THE WORLD AS PROCESS: AGENCY, EMERGENCE, AND BECOMING IN ARTISTIC PRACTICE

THE WORLD AS PROCESS: AGENCY BECOMES FORM

in artistic practice

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Introduction

Whereas traditional models of creativity situate the artist as one who wills their artistic materials to fit an *a priori* vision, I suggest that "making things" (e.g., creating artefacts, producing art, etc.) is about noticing and making possible an arrangement of dynamic conditions. Taking the form of an autobiographical account of art in the making, this thesis outlines the development of an immersive sound and light environment, *Pedesis,* in which the materials of art behave and perform in ways beyond the artist's control.

The writing that follows is structured in two parts. Part 1 presents and critiques an anthropocentric description of creative practice and proposes alternate descriptions drawn from critical shifts in perspectives regarding the nature of agency. Although this section does not address specific works from my catalog, it does provide a conceptual framework in which they can be understood. Part 2 details the development of *Pedesis*, a large-scale multimedia installation exhibited as my MFA thesis exhibition. The analysis will take the form of tracing the making of *Pedesis*

with references to various works created from 2019 to 2021 as contextual precursors to my own conceptual, technical, and aesthetic interests.

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Part 1:
Entangled

The Creative Process

Early in the 20th century Edgard Varése declared, “I dream of instruments obedient to my thought and which with their contribution of a whole new world of unsuspected sounds, will lend themselves to the exigencies of my inner rhythm” (Varése, 1917). This quotation suggests that when Varese makes a work of art, he first has a mental image of the work (a dream or an idea) and then uses instruments to make a corporeal copy of this mental image. Varése’s dream for “obedient” instruments might possibly stem from a frustration with existing instruments and their own physiognomies, capacities, and limitations.

I do not think this view of creativity is uncommon–you have an idea and through the use of tools, instruments, and/or materials you make it. However, I intend to argue that this idea of creative practice is related to an all-too-common anthropocentric worldview, which suggests that the artist is one in command of his or her tools and materials, the materials should be “obedient” and passive, and his or her imagination and ideas (thought) are dominant and active.

By contrast, I suggest an alternative to this anthropocentric view of creativity, similar to that espoused by Tokyo-based shakuhachi player Kentaro Idemitsu, a vocal proponent for what he calls the “old style of shakuhachi music.” In discussing his artistic practice, Idemitsu maintains that “it’s better to leave the expression up to the bamboo rather than myself trying to express music by manipulation. Many people appreciate bamboo’s sound rather than my sound” (Wallmark, 2020).

Unlike Varése’s dream, in which he disapproves of anything other than “obedient” instruments, Idemitsu’s account of the creative act welcomes and embraces the “expression” of the instrument.

The Nonhuman

If we are to follow Idemitsu's account of creativity, then things and objects possess agency; they are operative, autonomous actors in a complex ecology of intertwined relations. This idea of inanimate or nonhuman objects having agency is not just isolated to the traditions of the East; it comes from a range of different intellectual and philosophical positions.

Contemporary interest in nonhuman agency has emerged out of sociology, environmentalism, science studies, and the resurgence of metaphysics. These movements have adopted a number of names, including Speculative Realism, New Materialism, Object-Oriented Ontology (OOO), and Agential Realism. What these movements share in common is a rejection of representationalism and a turn toward realism–opening up a new posthumanist space where humans are inextricably entangled with the nonhuman. Proponents use such terms as "vibrancy", "thing power", "agency", and

"material vitalism."[1] This is a world where things behave and perform independently of us.

A key contemporary text that attempts to level the human and nonhuman is *Laboratory Life: The Construction of Scientific Facts* by sociologists of science Bruno Latour and Steve Wooglar. Taking an anthropological approach to the production of scientific knowledge, the authors contend that although science soundly produces knowledge of the physical world, its system of apparatuses (machines, instruments, and infrastructures) should also be taken into account, as these systems affect the way knowledge is produced.

Out of his ethnographic investigations, Latour would later develop the Actor-Network Theory (ANT), an approach

1 See Jane Bennett *Vibrant Matter* (2009), Jane Bennet "The Force of Things: Steps toward an Ecology of Matter" (2004), Lambros Malafouris (Editor) and Carl Knappett (Editor) *Material Agency: Towards a Non-Anthropocentric Approach* (2008), Gilles Deleuze *Bergsonism* (1988).

to social theory where everything in the social and natural worlds exists in constantly shifting networks of relationships. Objects, ideas, processes, and other factors are seen as important in creating social situations as humans are: “Action is simply not a property of humans but as an association of actants.” (Latour 1999)

Feminist scholar Karen Barad describes “agency” as not an attribute of something or someone; rather it is the process of cause and effect in “enactment” (Barad 2007). She avows “Intra-action is a Baradian term used to replace ‘interaction,’ which necessitates pre-established bodies that then participate in action with each other. Intra-action understands agency as not an inherent property of an individual or human to be exercised, but as a dynamism of forces” (Barad 2007).

Although Latour and Barad disagree on the nature of relations, what is striking is their ability to elude the human-centered language used by such terms as “actor,” “network,” “agency,” and “interaction.” Thus, one may think of the world as filled with agency–one that is continually doing things.

Emergence

In *The Mangle of Practice*, sociologist Andrew Pickering suggests that the notion of nonhuman agency sketches out a basis for a performative idiom, in which the world is seen as a play of powers, capacities, and agencies. This is not to discount the responsibility of the human, but to rebalance our understanding of the forces at play in the world:

"The performative idiom that I seek to develop subverts the black and white distinctions of humanism / antihumanism and moves into a posthumanist space, a space in which human actors are still there but now inextricably entangled with the nonhuman, no longer at the center of action calling the shots. The world makes us in one and the same process as we make the world." (Pickering 1995)

Similarly, building off the work of Gilles Deleuze and Félix Guattari[2], philosopher Manuel Delanda has developed the

2 See Gilles Deleuze and Félix Guattari's *A Thousand Plateaus: Capitalism and Schizophrenia* (1980).

term “assemblage” from the French *agencement.* Here a heterogeneous set of elements come together to form something greater than the sum of the parts (Delanda 2016). What both Pickering’s “performative idiom” and Delanda’s “assemblage theory” suggest is the concept of emergence. We can think of the various phenomena and assemblages that agential “intra-actions” produce as being an emergent property of the unique connections, actions, and performances in which they are entangled.

The histories, theories, and arguments outlined above suggest a breaking of boundaries between human/nonhuman, nature/culture, mind/body, and cause/effect. They suggest a reality that emerges out of connections and relations. If we accept the metaphysical implications of such a reality, what underpinnings does this have on art practices?

Dance of Agency

> I had begun as an artist, as one who would manipulate the elements of a reality into a work of art in the image of my creative integrity. I end by recording, as humbly and accurately as I can, the logics of reality which had forced me to recognize its integrity and to abandon my manipulations. — Maya Deren, author's preface for *Divine Horsemen: The Living Gods of Haiti*

Let us return to artmaking. My aim has been to propose an alternative to the anthropocentric model of creative practice: where the mind of the artist drives ideally passive materials. What I suggest in its place is a view of the artist entangled among the buzz and bustle of material agency. Here, being, acting, and thinking are not separate from the world but, by contrast, are fundamentally embedded within the world.

I propose a view of artistic practice as a performative one, whereby we consider: the performance of the artist (what artists do); the performance of the material world (what artistic materials do); and how these performances intra-act. I

find this view of creativity to be a more realistic and pragmatic view–where, in the act of creation, there is a continual readjustment and refinement of the processes, as well as a reacting to and adjusting of approaches to the materials.

Part 2:
Becoming

A New Project

The reading that follows details the development of *Pedesis*, a light and sound environment presented as the culminating thesis exhibition of a two-year graduate study in Electronic Integrated Arts at the New York State College of Ceramics School of Arts and Design at Alfred University. My story tracks the project from its inception, to its design, to the final exhibition in the Robert C. Turner Gallery. The process of reflection on the project foregrounded a number of thematic correspondences between previous works I created during my MFA studies. Thus, my previous works are highlighted as relevant precursors to the themes of: space, multimodality, material agency, light, sound, and indeterminacy. My hope is that the practice-based focus of Part 1 can facilitate new understandings of creative activity and provide ways of understanding my own engagement with material acts into its experimental becoming.

