establish an audible counterpart to the light's functioning.

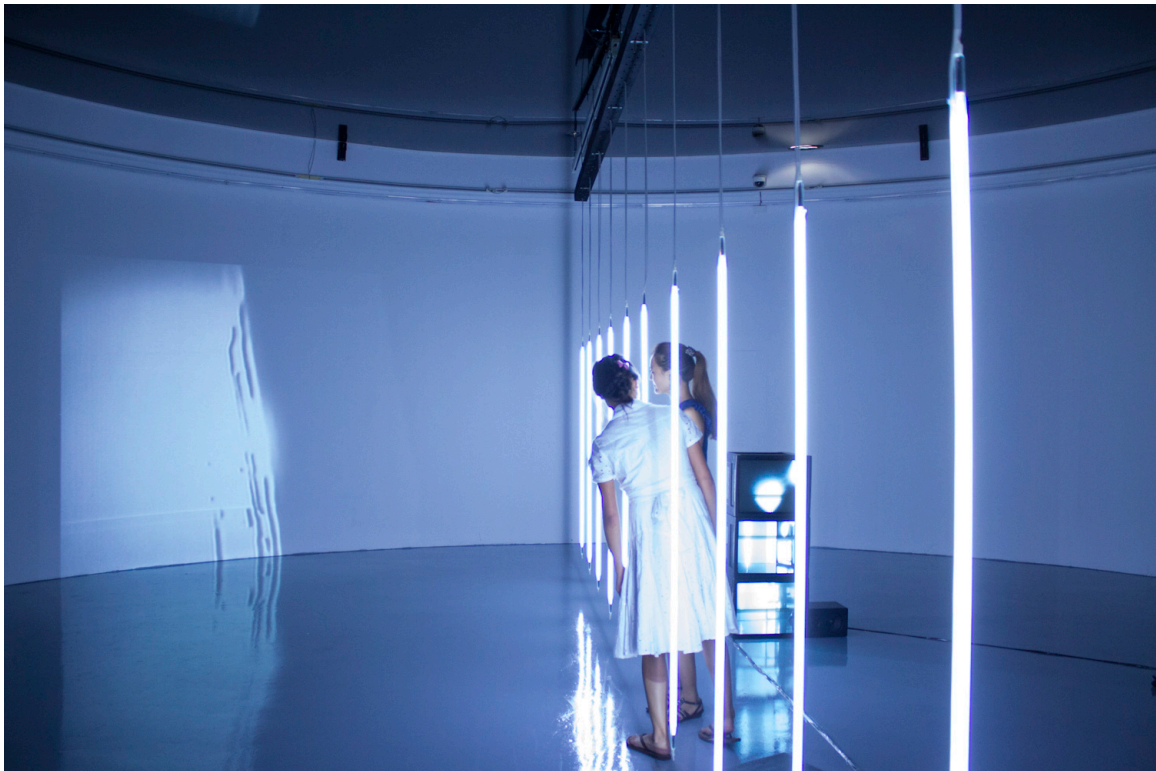


Figure 47 - "Arcade Zero" detail of 12 neon tubes

In *A Macrocosmic Zero*, sound was almost an accidental *side-effect* of the fluorescent lights switching in the large concrete gallery space. Following an ongoing dialogue with Composer and Sound Artist Juan Pampin, and studies of his *Catch 22* sound installations, the sonic dimension of feedback and its relationship with space became equally

important as the visual feedback created between camera and screen.<sup>60</sup> The sound production in *Arcade Zero* specifically creates a kind of echo-chamber within the volume of the Nanji gallery, initiated by the clicking of the neon's mechanical relays and the natural reverberation of the large concrete tank. These sharp sonic knocks are augmented by convolving the live-audio in the space with the impulse response of a glass cathode ray tube.<sup>61</sup> This processing creates the sensation that all of the sounds and echoes within the gallery space are passing through the volume of a monitor's glass tube, or reflecting off the surface of the screen.

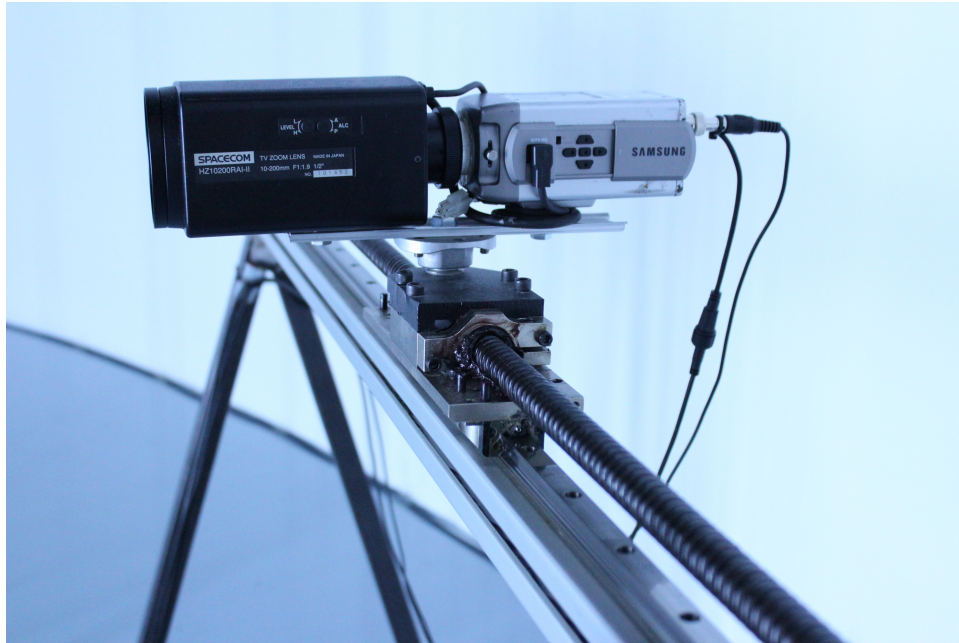
The idea of an echo-chamber extends from the sonic to the visual system as each camera functions to mirror and relay views of the neon, spectators, and the other screens throughout the space. This circuit begins at the threshold between the two halves of the gallery, as one CCTV camera moves along a linear rail, navigating either side of the neon array. This motion creates a parallax effect and an image of a contracting and expanding space as the lights are repeatedly hidden and revealed. After each movement along the rail, the camera returns its gaze to a monitor showing its own delayed feed. This situation recursively re-scans the camera's passage along the rail – its view of the neon lights, the

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<sup>60</sup> *Catch 22 goes underground* particularly develops the concept that space and architecture can operate as musical instruments, and that viewers/participants become the performing bodies in these systems. (Pampin, Juan, Nicolás Varchausky, & Daniel Trama. *Catch 22 goes Underground*. 2005. Public Art Installation. Dirección General de Museos, Buenos Aires.)

<sup>61</sup> The sound processing in *Arcade Zero* specifically uses Supercollider, a programming language for real time audio synthesis. The impulse response of the cathode ray tube was made by recording a wooden mallet tapping on the front of the glass screen. The resulting convolution with this impulse response effects the live-audio to sound as if it were resonating within the glass tube.

large composite video projection at the opposite side of the gallery, and images from all of the other cameras as they appear on monitors throughout the space.