Space

Scientists suggest that humans have used sound to understand their relationship to physical space since the Paleolithic era as the locations of cave paintings from that period were chosen for their reverberant properties (Blesser 2006). As human cultures developed, acoustic design informed architecture–Greek amphitheatres and gothic cathedrals being notable examples. During the Renaissance, the practice of antiphony (the act of alternate or call-and-response singing between a choir split into two parts) was perhaps one of the earliest developments in articulating space in Western European music. In the 1950s, Pierre Schaeffer and Jaques Poullin developed the *pupitre de relief* to spatialize a monophonic sound source across multiple loudspeakers. Since the beginning of recording and electronic music, recorded sounds have articulated the space in which they were captured. Virtual space can now be created with tools such as reverb and panning to create depth and movement.

Given the long-time relationship among humans, sound, and

space, it seemed natural to use my MFA thesis exhibition as an opportunity to explore the architecture of the 2,500 sq ft exhibition hall of the Robert C. Turner Gallery. American artist Bruce Nauman summarized it well: “when you work in a gallery or museum, the architecture is a given. If you wanted to have a show, you didn’t have a choice, except to deal with it. You had to find a way to either absorb it into the piece or build your own” (Aupig 2011).

Sound is all pervasive and enveloping–activating space and resonating materials in sympathetic vibration. I am accustomed to sound and it’s spatial promiscuity. Growing up with a lack of binocular vision has given me difficulty in visually orienting space (making me a poor soccer player), but has heightened my attention to acoustic space. Thus, binaural listening and attention to spatial acoustics is a strong component of the way I approach my sound work. Prior to Alfred, my studies in computer music[3] led to a

3 As part of the first generation to come of age with personal computers, I originally began creating music with the freeware modular software environment Jeskola

number of multichannel compositions, in which sound is spatialized and diffused throughout the presentation space.

Sound's material actions could again be used to explore the gallery space, but how could I synthesize my history of sound-based practice and my more recent MFA training as a visual artist? How could space, sound, and the visual arts be active agents in the shaping of a new work?

Buzz. In 2011 I began using the visual programming language Pure Data for creating generative and semi-autonomous music systems. The summer of 2015, I studied computer music at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA).

Biomimesis

> The shapes of classical geometry are lines and planes, circles and spheres, triangles and cones. They inspire a powerful philosophy of Platonic harmony... But clouds are not spheres.... Mountains are not cones. Lightning does not travel in straight lines. The new geometry models a universe that is rough, not rounded, scabrous, not smooth. It is the geometry of the pitted, pocked, and broken up, the twisted, tangled, and intertwined.... The pits and tangles are more than blemishes distorting the classical shapes of Euclidean geometry. They are often the keys to the essence of the thing.
> — J. Gleick, *Chaos: Making a New Science*

Dynamical Systems **is a computer-generated 12-channel sound piece originally conceived at Alfred University for the 2800 square-foot gallery space of Co Exhibitions[4], Minneapolis. Inspired by phenomena from the natural world,** ***Dynamical Systems*** **examines the emergent sonic behavior**

4 http://brlsq.net/burlesque/temp/coexhibitions/

that arises from the intersection of science, mathematics, music, and art. Chaotic and dynamical systems theory has been used extensively in various processes ranging from weather patterns, to fluid dynamics, to animal population dynamics. Utilizing custom designed systems constructed in the sound synthesis environment SuperCollider 3 (SC3)[5], *Dynamical Systems* uses the sonification of chaotic functions to control various parameters of the synthesis influencing sonic form, color, and texture.

5 "Supercollider is a platform for audio synthesis and algorithmic composition, used by musicians, artists, and researchers working with sound. It is free and open source software available for Windows, macOs, and Linux" (https://supercollider.github.io/).

Encounters with the Alien

Since arriving at Alfred, I have wrestled with materials that were not entirely familiar to me. My newfound access to printers, imaging, fabrication, and printmaking studios has led to an experimental approach to material investigation. What I encountered felt odd, foreign, and alien.

I had generated a large number of images via code in the software Processing[6]. The images were translated to paper via inkjet printing, screen printing, and plotter drawings. Staring at the bright, high contrast, and richly saturated color of my computer monitor, I thought the images looked great. However, I was immediately unimpressed with the physical ink and paper copies. What was going on? I found it strange that such common, everyday materials as paper and ink could feel so dull and lifeless.

6 "Processing is a flexible software sketchbook and a language for learning to code within the context of the visual arts" (https://processing.org/).

In the case of inkjet printing, when an image is printed a number of factors are introduced:

1. The color gamut of the printer.
2. The quality and absorption properties of the paper.
3. The conversion of RGB values from the computer to CMYK values of the printer's ink.

Because monitors use light to display color, they use an additive process. For instance, adding colors together produces white; conversely, removing all colors produces black. Because printers use ink to display color, they use a subtractive process whereby removing all colors produces white and adding all colors produces black. As a result, monitors and printers have different color gamuts and therefore produce a different range of colors (Corel, n.d.).

Over the course of my two years at Alfred, I have moved in and out of creating paper-based works. Through experimentation, play, and pure chance, I have grown sensitive to their materialities. I started to notice how the weight, texture, and hue of the paper made the work tactile. I realized that through the act of translation some

characteristics of the digital are lost, some characteristics of the physical are discovered, and some residual traces of the source material remain. It was a tuning of the senses to what emerged from the relationship between artist and materials; not a forcing of what I thought I wanted.

“The sky is much bluer here”

Despite the intensifying COVID-19 pandemic over the summer of 2020, I had the privilege of spending a fairly relaxed inter-semester break residing and working with my partner Alyson along the Central California coast. In between walks amongst the redwoods and long sessions of tea drinking, we enjoyed the sensorial experience that is summer in the Golden State, taking pleasure in piquing each other’s interest in what we observed. “The sky is much bluer here,” she said as we stared off into the distance where the Santa Cruz Mountains meet the sky. Having both recently relocated back to California from the midwest we were especially sensitive to the various qualia we were experiencing.

This attention to light is something that Alyson and I talk about frequently. Having grown up in Southern California, the region’s bright light and vast expanse created a lasting impression on me: the sparkle of light reflecting off the Pacific Ocean, the glow of neon signage, the saturation of color, the strong shadows, and of course the deep crimson sunsets.

Los Angeles is famous for its sunsets, and it is often said that the city's air pollution is a significant contributor to the spectacle. It is true that the molecules in the atmosphere are responsible for the hues we perceive, but the truth is that pollutants tend to dull sunsets, not enhance them. Air molecules are small enough that they scatter a specific wavelength of light, whereas aerosols (atmospheric pollution) are large enough that they scatter a large spectrum of light, thus reducing spectral purity and light intensity.

Ordinary sunlight is composed of a wide spectrum of colors and when reflected off of nitrogen and oxygen molecules (the primary molecules found in the Earth's atmosphere) produces violets and blues that comprise a clear daytime sky. At sunset, sunlight takes a much longer path through the atmosphere than during the middle of the day. This lengthened path results in an increased amount of violet and blue light scattering out of the beam and resulting in a light that reaches an observer early or late in the day noticeably reddened (Corfidi 2014).

While the sky may indeed be "bluer" in California, the

perceptual affects are embedded in the assemblage of light, atmospheric components, and our relationship to them. As Maurice Merleau-Ponty notes, “we are no longer present at the emergence of perceptual behaviors; rather we install ourselves in them in order to pursue the analysis of this exceptional relation between the subject and its body and its world” (Merleau-Ponty 1945).

Multimodality

Production work on *Multimodality* began in summer 2020. Among my principal aims was to examine the interaction between seemingly simple sonic and visual objects. At the beginning of the project, I formulated the conditions for the work:

1. **Limited palette of sounds: developed solely through pulsar synthesis (a technique based on the generation of trains of sonic particles)[7].**
2. **Limited palette of colors: red, blue, black, and white.**

7 Pulsar synthesis was realized via Marcin Pietruszewski's New Pulsar Generator (nuPg) program. "Pulsar Synthesis (PS) is a method of electronic music synthesis based on the generation of trains of sonic particles. It can produce either rhythms or tones as it crisscrosses perceptual time spans. The basic method generates sounds similar to vintage electronic music sonorities, with several important enhancements. The advanced method combines multiple pulsar trains and convolution with sampled sounds" (Roads 2001).

3. Limited palette of visual forms: only rectangular forms may be used.

Despite or perhaps because of the set of limitations in place–tone, rhythm, figure, ground, synchronicity, and asynchronicity–these distinctions became ambiguous. Through this work I encountered gaps in seeing and hearing, fluctuations in time and space, and a play of integrated sensations.

Here my use of the term “multimodality” stems from perceptual psychology, referring to the use of more than one sense of modality in meaning-making. Most things that happen in a normal everyday environment stimulate multiple sense modalities. It is the integration of the different sensory modalities that produces meaningful and coherent experiences (Calvert 2004).