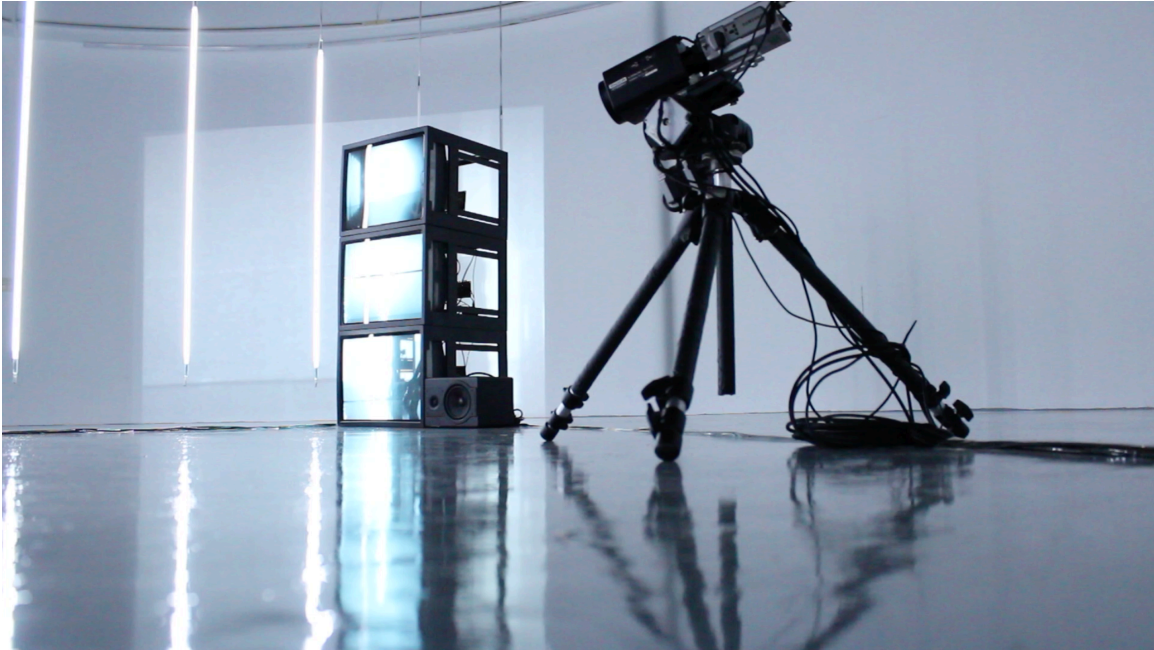


*Figure 48 - "Arcade Zero" detail of 'linear rail' camera*



*Figure 49 - "Arcade Zero" detail of 'linear rail' camera*

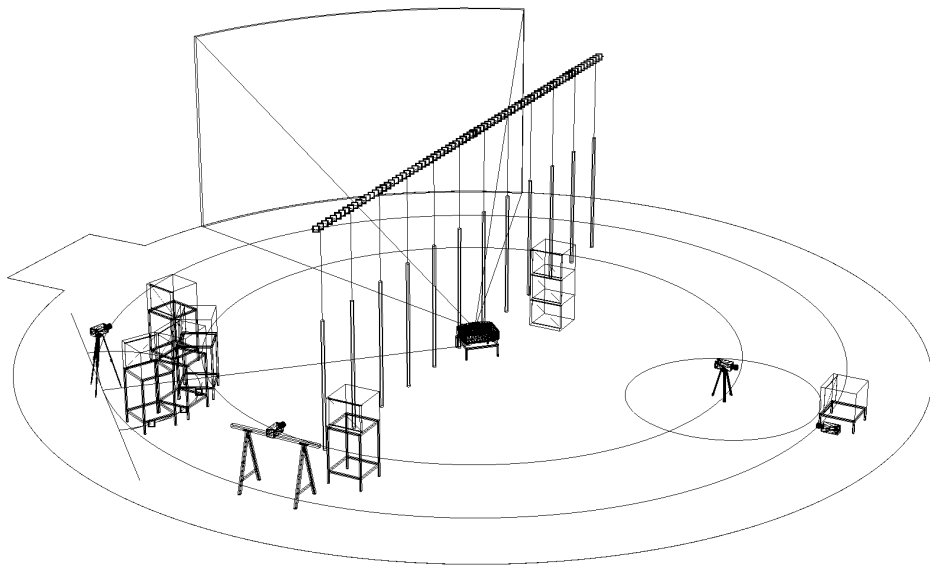
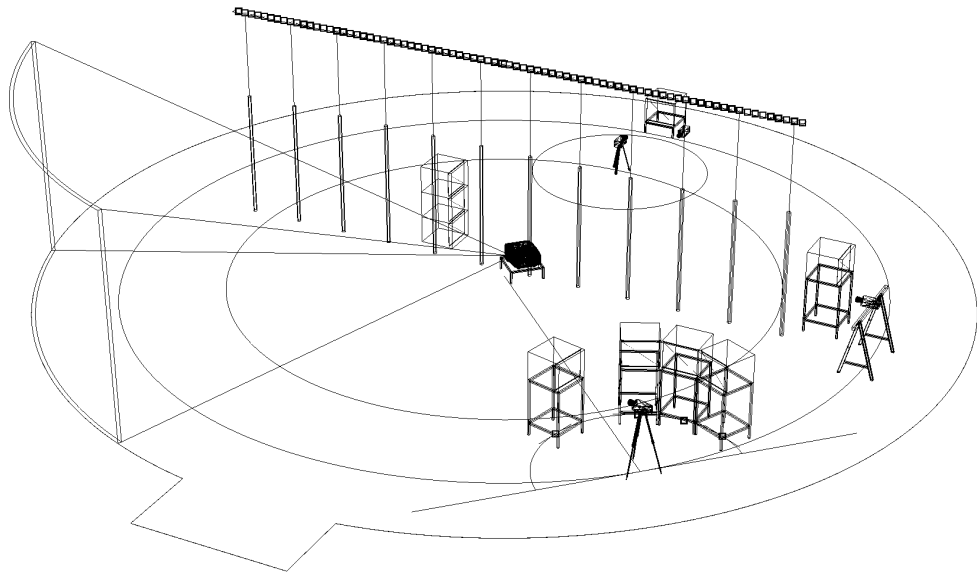
Two similar cameras operate on the far side of the gallery. One, mounted on a pan/tilt tripod head, cranes up to see the light's reflections on the ceiling and back down to the glossy concrete floor. The other uses a motorized zoom to reduce and enlarge its view.



*Figure 50 - "Arcade Zero" detail of 'pan/tilt' camera captured by 'zoom' camera*



*Figure 51 "Arcade Zero" detail of monitors and projection captured by 'pan/tilt' camera*



*Figure 52 - Perspective views of "Arcade Zero" floorplan*

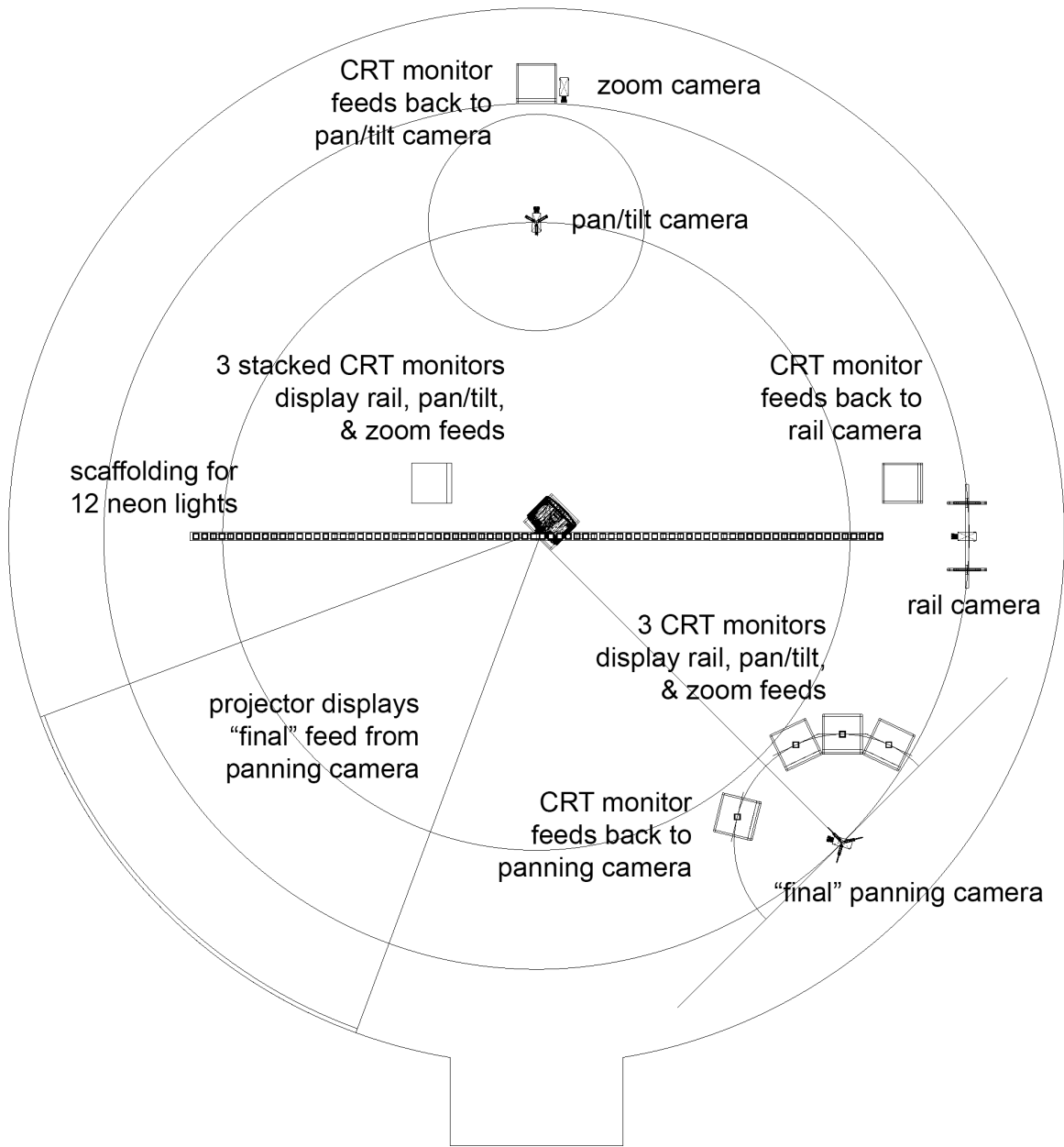


Figure 53 - "Arcade Zero" floorplan at Nanji residency gallery

All of these cameras periodically return to re-scan their own delayed image, creating views from *within* the circuit. Outside of these systems, on the near side of the neon lights, another camera acts as a collector or an observer of the entire space. Placed in front of an array of monitors displaying feeds from each of the other three cameras, this agent pans across each screen and relays their images to the large-scale projector. While this projected composite-view of *Arcade Zero* may assert some final point of arrival or definitive view of the situation, it is also the most vulnerable to the contingencies of the space as it is alternately revealed and washed out by the endless re-scanning of images and the cycling of neon lights.



*Figure 54 - "Arcade Zero" detail of re-scanned image*

*The initial vision of camera #1 submits to the perspectives and systems of the others, images refigured and redeployed, successively, in this “echo chamber.” There is an order or logic to this “disorder,” but its complexities exceed those of a unified vision, such as that embodied in the urban plan for Sewoon Sangga.<sup>62</sup>*

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<sup>62</sup> Rice, *Ibid.*

## Chapter 5 - Site Machines



*Figure 55 - "Site Machines"*

### 5.1 - The Architectural Image

The third project in this series, *Site Machines*, builds upon the material and compositional structure of the preceding works while shifting its thematic focus to architecture as a paradigm of contemporary image production. Central to the research in the months leading up to the exhibition were the time and access granted by the architects of Seattle's Suyama Peterson Deguchi (SPD) – access not only to the gallery-proper (Suyama Space), but to all areas of the firm's operation. This helped in understanding the dimensions of production at SPD, which operates between the spheres of digital architecture and material-based production.

In the architect's offices, one first encounters the industry standard, screen-based systems for conceiving space and structure – 3D Studio, Revit, and Lumion. Moving through the studios, however, it is clear that SPD maintains the architectural traditions of working with pencil, paper, and wooden models. The basement below Suyama Space reflects the physical accumulation of these practices as it houses a kind of informal archive of dioramas, elevation drawings, and sample materials used by those working above. SPD is indeed conscious of the *craft* dimensions of architectural production, which they believe reinforces a physicality in the “scale, proportion, and detail” of the spaces they design.<sup>63</sup>



*Figure 56 - "Site Machines" detail of architectural models and motorized camera in basement*

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<sup>63</sup> <http://www.suyamapetersondeguchi.com/about/>

This reference to the physical, the tactile, and the material in the production of architectural images clearly fits within the particular genre of *northwest contemporary* that SPD is known for. Seattle, however, has increasingly projected a different urban image, with buildings and spaces conceived primarily through digital production. The incorporation of structural folding, constrained randomness, and generative/algorithmic modeling in the design of large-scale, civic, commercial, and private developments has created a new visuality in Seattle, one dominated by digital architecture.

As described by Therese Tierney in *Abstract Space: Beneath the Media Surface*, "...architectural pedagogy has played a constitutive role in the construction and implementation of viewing regimes and the social construction of vision."<sup>64</sup> With this in mind, the current visuality and architectural image of Seattle is less connected to its material, historical, or even topographical situation than with the economic circumstances of the past 10-15 years. When asked the question "What image comes to mind when you think of Seattle?" one may no longer envision the Space Needle foregrounded by evergreen trees and snow-topped mountains. Far more virtual and mediatized spaces, such as "Amazon" or "Microsoft" may be envisioned.

This, coupled with the immateriality of digital design technologies, begs a number of further questions – How do we physically experience spaces conceived within virtual environments? How do we understand and navigate new spaces created to fulfill a specific function (civic, commercial, private, etc.)? How do we encounter hybrid spaces

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<sup>64</sup> Tierney, Therese. *Abstract Space: Beneath the Media Surface*. New York: Taylor and Francis, 2007. 152.

in which past modes of visibility are re-framed by another technological, economic, or architectural paradigm?

In Seattle, these questions are active in a number of recent projects that run the gamut of architectural form and function. In *The Art-Architecture Complex*, Hal Foster presents a polarized view of the city's Pop-image with Gehry's "egregious" Experience Music Project on one end, and Koolhaas's "powerful" Seattle Public Library on the other. Regarding the perceptual disconnects presented in Gehry's work, Foster describes the EMP – "...whose six blobs clad in different metals have little apparent relation to the many interior display-stations dedicated to popular music. Gehry...compensated with an allusion to a smashed guitar (a broken fret lies over two of the blobs)."<sup>65</sup> Foster goes on to imply that such overwrought designs are not only *conceived* within, but ultimately intended to be *perceived* in highly mediated visual environments – "...one cannot read them at ground level. In fact one can see them in this way only in media reproduction, which is the primary site of such architecture in any case."<sup>66</sup>

Foster also regards Seattle's Central Library as a "Pop emblem of the city,"<sup>67</sup> but defends the building's design in regards to its performance, or ability to create a dynamic image in the urban landscape while functioning as a civic institution – "The image is also not arbitrary: the building uses its site, an uneven slope in downtown Seattle, to ground its forms, which renders them less sculptural and less subjective than they might otherwise

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<sup>65</sup> Foster, Hal. *The Art-Architecture Complex*. London: Verso, 2011. 14

<sup>66</sup> Ibid.

<sup>67</sup> Ibid. 12.

appear. More importantly, the profile is motivated by the program, especially in the penultimate level that contains a great spiral of ramped bookshelves.”<sup>68</sup>

While these two highly-visible examples may frame Seattle’s Pop-architectural image, the rapid growth mentioned earlier has also created a hybrid visuality in many neighborhoods. New developments (which often deploy a very uniform set of modern materials and design strategies) are sited next to, or indeed on top of hundred-year-old architectures. The phenomenon of *façadism* demonstrates a particularly extreme version of this strategy, in which the outermost masonry of an older building is preserved while new construction is built above. Many in the architecture community (including those working at SPD) see this as faux-preservation, as the function and the aesthetic of the new structure rarely aligns with the existing site.



Figure 57 - Troy Laundry Building in Seattle's South Lake Union neighborhood ca. 1937 - Washington State Archives

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<sup>68</sup> Ibid.



*Figure 58 - Perkins + Will Architecture rendering of future Troy Block development*

Furthermore, such projects are less likely to be motivated by a desire for thoughtful preservation than by economic factors, including height and density concessions given to the developer by the city. The images that result from such projects create a kind of typological vertigo as glass and steel structures emerge from century-old stone. Passing through the façade, one's sense of memory, nostalgia, and space become equally unsteady as the activities conducted within such architecture invariably misalign with the image of the original site. Former automotive garages house high-end condominiums, industrial service bays lead into the open floor-plans of IT office spaces, and a car dealership becomes a showcase for a local billionaire's art collection.

While developing *Site Machines*, ongoing dialogues with SPD architects about these situations ultimately became the project's thematic frameworks – critiques of the dimensions of digital and material production, the form and performance of built environments, and the compositing of multiple visual paradigms. In response, the installation engages in and looks upon these systems of image production, alternating its

gaze between the physical materiality of the immediate site and screen-based representations of the space.

## 5.2 - Organization



*Figure 59 - "Site Machines" detail of neon lights*

The initial image created in *Site Machines* is neither screen-based nor camera-generated. Rather, the architectural image of the Suyama Building – with its exposed rafters, wooden features, and minimalist interior interventions – is animated by an array of 10 horizontal neon tubes suspended from the ceiling. A diagonal arrangement of these fixtures creates a reflection of the ceiling's form, bringing its slope, scale, and spacing down to the gallery floor. Alternating between patterns of growth and decay, the lights flash through three different 15-minute sequences – first generally upward, then

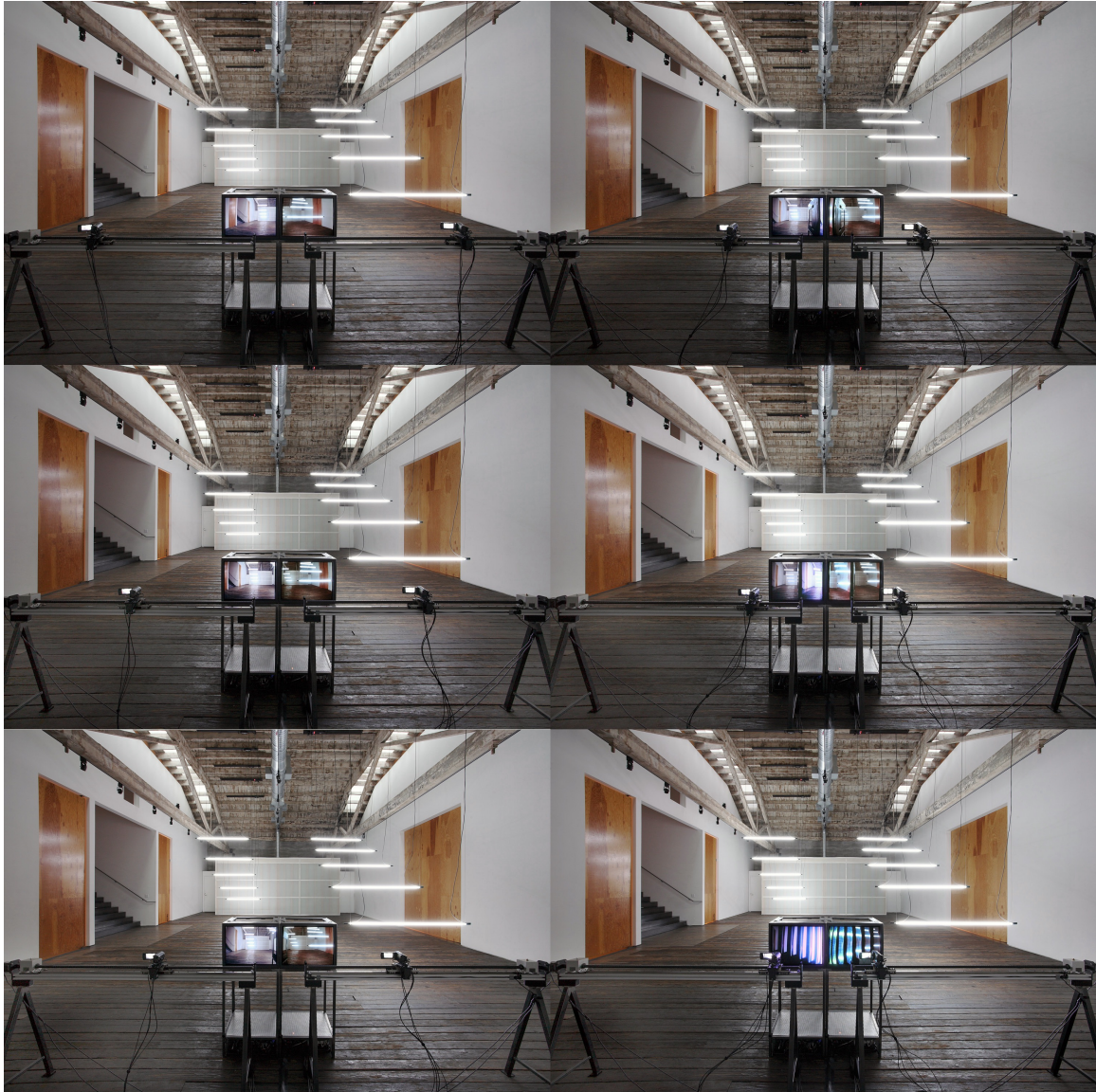
downward, then from the front of the space to the back. While each animated lighting routine is composed of hundreds of individual neon flashes, their overall form is generally symmetric and synchronized with the movement of the two main cameras operating in the gallery.