Tuning the Senses

Fall 2020. My piece *Intra-action* used a six-foot linkage of air pillows suspended from the ceiling; beneath this was a fan positioned so that chaotic movements were produced in the air pillows. The room was completely blacked out aside from two tungsten incandescent light bulbs arranged in such a way that the air pillows cast shadows on two of the four walls of the exhibition space. The work exhibits a number of different behaviors as the air pillows and their corresponding shadows 'dance' throughout the space.

An attempt was made to use found and scavenged materials that together became something more than the sum of its parts. By borrowing Karen Barad's term "intra-action," the work proposes that the ordinary objects comprising the assemblage no longer precede their interaction; rather, their objecthood emerges and are defined through their specific "intra-actions".

For me, whether the audience was able to follow my conceptual logic was arbitrary. It simply provided a point

of investigation. I hold this position throughout most of my work. If the work tickles the intellect, yet fails to enrapture the senses, it is of no interest to me.

Gesamtkunstwerk

With three quarters of graduate school coming to an end, I was beginning to notice a trajectory in my work. Perhaps my interest in sound, space, light, perception, and material agency could all be collapsed into a single site-responsive multimedia environment.

The intersection of space with light and sound aligns closely with post-WWII intermedia practices, particularly German opera composer Richard Wagner's concept of *Gesamtkunstwerk* or "total art." A pioneer case in sound and light environments was Iannis Xenakis' *Polytopes* (from the Greek "poly": many and "topos": space), a series of large-scale multimedia works begun in 1967 with the *Polytope de Montreal* and continuing until the *Diatope* at the Centre Pompidou in Paris in 1978. With the *Polytopes*, Xenakis spatialized his compositions via multi-channel speaker arrays and accompanied the music with flickering lights (Harley 1998).

In many ways, my research on Xenakis' *Polytopes* rekindled memories of the Los Angeles warehouse rave scene of the

90s and early 2000s where I spent many nights of my youth. Like Xenakis' *Polytopes*, intelligent lighting, multicolored lasers, and high decibel sound created an immersive aural and visual environment. In a different fashion, much of the flicker and flash was conducive to the hallucinatory drugs found at these celebrations rather than the Platonic inspirations of Xenakis.

Since the mid-1960s, composer Lamonte Young and visual artist Marian Zazeela's *Dream House* installation uses just-intoned sine waves and theatrical lighting to create an environment in which the visitor is physically bathed in sound and light. Walking into the room, the visitor becomes aware of various psychoacoustic phenomena (binaural beats and constructive and destructive phase interference) changing relative to their position in the space (Franinović 2013).

By no means was I interested in recreation, nostalgia, and mirroring the psychedelic experience for my thesis show. I knew that I wanted to develop an experience for the senses, but my exhibition was four months away, and I still was not clear where I was headed. What were my goals with the project? Is it possible that I was not so sure?

Composing Space, Sound and Light

December 2020, I began assembling materials: DMX interface, RGB LED PAR lights, RGB LED Wash lights, LED light bulbs, DMX dimmers, projectors, and lots of cabling.

With limited access to the exhibition space prior to the show, the project made me nervous. How was I supposed to create a site-responsive installation without working in the space itself? I decided to embrace the idea of not knowing. I carried on and assumed I would figure things out as the work moved forward.

Some of the earliest examples of sound and image pairings are color organs and abstract films referred to under the umbrella term “visual music,” which is used to describe the idea of transposing the traditional structure of music to a visual form. (Zinman 2000) Rejecting this hierarchy, I intentionally chose to remove any primacy of sound versus image. I wanted to produce a synesthetic relationship between media. In this way, sound and image are isomorphic, synchronous, and in unison. The sound/light

pairings explore what film theorist Michel Chion described as "synchresis," or "the forging between something one sees and something one hears–it is the mental fusion between a sound and a visual when these occur at exactly the same time" (Chion 1990).

Instead of mapping an overarching score, I started using probabilistic control systems– meaning that the choreography of light and sound are semi-autonomous and avoid predetermined processes. These systems were inspired by the indeterminate and dynamic behavior of natural phenomena, from which the project took on its name. Pedesis (from the ancient Greek for "leaping") is the random motion of particles suspended in a medium[8].

8 Pedesis or Brownian motion is named after botanist Robert Brown who discovered the phenomenon in 1827, while looking through a microscope at plant pollens immersed in water. This pattern of motion is characterized by the random, uncontrolled movement of particles in a fluid induced by collisions with other molecules (Feynman 2010).

SuperCollider once again is the backbone of the project. In fact, many of the self-organizing algorithms developed for *Dynamical Systems* had become the infrastructure for *Pedesis*. These procedures are then mapped to trigger various sound and lighting events. The sonic material is predominantly produced via microsound[9] synthesis techniques within SC3, and the triggers for lighting events are sent via the networking protocol Open Sound Control (OSC)[10] to the lighting software QLC+[11].

9 "Below the level of the musical note lies the realm of microsound, of sound particles" (Roads 2001). These are sounds typically 1 to 100 milliseconds in length often referred to as "grains." Composer Iannis Xenakis is often attributed as developing the compositional theory for grains of sound in his book *Formalized Music* (1963).

10 "Open Sound Control (OSC) is a protocol for networking sound synthesizers, computers, and other multimedia devices" (http://opensoundcontrol.org/).

11 "QLC+ is a free and cross-platform software to control DMX or analog lighting systems" (https://www.qlcplus.org/).

Pedesis

Pedesis **is a dramatic light and sound installation designed in response to its surrounding environment. Utilizing computer-controlled, multi-channel lighting and sound technologies, the exhibition space becomes an active agent in shaping the luminescent and sonic materials, and, in return, the luminescent and sonic materials actively reshape the exhibition space.**

The work consists of eight, white 100-Watt-equivalent LED light bulbs, each hung from a cable at various heights. The bulbs are coupled with small audio speakers hanging above each bulb. The paired objects are strategically distributed over the exhibition space at various heights and distances to create a permeable media architecture in dialog with the space.

Counterpointing the "sounding" bulbs are larger environmental shifts that develop a synaesthetic play between color and timbre. These polychromatic washes are produced by an array of five RGB LED lighting units, seven

projectors, and sonic textures emitted via a quadraphonic speaker system.

Much like life itself, the installation exhibits a range of states from ordered to complex, light to dark, and near silence to thunderous noise. The behaviors create a changing space of bursting points, flickering architecture, and articulated pathways. A fleeting scenography of simple lines and points seem to bend around corners, "crawl" up and down cables, ad illuminate both non-human and human surfaces.

In staging the project, the audience becomes active participants in their own and in each other's experience. Moving throughout the space, the participants color, shadow, resonate, reflect, and refract, changing the very environment they are encountering.

Ultimately, the work creates a site-responsive[12], continually

12 My use of the term "site responsive" refers to an intra-relation between artistic works and the presentation site. This contrasts with site-independent installations: like those found

renewing sensorial experience that is the culmination of light, sound, space, and human activity.

in the supposed “neutral” spaces of the black box theatre and white cube gallery; and site-specific installations, which are designed for a specific location.

Conclusion

The process of reflection on my work has enabled a clearer understanding of thematic and technical interests that were not resolved prior to graduate school. Although the works in this catalog comprise a wide range of disciplines ranging from sound, print, sculpture, video, and installation, a common motivating thread that runs through them is a fascination with perception, experience, and affect. This cross of disciplines, methods, and conceptual underpinnings can be seen in the construction of *Pedesis*.

I hope the discussion of creativity in Part 1 will hopefully be of relevance to the reader and can provide a new understanding of how art comes into being. Artmaking is not the result of an *a priori* vision then expressed with the aid of passive materials; rather, it is fundamentally embedded in the world and responsive to the materials, ideas, and human collaborators in which it is entangled.

Pedesis Equipment List

Software

- SuperCollider 3 (SC3)
- Processing 3
- QLC+
- New Pulsar Generator (nuPg)

Hardware

- Focusrite 18i8 Audio Interface
- MOTU Ultralite mk4
- 2x Sherwood 5.1 Amp
- Mackie 1202-VLZ PRO
- 4x JBL Eon 515XT
- JBL Eon 518 Sub
- 8x Dayton Audio DW3” Drivers
- 3x MacPro
- 6x BenQ SP891 Projector
- Canon REALiS WUX6000
- 4x Chauvet COLORBAND H9
- Chauvet RGB Slim PAR T12
- 8x Custom LED bulbs
- Netgear M4100-D12G
- 2x ADJ Eco UV Bar DMX

Bibliography

Aupig, Michael. 2011. "Stealth Architecture: The Rooms of Light and Space." In *Phenomenal: California Light, Space, Surface,* edited by Clark, Robin. Berkeley, CA. University of California Press.