*Figure 60 - "Site Machines" detail of neon lights and two cameras on horizontal linear rails*

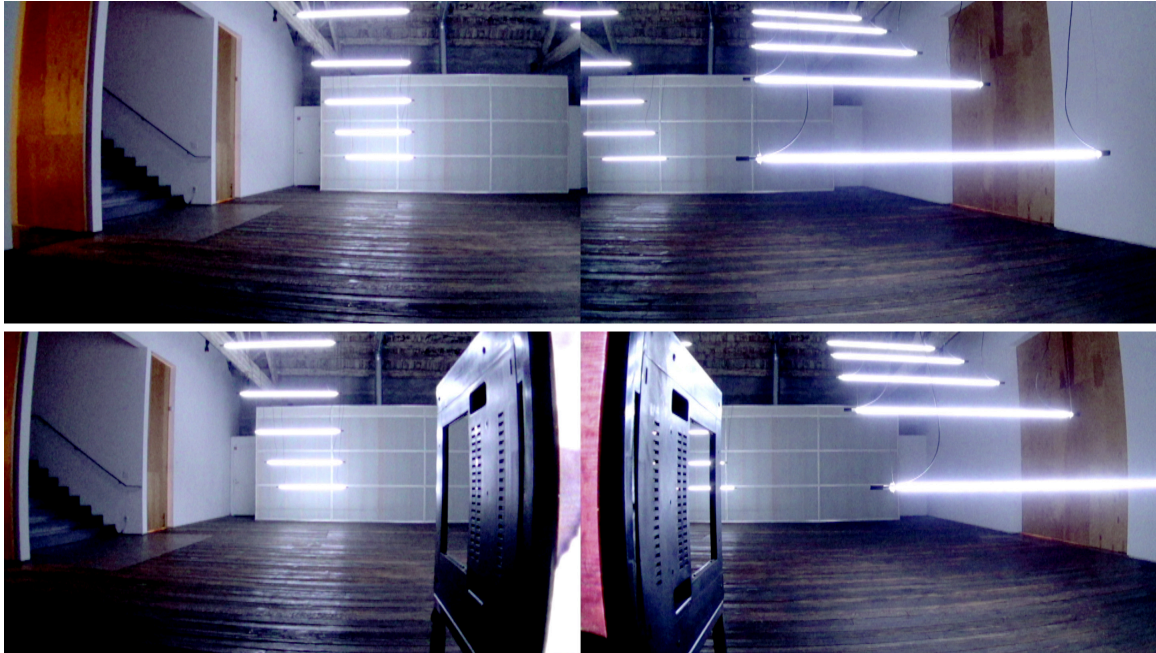
The most visible mechanisms at work in *Site Machines* are two motorized rails, which move a pair of high-definition video cameras from the edge of the gallery to the center. This motion is mirrored, as the cameras slowly come together then move apart once during every 15-minute routine. Between the rails and the cameras are small panning motors which additionally pivot the cameras differently in each of the three sequences, toeing-inward, then outward, then fixing their gaze straight ahead. As the cameras view

the gallery – lit by the neon lights, and populated by viewers, workers, or passers-by – they converge upon the middle of the gallery, where they and are met by a pair of screens.



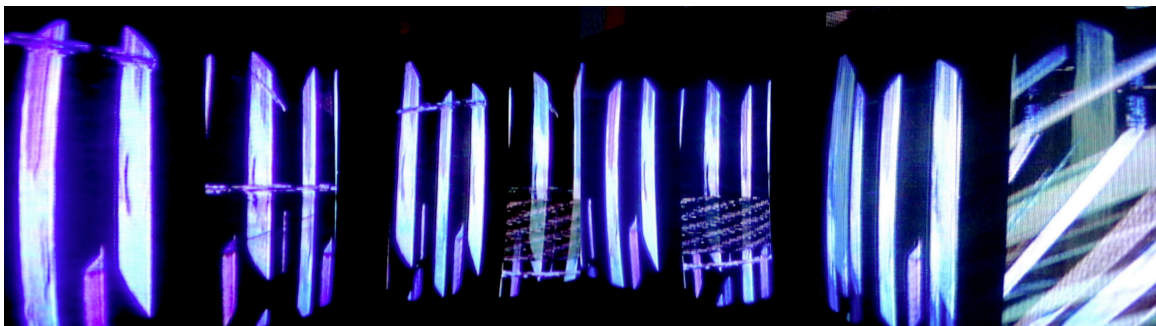
*Figure 61 - "Site Machines" sequence of two cameras converging upon CRT video monitors*

Two CRT monitors sit atop steel plinths positioned to fill the camera's entire field of view as they approach the room's centerline. In contrast with the wide-angle, open perspective of the gallery that the cameras normally have, the screens present a physical obstruction and slowly consume the image frames with a close-up view of the object.



*Figure 62 - "Site Machines" screen capture from rail cameras approaching CRT monitors*

The switching of video feeds on each monitor and the camera's controlled movement combine to create a montage – a relationship between shots of the space, the mechanism, and the re-scanned images on the screens – that explores the intersections of media production and architectural image production. In *Site Machines*, these spheres overlap most intensely at the center of the gallery, where the cameras begin to catch sight of their own image. A momentary burst of video feedback begins, builds, and collapses before the monitor switches to the next camera's feed.



*Figure 63 - "Site Machines" screen capture of feedback between rail cameras and CRT monitors*

While this montage is generated in real-time and the devices of its production work in plain sight, a number of additional cameras located throughout the building function to create images of *some other space* beyond what is immediately present on the gallery floor. Two cameras operating in the studio below the gallery survey the materials accumulated over decades of architectural production. On one side of the basement, a camera with a small spotlight moves across a horizontal rail, examining discarded models – prototypes of spaces that may exist out there in the world, or may have never been fully realized.



Figure 64 - "Site Machines" motorized camera in the studio's basement

Across from these dioramas, racks full of wood, stone, glass, and metal samples have been loosely organized by the architects. Here, another camera moves along a vertical rail, examining these material's texture, form, and organization.



*Figure 65 - "Site Machines" motorized camera in the studio's basement*

Together these two cameras slowly reveal a particular dimension of architectural production, tools that are used in the initial conception of a space, but ultimately abstracted from the realized physical experience of that completed space. As views of these materials appear through a succession of jump-cuts on the monitors above, they join

the progression of images that cycles through the immediate architectural space, the re-scanned video screen space, and this unseen *other space*.<sup>69</sup>

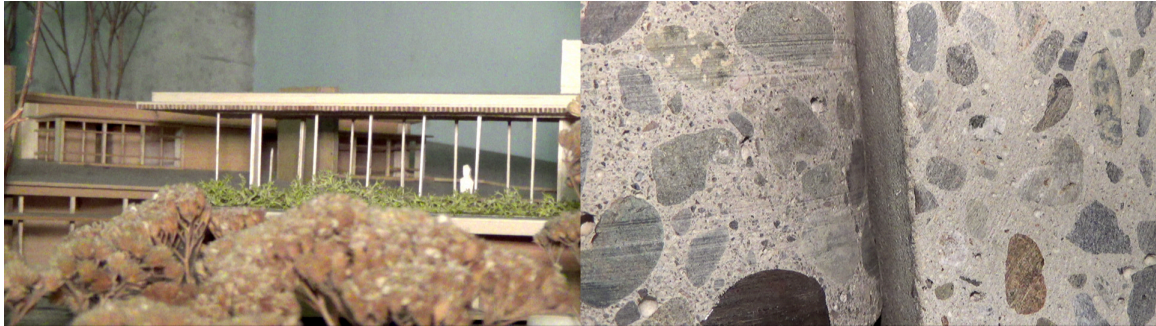


Figure 66 - "Site Machines" screen capture from two basement cameras

The final pair of cameras operating in *Site Machines* present images of the architectural framing devices that exist throughout the building. Operating above, one camera slowly tilts from a view of the gallery floor, through the wooden joists and iron gussets in the ceiling, ultimately arriving at the space's repeating skylights. Another camera similarly tilts down from the rafters, scanning the threshold between the gallery and the studios on one side, then back up the other side to reveal the "gallery alcove" – an intervening set of steel steps and landings that extend above the original architecture.



Figure 67 - "Site Machines" views from cameras above gallery and alcove steps

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<sup>69</sup> The basement of the Suyama building is not accessible to gallery attendees, and thus, the basement mechanisms (lights, motors, cameras, cables) are not apparent. Only the video feeds are presented on the monitors in the gallery.

These shots reveal a series of frames – curated views of the space that are first presented by the architecture, then through the moving lens of the camera, then upon the screens sited throughout the gallery. In this network of spaces, mechanisms, and images, the “final” screen-based view of *Site Machines* is displayed in this adjacent alcove.



Figure 68 - "Site Machines" view of high-definition screen with 2-up composite video

Here, the steel landings that extend above the gallery create a situated viewing space, not unlike the small theater that housed the video projection in *A Macrocosmic Zero*. One high-definition monitor collects image feeds from the six cameras and composites them alongside each other, 2-up. The resulting pairings cycle through all combinations of views from on, above, and below the gallery floor. Additionally, this controlled, fixed perspective on the system introduces a mediated sonic dimension to the project. Unlike the immediate sounds heard when viewing *Site Machines* from the gallery floor – the

faint din of conversations in the architecture studios – the television in the alcove actively matches the image from each camera with the live-audio captured by its microphone. Footsteps from the gallery, exterior traffic heard through the basement below, and the overriding hum of motors connected to each camera are amplified through this sonic montage, jumping from space to space.



*Figure 69 - "Site Machines" view of alcove space*

Viewed from either the alcove or the gallery floor *Site Machines* presents a relatively pared-down visual situation, especially when compared with the chaotic energy of *A Macroc cosmic Zero* and *Arcade Zero*. In the camera's slow movements and the methodical switching of video feeds, the project takes its temporal cues from the history of the space – a history evidenced by the worn surfaces in the gallery and the accumulation of materials in the basement.



Figure 70 - "Site Machines" screen capture from two basement cameras

Recognizing that the Suyama Building performs as an architecture of tactile experience, memory, and time, the images created throughout *Site Machines* are patient, immanent, and thus dissimilar to those created through the highly-virtualized, high-frequency systems of digital media. In exploring this counterpoint to contemporary representation and production, the project aims once again to be conscious of Flusser's *Philosophy of Photography*, "...conscious that *image, apparatus, program, and information* are the basic problems that (it has) to come to terms with."<sup>70</sup>

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<sup>70</sup> Flusser 81.

### 5.3 - Working Process

While the three projects detailed in this document can broadly be described as *video installations*, the constituent elements that supported their completion cover a wide range of research areas. As further detailed in this document's appendices, the software involved in their implementation includes computer aided design, digital sound synthesis, and a number of programming environments for real-time video and motion control. The development of these systems was undertaken entirely during studies at DXARTS, and benefitted greatly from the broad expertise and deep knowledge of the artists, faculty, and researchers working at The University of Washington.

Collaboration with diverse groups from the Arts and Engineering departments further contributed to the built components of these systems. 3D printing, laser cutting, CAM, and custom circuitry were all employed in the project's creation. Although these physical components often work behind the scenes in kinetic, interactive, and multimedia artworks, their development in the months and years preceding each exhibition is integral to the behavior and functioning of each installation. In total, *Site Machines* represents six years of iterative design for motorized camera control systems beginning with the most basic prototype seen in *A Macrocosmic Zero* – a single motor panning a single camera.

Ultimately these systems grew in complexity and scale, to incorporate compound movements and achieve a degree of robustness and repeatability that allowed for an eight-week exhibition run at Suyama Space without failure.

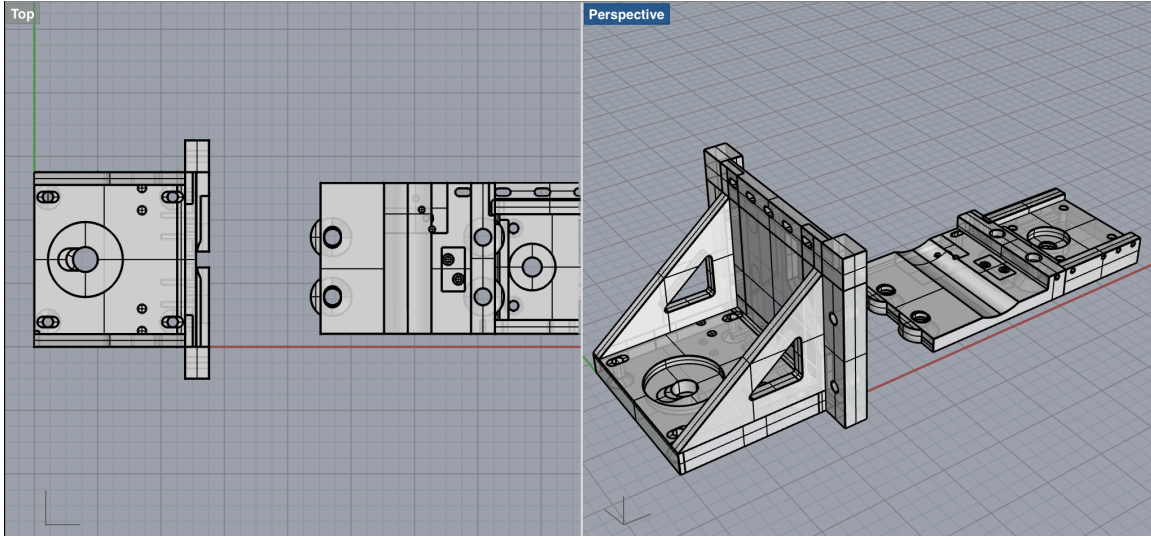


Figure 71 - CAD model of custom motor/camera interface developed for "Site Machines"

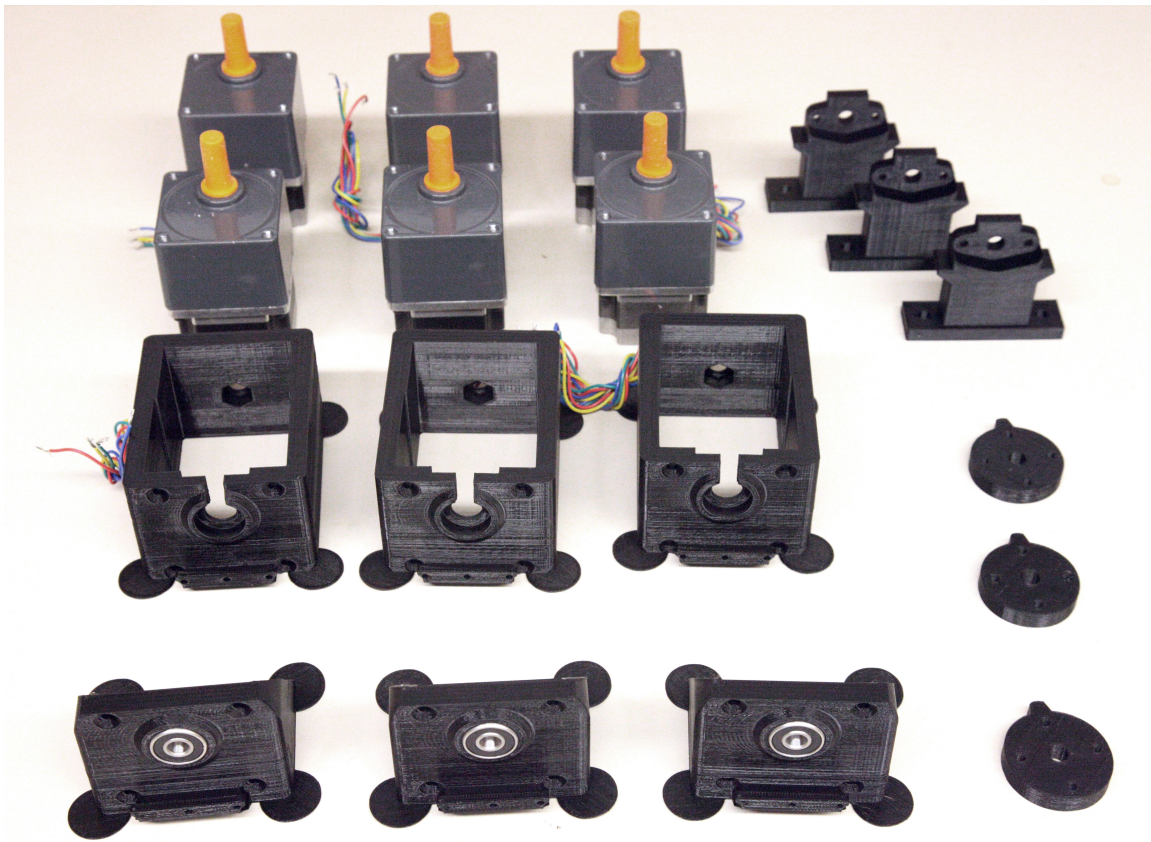


Figure 72 - Custom pan/tilt interfaces designed during "Site Machines" research were ultimately refined for Professor Juan Pampin's kinetic/ultrasonic performance "Acoustic Scan" - 2014

These designs for motor mounts, pan/tilt control systems, and camera interfaces have since become a part of the growing body of knowledge at The University of Washington. In the years following *Site Machine*'s production, they have been shared with and used by DXARTS students and faculty for a wide range of creative projects, including immersive video systems, kinetic sculpture, and sound installation.

#### **5.4 - Conclusions**

Reflecting on these three projects, one can see clear similarities in their formal, material, and temporal organization. They all begin with the arrangement of sculptural lighting elements within a volume of space, such that a circuit of live video cameras may produce and transmit a particular image of that space. Building upon this framework, each project aimed to incrementally refine both its behavior and its specific relationship to a site. In *A Macrocosmic Zero*, a very simple pairing of camera and screens presents a consciously self-referential system. The heavy use of video-feedback in this project further reinforces a kind of tautological spectacle, as images are produced both in the illuminated gallery space as well as the repeated frames of monitors located throughout the building. In contrast with the rarefied site of a commercial art space, *Arcade Zero* is focused on a more specific, real-world site – the materials and images found in downtown Seoul. As encounters with urban situations such as this provide some points of reference for one's experience of forms, images, and sound, *Arcade Zero*'s behavior was accordingly authored in response. While progress toward a more precise, deliberate system of image production emerged between the first two projects, *Arcade Zero*'s gallery situation still

introduced an unwanted degree of abstraction between the project's research-site (Sewoon market) and the SeMA residency studios. An installation or sculptural intervention built in-situ – within the architecture of Sewoon market – would have been preferred.

This dimension of directness between the research-site and presentation-site is best exhibited in the final project, in which all of the materials and forms that contribute to the project's conception are contained within that space. Although some elements from the previous installations re-emerge in *Site Machines* – image repetition, recursion, and even a hint of video-feedback – the project specifically operates to overlay the building's history and immediate physical architecture with a composite image of that system. In this organization, *Site Machines* not only represents, but attempts to embody a threshold between our direct experience of space and the sphere of images that mediates that space.



Figure 73 - "Site Machines"

## 5.5 - Future Projects - Photogrammetry

While creating this suite of projects, site-research became central to both the conception and the content of the work, especially for *Arcade Zero* and *Site Machines*. Following the dialogues with SPD architects throughout the exhibition's run at Suyama Space, this research has focused on image production in modern urban spaces, especially drawing upon conversations about *façadism* in Seattle (discussed in chapter 5.1). In researching the history of such sites, understanding the economic and political factors at work, and scrutinizing the images that are created through their development, photography has become an essential tool for these current works-in-progress. Specifically, recent experimentation with the process of *photogrammetry* has opened up further inquiry on the intersections of physical space, images, and virtuality. Operating at the boundary of two and three-dimensional imaging, photogrammetry can render depth from large sets of photographs by matching points and analyzing parallax.