Barad, Karen. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Meaning and Matter.* Durham, NC: Duke University Press.

Bennet, Jane. 2004. "The Force of Things: Steps Toward an Ecology of Matter." In Political Theory, vol 32, no3, pp. 347-372, accessed March 31, 2021, www.jstor.org/stable/4148158.

Bennett, Jane. 2010. *Vibrant Matter: A Political Ecology of Things.* Durham, NC: Duke University Press.

Blesser, Barry, and Linda-Ruth Salter. 2007. *Spaces Speak, Are You Listening?: Experiencing Aural Architecture.* Cambridge, Mass. MIT Press.

Delanda, Manuel. 2016. *Assemblage Theory.* Edinburgh: Edinburgh University Press.

Calvert, Gemma A., Charles Spence, and Barry E. Stein, eds. 2004. *The Handbook of Multisensory Processes.* Cambridge, MA: MIT Press

Chion, Michel. 1994. *Audio-vision: Sound on Screen.* Translated by Claudia Gorbman. New York: Columbia University Press.

Corfidi, Stephen F. 2014. "The Colors of Sunset and Twilight," accessed April 1, 2021, https://www.spc.noaa.gov/publications/corfidi/sunset/

Deleuze, Gilles. 1988. *Bergsonism.* Translated by Hugh Tomlinson and Barbara Habberjam. New York. Zone Books.

Deleuze, Gilles, and Félix Guattari. 1987. *A Thousand Plateaus: Capitalism and Schizophrenia.* Translated by Brian Massumi. Minneapolis. University of Minnesota Press.

Feynman, Richard, Robert B. Leighton, and Matthew Sands. 2010. *Feynman Lectures on Physics* (online edition), accessed March 31, 2021, https://feynmanlectures.caltech.edu/info/

Franinović, Karmen and Christopher Salter. 2013. "The Experience of Sonic Interaction." In *Sonic Interaction Design,* edited by Franinović, Karmen and Stefania Serafin. Cambridge, MA: MIT Press.

Gleick, James. 2008. *Chaos: Making a New Science,* Reprint edition. New York, NY. Penguin Books.

Harley, Maria Anna. 1998. "Music of Sound and Light: Xenakis' Polytopes." In *Leonardo,* Vol. 31, No. 1, pp. 55-65, accessed April 1, 2021, http://www.jstor.org/stable/1576549?origin=JSTOR-pdf

Knappett, Carl, and Lambros Malafouris, eds. 2008. *Material Agency: Towards a Non-anthropocentric Approach.* New York, NY. Springer Science+Business Media.

Latour, Bruno and Steve Wooglar [1979]. 1986. Laboratory Life: The Construction of Scientific Facts. Princeton, NJ: Princeton University Press.

Latour, Bruno. 1999. "The Trouble with Actor Network Theory." In *Soziale Welt,* No. 47. pp. 369-381.

Merleau-Ponty, Maurice. 2005. *Phenomenology of Perception.* Translated by Colin Smith. London. Routledge.

Pickering, Andrew. 1995. *The Mangle of Practice: Time, Agency, & Science.* Chicago. The University of Chicago Press.

Roads, Curtis. 2001. *Microsound.* Cambridge, MA. MIT Press.

"Understanding how monitor colors and print colors differ," accessed April 1, 2021, http://help.corel.com/paintshop-pro/v20/main/en/documentation/index.html#page/Corel_PaintShop_Pro/Monitor_versus_printed_colors.html

Varése, Edgard. 1917. From *391* (periodical) No. 5 (June 1917). Translated by Louise Varése.

Wallmark, Zachary. 2012. "Sacred Abjection in Zen

Shakuhachi." In *Ethnomusicology Review* (Vol 17), accessed March 28, 2021, https://ethnomusicologyreview.ucla.edu/journal/volume/17/piece/585

Xenakis, Iannis. *Formalized Music: Thought and Mathematics in Composition.* Stuyvesant, NY. Pendragon Press.

Zinman, Gregory. 2020. *Making Image Move: Handmade Cinema and the Other Arts.* Oakland, Calif: University of California Press.

Images

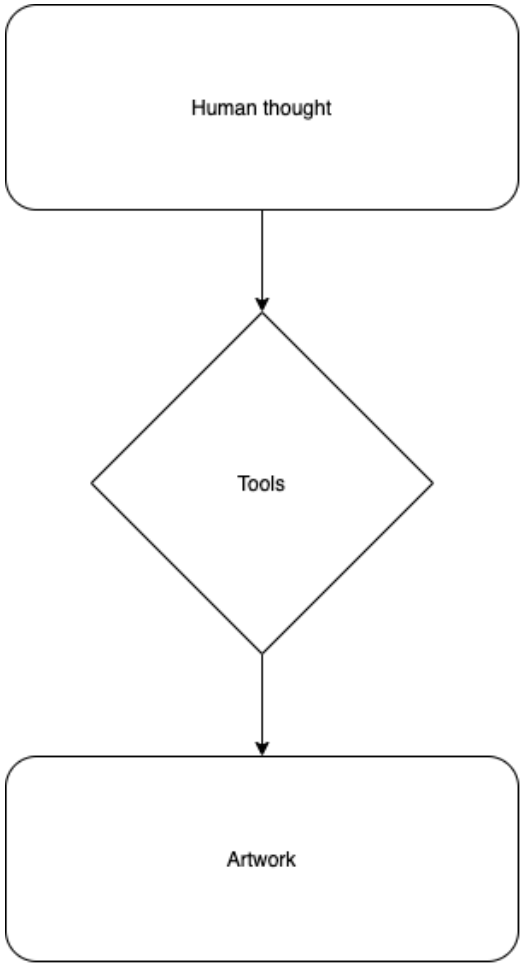

Figure 1. **The creative act according to Varèse.**

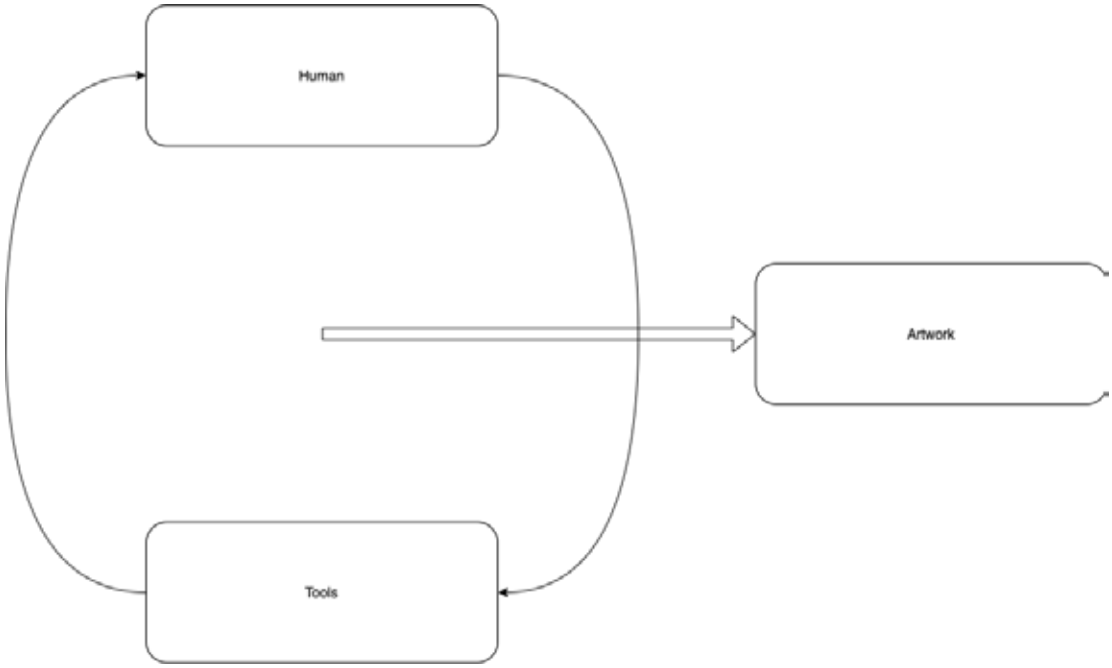

Figure 2. Artwork as an emergent property of the "intra-actions" between artist and tools.