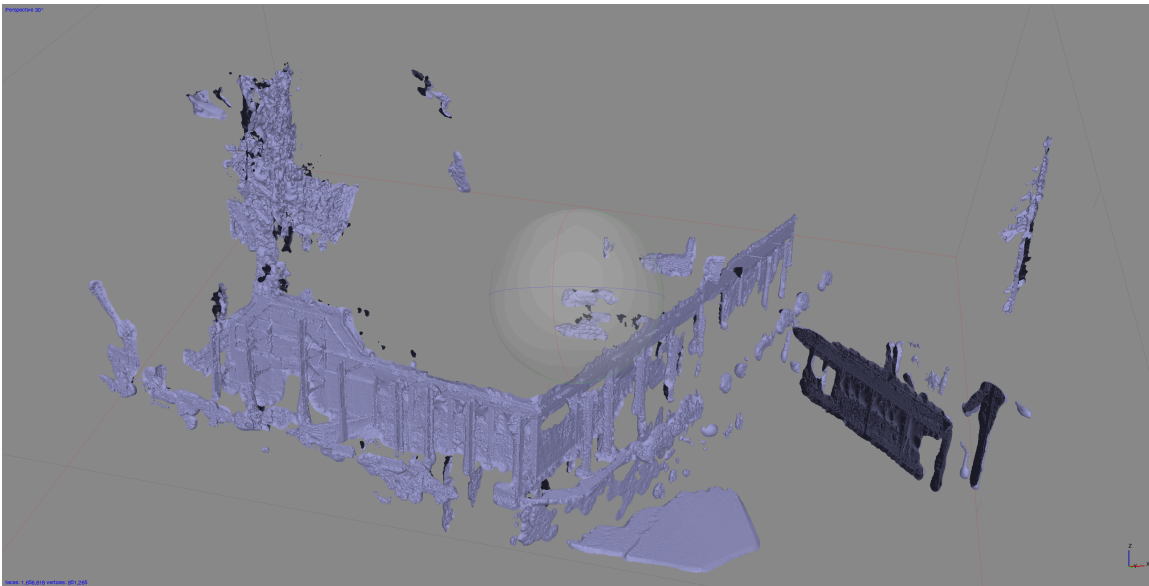


Figure 74 - Photogrammetry 3D solid view

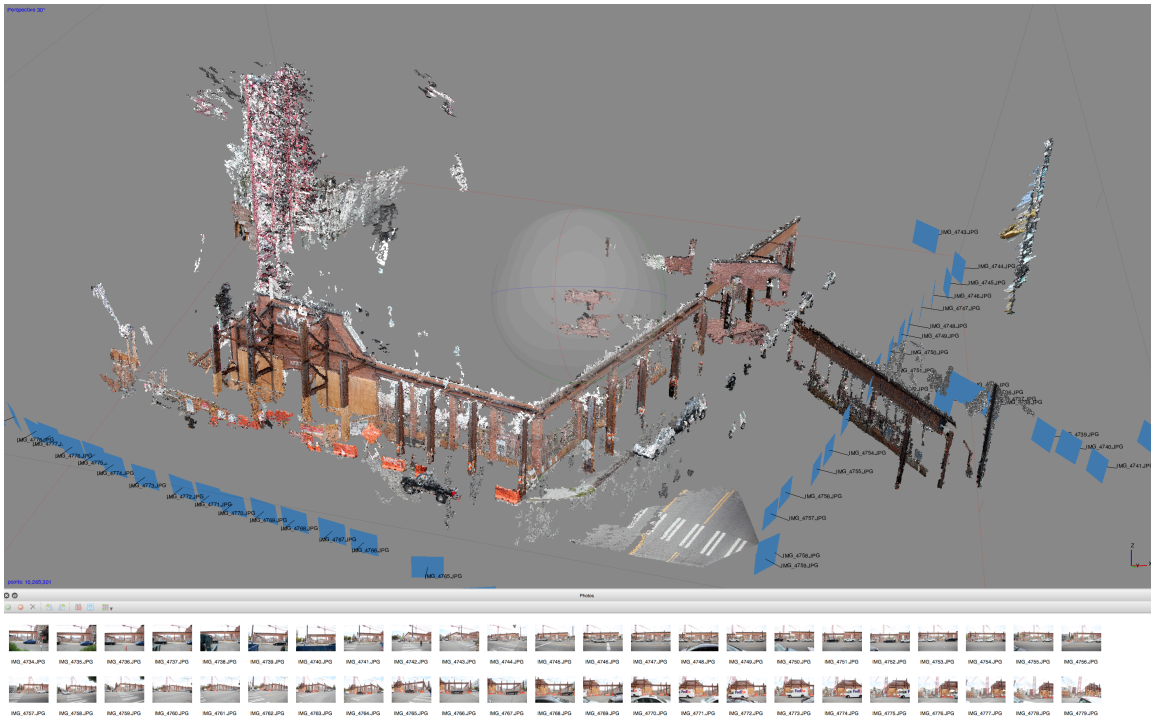


Figure 75 - Photogrammetry 3D dense point cloud view, with source images

While the act of surveying an urban scene with a camera may be traced back to Daguerre’s 10-minute exposure in 1838 (see chapter 2.3), the 3D models, material textures, and images generated through photogrammetry quite literally open up a new dimension of photography. These models may be 3D printed, animated in time with CGI software, or rendered as 2D views from any perspective upon the scene. In regards to the phenomenon of façadist architecture, this process seems particularly useful in separating the historic image from its background. The inevitable *mismatches* in transparency, massing, setback, and articulation between old and new are heightened by the depth-image created through photogrammetry. The resulting representation of the original

structure's surface and shell remains separate from the modern, glass and steel forms that will inevitably be built above.



Figure 76 - "Façades (Scalar Relationships 1909-1913)" archival inkjet print, 17 x 48 inches, 2015

Still works-in-progress, these investigations of architecture as interface – interface between physical space, history, and projected image – represent an extension of the research developed in *Site Machines*. The process additionally presents opportunities to revisit and reconfigure the themes of appearance, erasure, and production that were explored in *Arcade Zero*. Recently, a return-visit to South Korea was made to conduct photogrammetry on the sites described in Chapter 4 – Dongtan 2 and Sewoon Sangga.

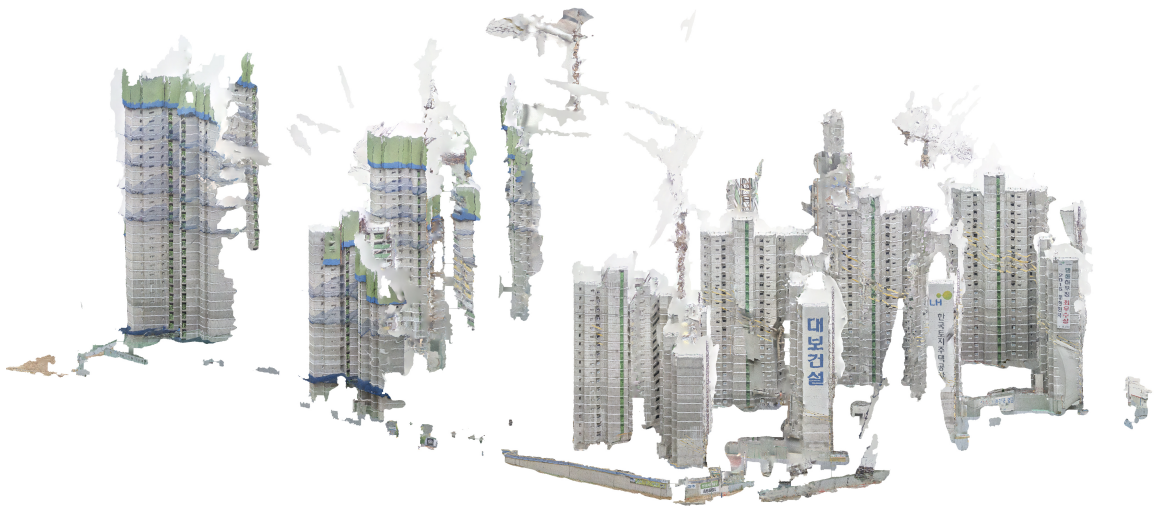


Figure 77 - Work-in-progress. Photogrammetry of Dongtan 2 New City, Gyeonggi-Do, South Korea

A further extension of these projects includes group site-visits in which multiple participants work to map specific structures or neighborhoods. First conducted in April 2016 at the Henry Art Gallery in Seattle, one such workshop surveyed the University of Washington's former experimental nuclear reactor site. The project, *Surface City*, included an examination of the building's image as a work of brutalist architecture, and discussions on its perilous landmark status and possible demolition. In parallel, participants worked to photograph all aspects of the structure, to create a collective photogrammetric model.

In August 2016 a similar workshop will be conducted in Taipei's Toad Hill settlement, an informal series of encampments on the outskirts of the city. Conducted in collaboration with DEZACT – a Taiwanese platform for architecture and urban studies – artists will work with Toad Hill residents to map the neighborhood via photogrammetry, create visual interventions, and propose adaptive re-use strategies for the site.

These projects continue the work of *Site Machines*, drawing the histories of photography, time-based art, and architecture into the context of digital media. By situating encounters with the physical and the virtual, they examine the hybrid spaces that we navigate in contemporary visual culture and reveal the modes of image production that operate therein.

## Appendix A - A Macroscopic Zero Materials

Permalinks for online documentation:

[http://www.tivonrice.com/Tivon\\_Rice/Projects/Pages/A\\_Macroscopic\\_Zero.html](http://www.tivonrice.com/Tivon_Rice/Projects/Pages/A_Macroscopic_Zero.html)

<https://vimeo.com/10602043>

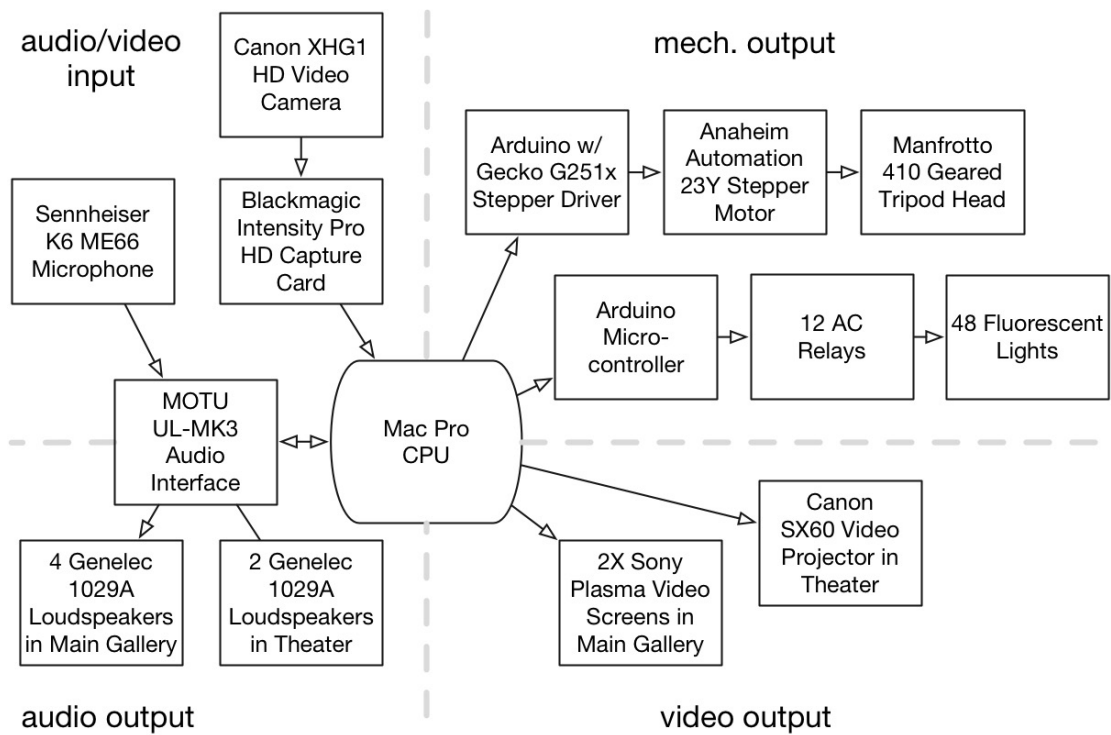


Figure 78 - Hardware schematic for "A Macroscopic Zero"

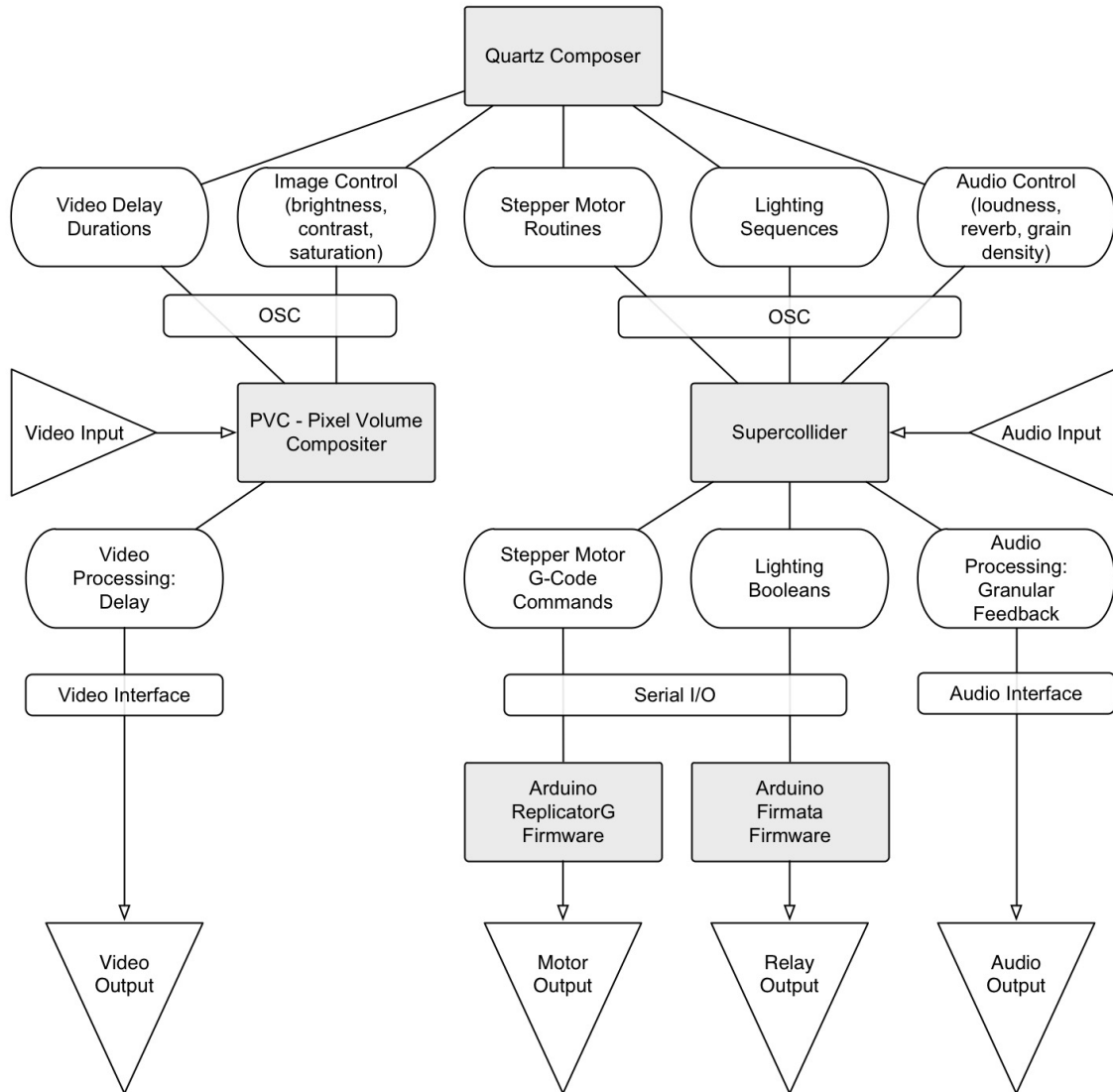


Figure 79 - Software schematic for "A Macrocosmic Zero"

## Appendix B - Arcade Zero Materials

Permalinks for online documentation:

[http://www.tivonrice.com/Tivon\\_Rice/Projects/Pages/Arcade\\_Zero.html](http://www.tivonrice.com/Tivon_Rice/Projects/Pages/Arcade_Zero.html)

<https://vimeo.com/53999660>

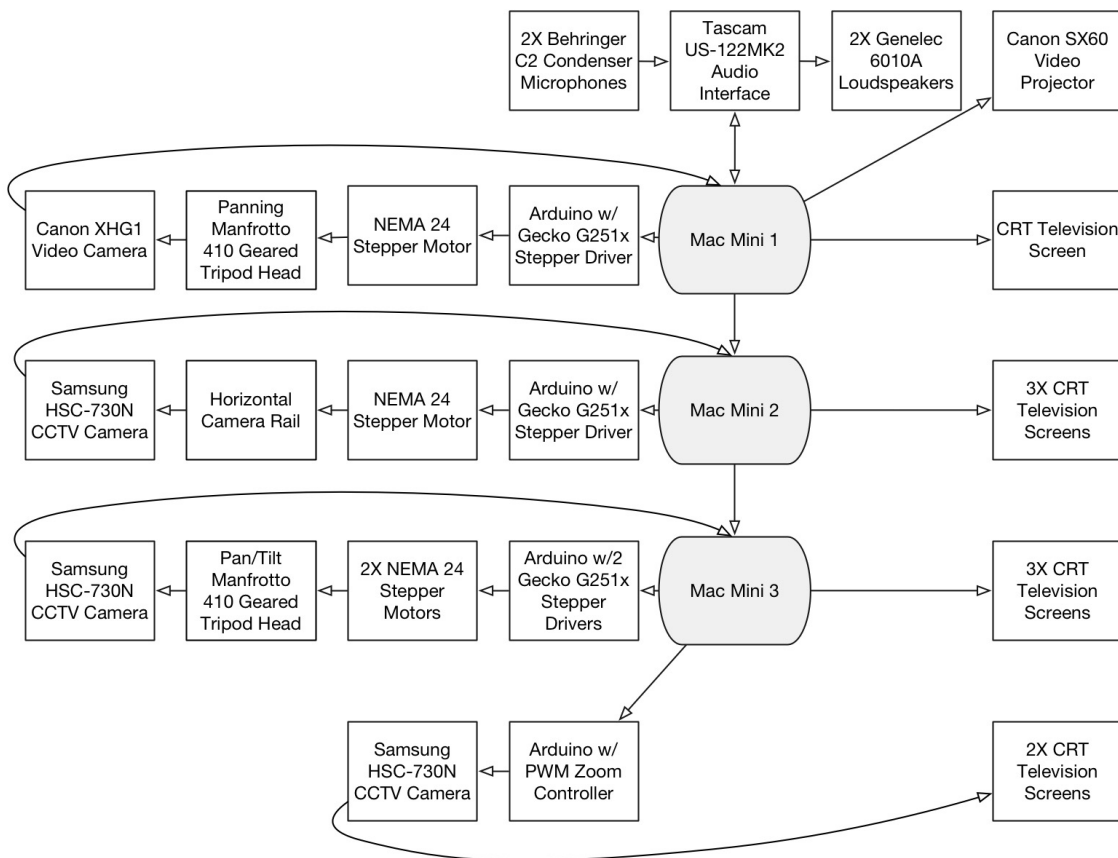


Figure 80 - Hardware schematic for "Arcade Zero"