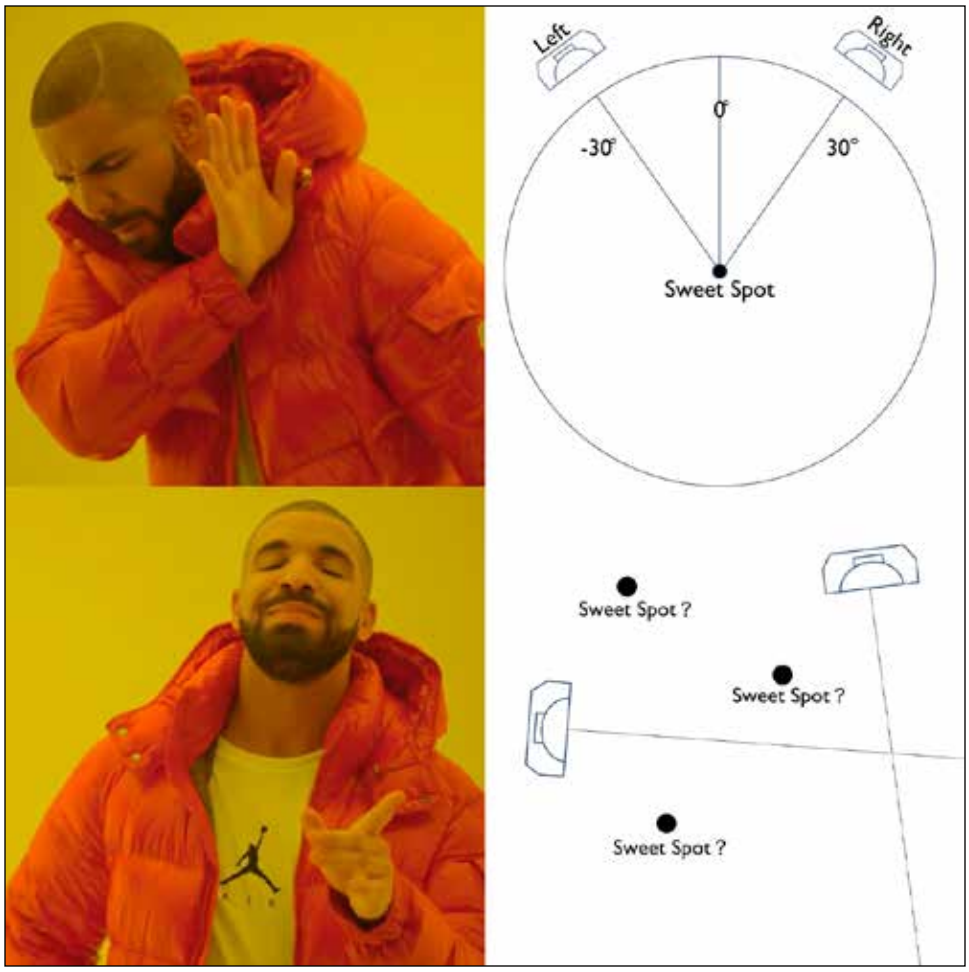

Figure 3. Whereas dominant consensus regarding acoustics recommends a fixed and central "sweet spot" for optimal listening, I suggest that there exists no such hierarchy as each listening point exhibits its own unique acoustic qualia.

Figure 4. Documentation of *Dynamical Systems* (2019) at Co Exhibitions, Minneapolis, MN.

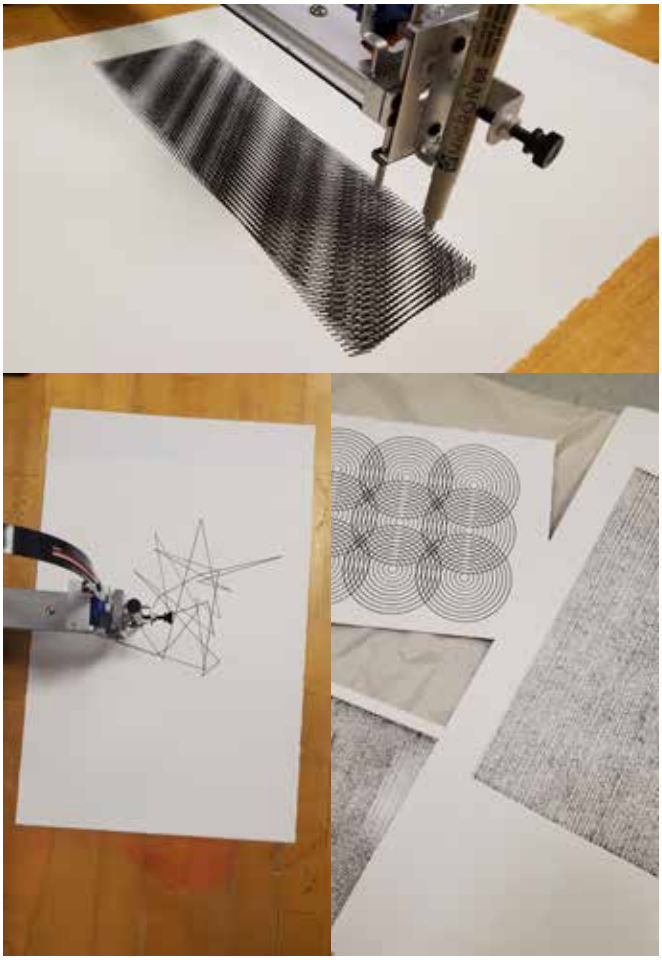

Figure 5. Procedural drawings made via Processing and pen plotter.

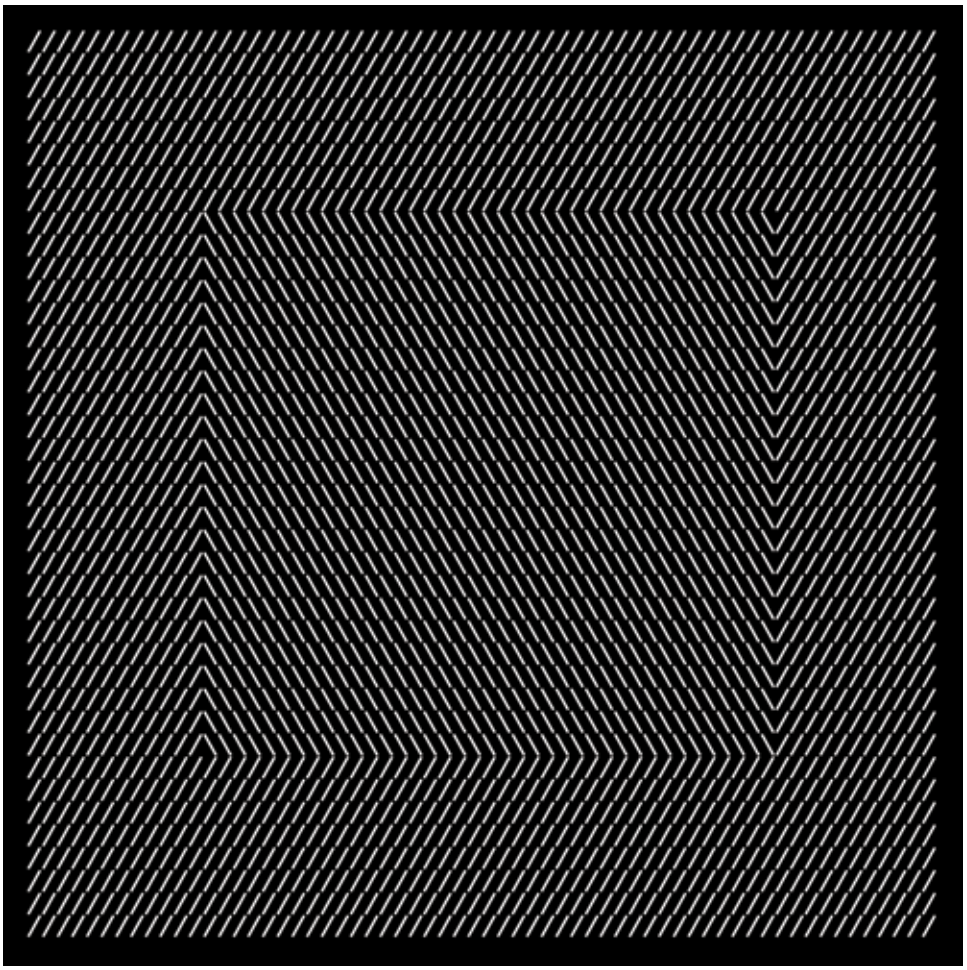

Figure 6. *Pattern 033*, from the limited edition artist book *Pattern Recognition* (2019), a compendium of images exploring a sparse visual lexicon of hallucinatory patterns, grids, and vectors.