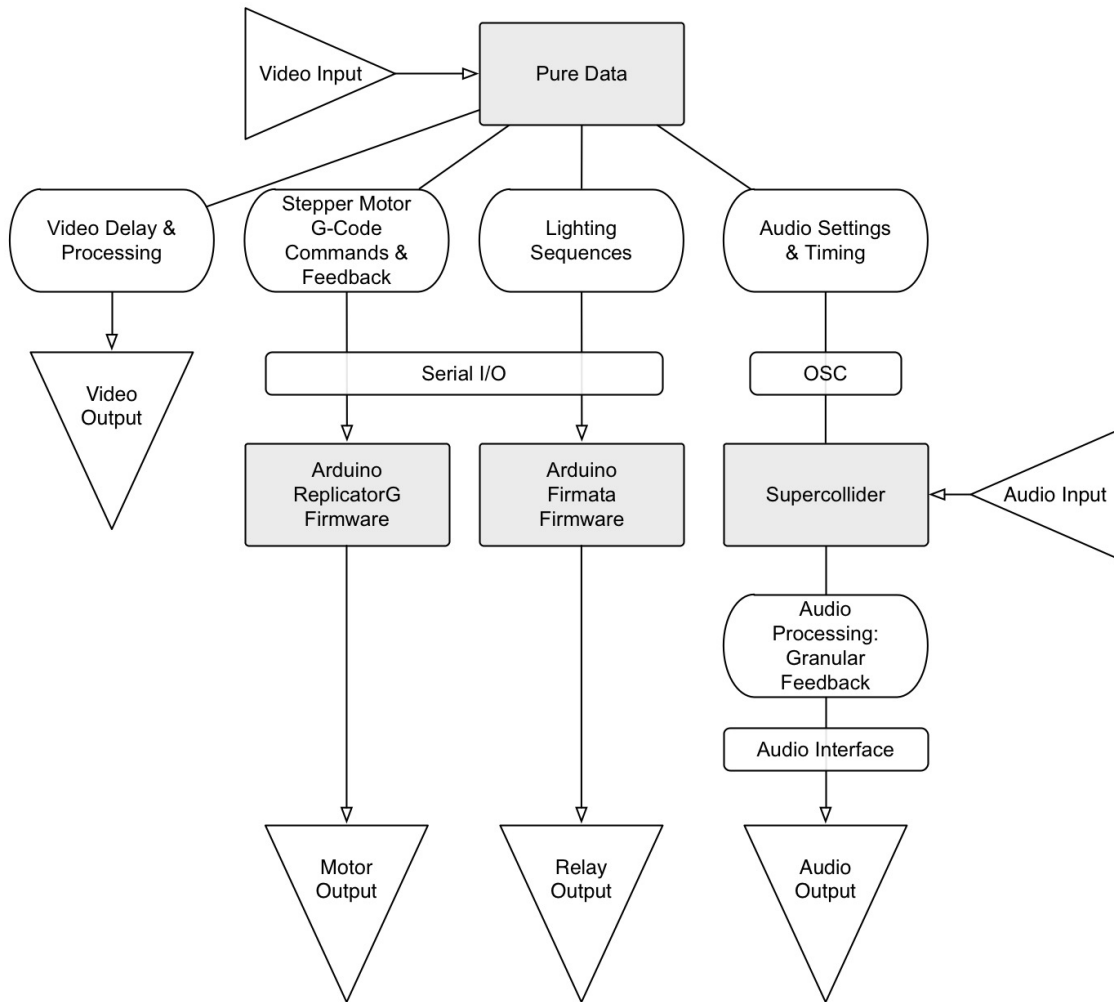


Figure 81 - Software schematic for "Arcade Zero"

## Appendix C - Site Machines Materials

Permalinks for online documentation:

[http://www.tivonrice.com/Tivon\\_Rice/Projects/Pages/Site\\_Machines.html](http://www.tivonrice.com/Tivon_Rice/Projects/Pages/Site_Machines.html)

<https://vimeo.com/138125469>

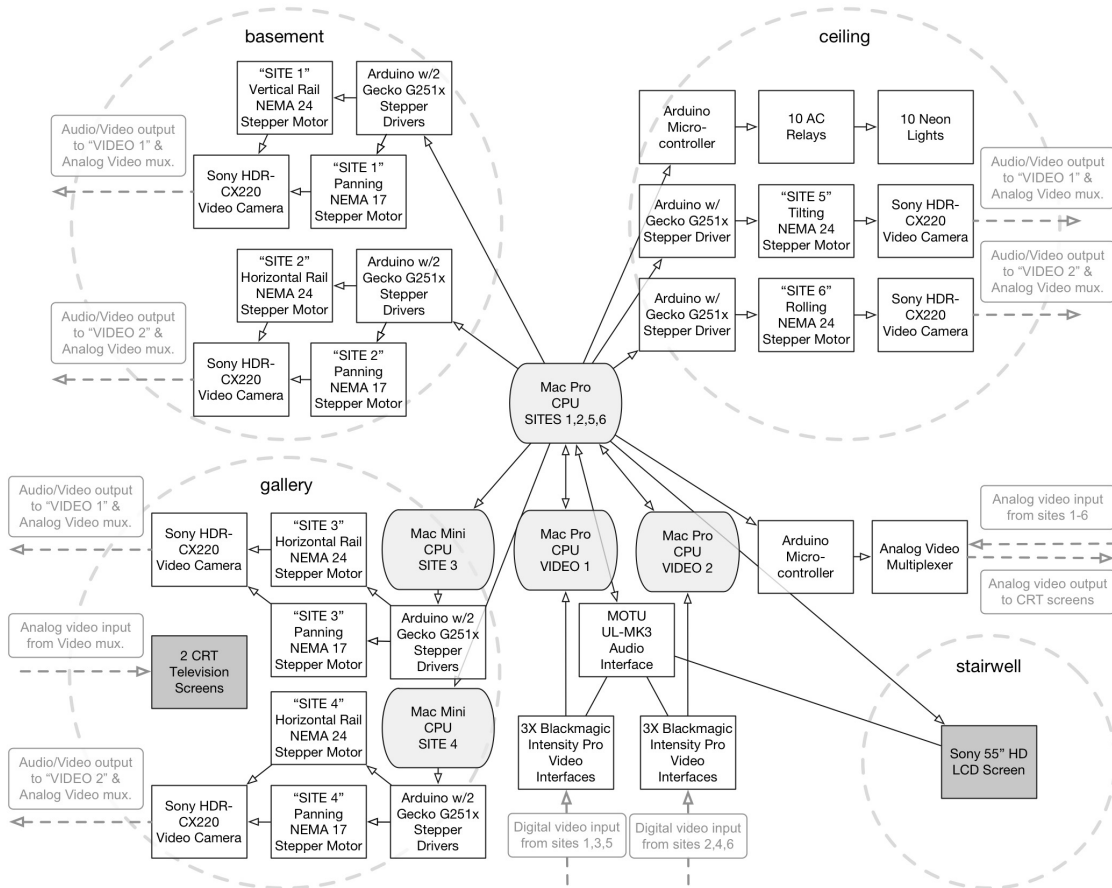


Figure 82 - Hardware schematic for "Site Machines"

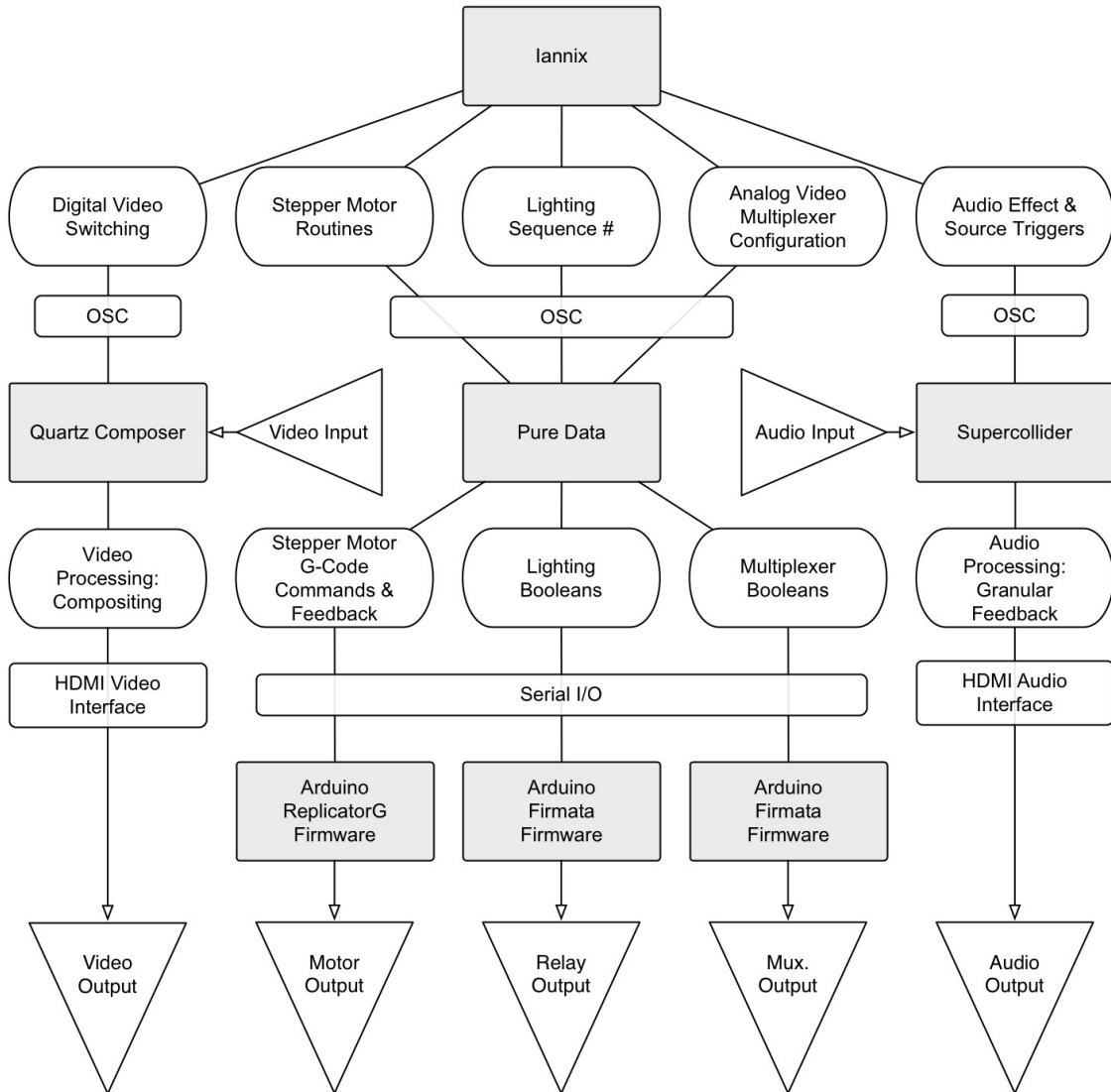


Figure 83 - Software schematic for "Site Machines"

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