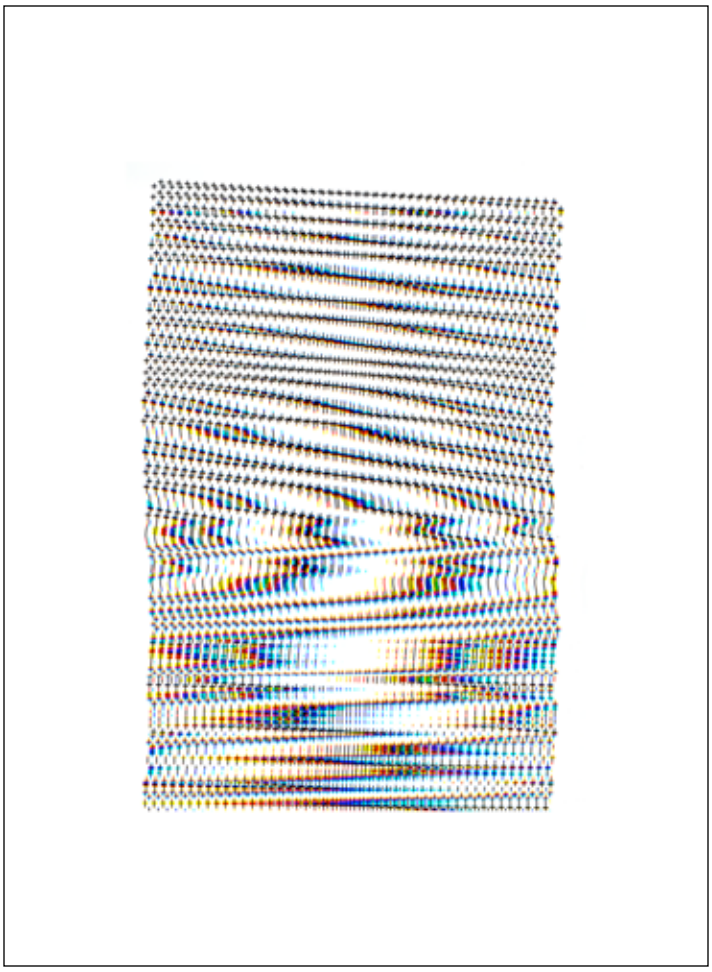

Figure 7. *Scan 16* (2021). 22 x 30" Inkjet Print. Part of a series of ongoing works developed through the performance and "misuse" of image scanner technology.

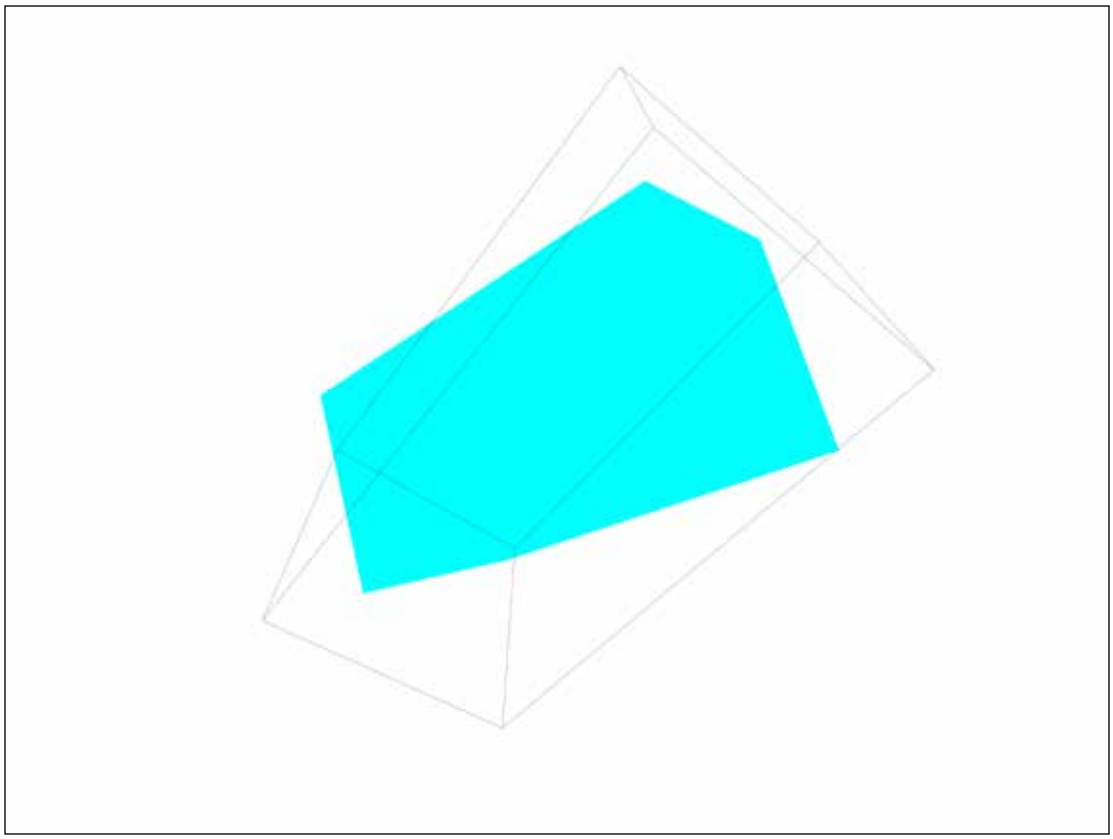

Figure 8. *Superimposition 0034* (2021). 32 x 24" Inkjet Print. A body of work spanning print and video that explores formal arrangements of color and simple geometric shape.

Figure 9. Big Sur, California. Summer 2020.

Figure 10. Refracted light. Ben Lomond, California. Summer 2020.

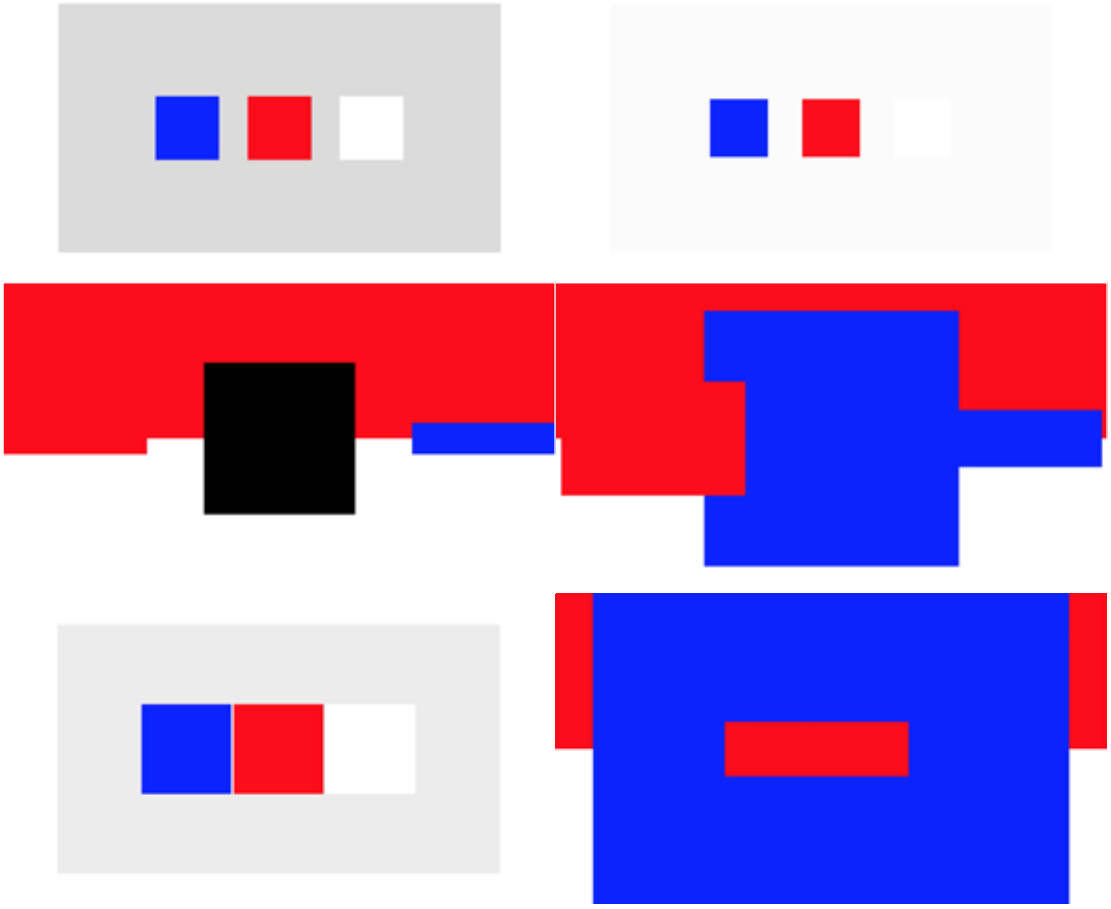

Figure 11. *Multimodality* (2020). Video stills.

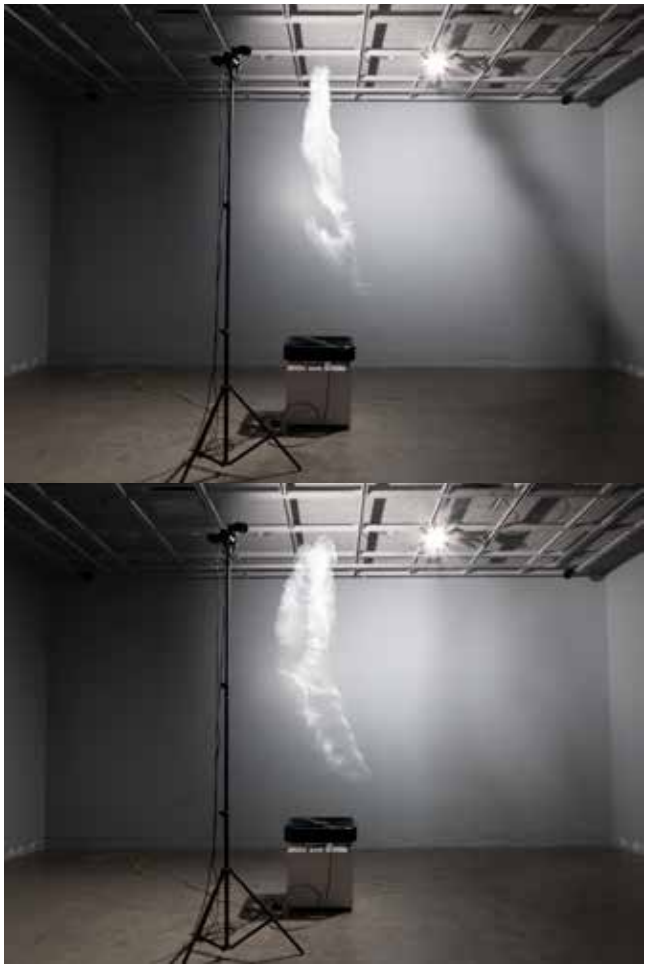

Figure 12. *Intra-action* (2020). Immersive Gallery, Alfred University.

Figure 13. **Iannis Xenakis *Polytope de Montréal* (1967).**

Figure 14. UK DJ Lee Gamble on Xenakis.

Figure 15. The halcyon days of rave. Photo by Peter J. Walsh.

Figure 16. LaMonte Young and Marian Zazeela's *Dream House.*

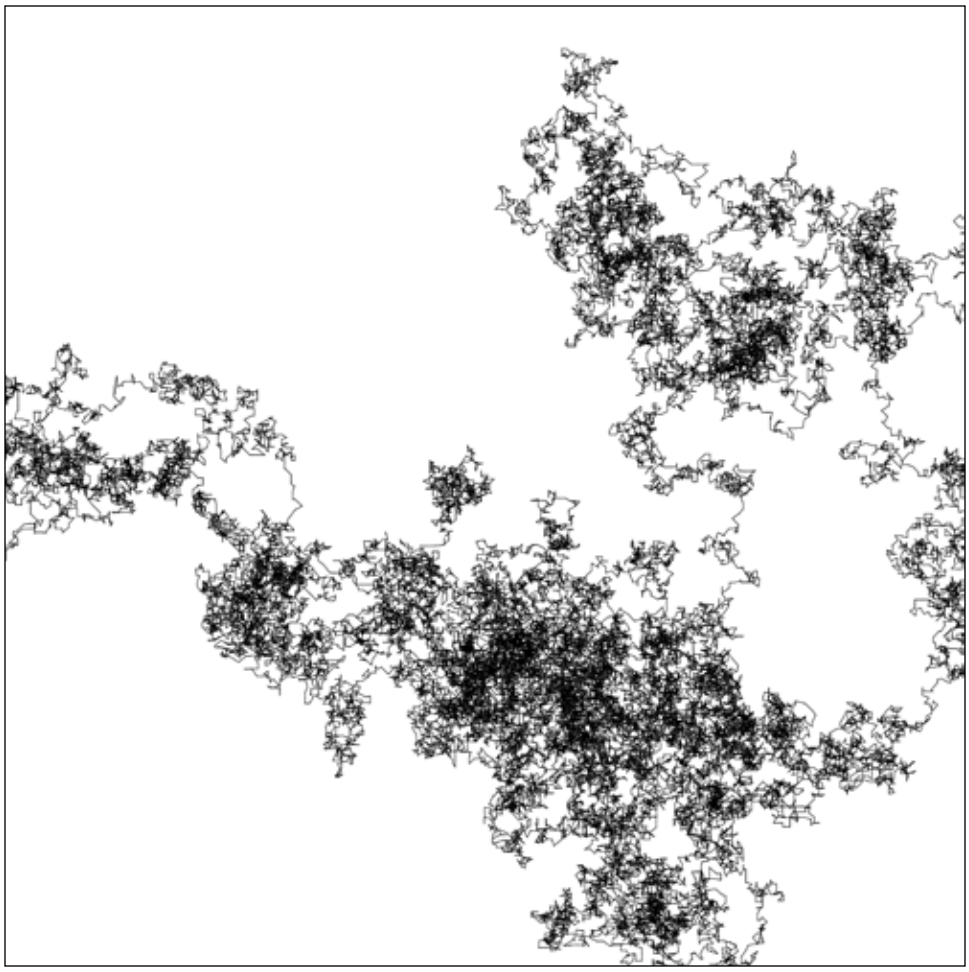

Figure 17. Simulation of pedesis or Brownian motion.

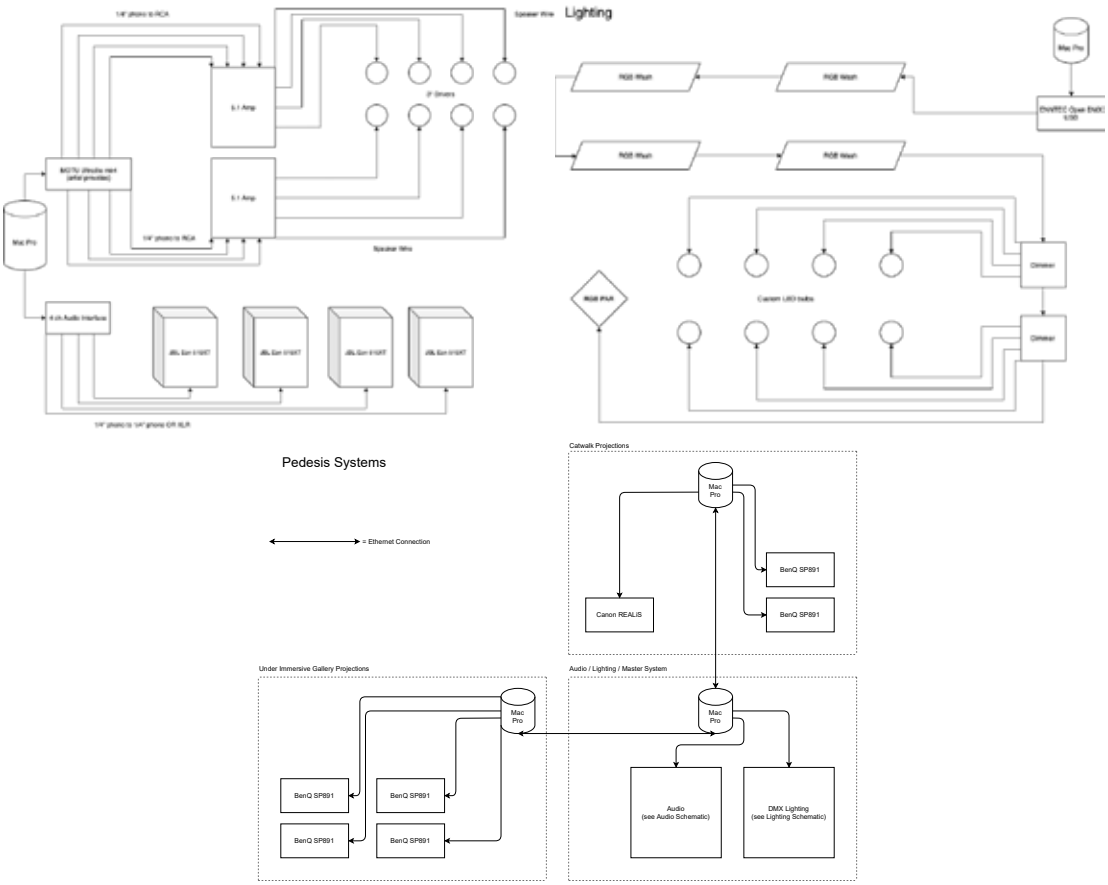

Figure 18. **Schematic of the various sound and lighting systems in *Pedesis*.**

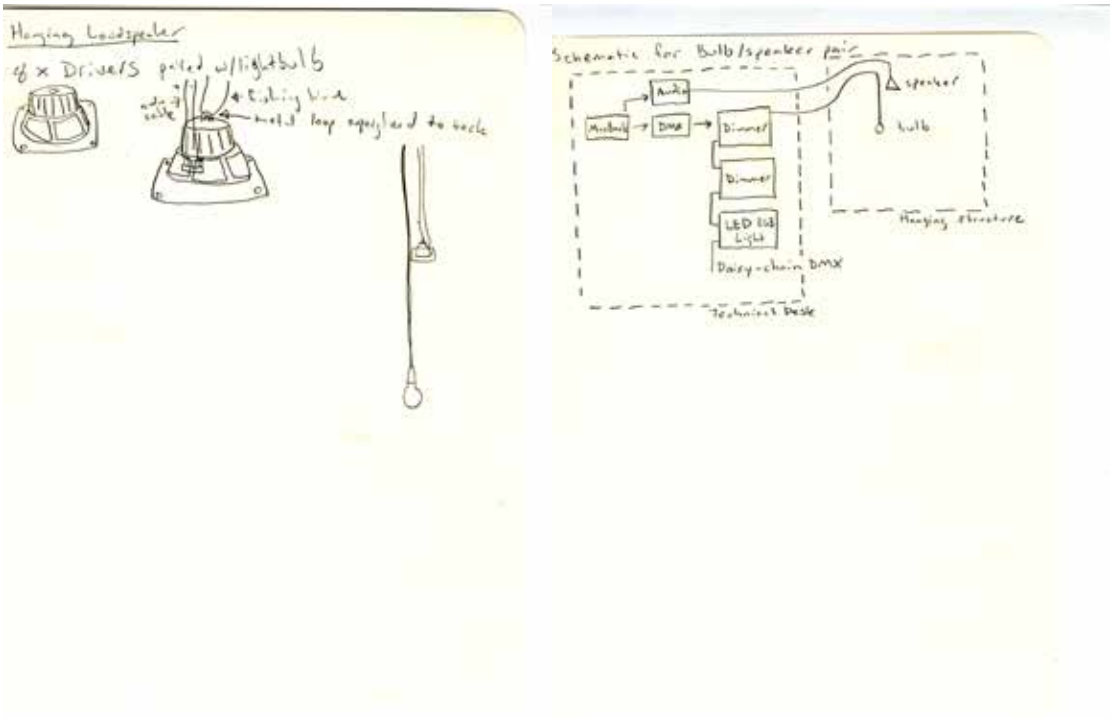

Figure 19. **Conceptual drawing of the "sounding bulbs" in *Pedesis*.**

Figure 20. *Pedesis* (2021). Robert C. Turner Gallery, Alfred University. Visitors explore the evolving exhibition space.

Figure 21. *Pedesis* (2021). UV lighting illuminates the ceiling of the gallery.

Figure 22. *Pedesis* (2021). A unique aspect of the gallery architecture—a large floating box above the exhibition hall—yielded unexpected and welcome patterns of light ornamenting its underside.

Figure 23. *Pedesis* (2021). Closeup of the various sound / lighting technologies.

Figure 24. *Pedesis* (2021). Closeup of three "sounding" bulbs.

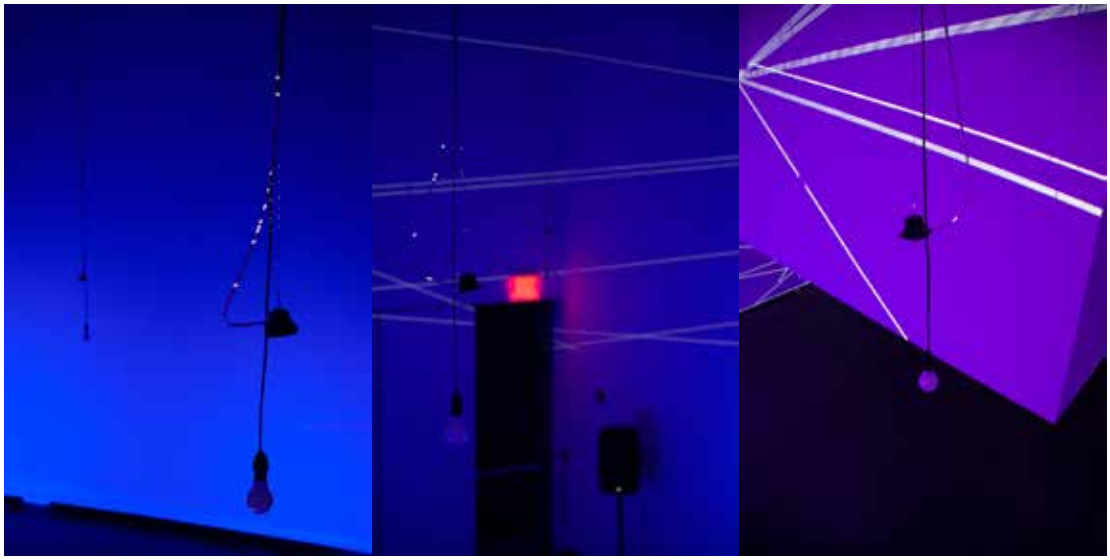

Figure 25. *Pedesis* (2021). Light appeared to "crawl" up and down cables.

Figure 26. *Pedesis* (2021). Light projections produced via simulations of Brownian motion.

Figure 27. *Pedesis* (2021). Guest illuminated by projections.

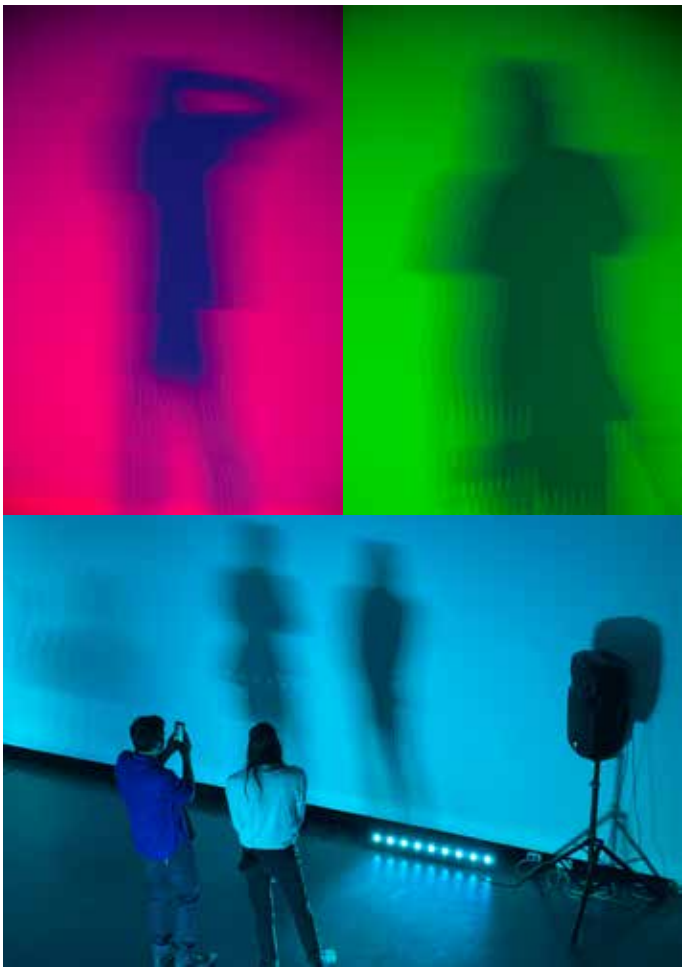

Figure 28. *Pedesis* (2021). Numerous visitors noted composite shadows created on the walls of the gallery.

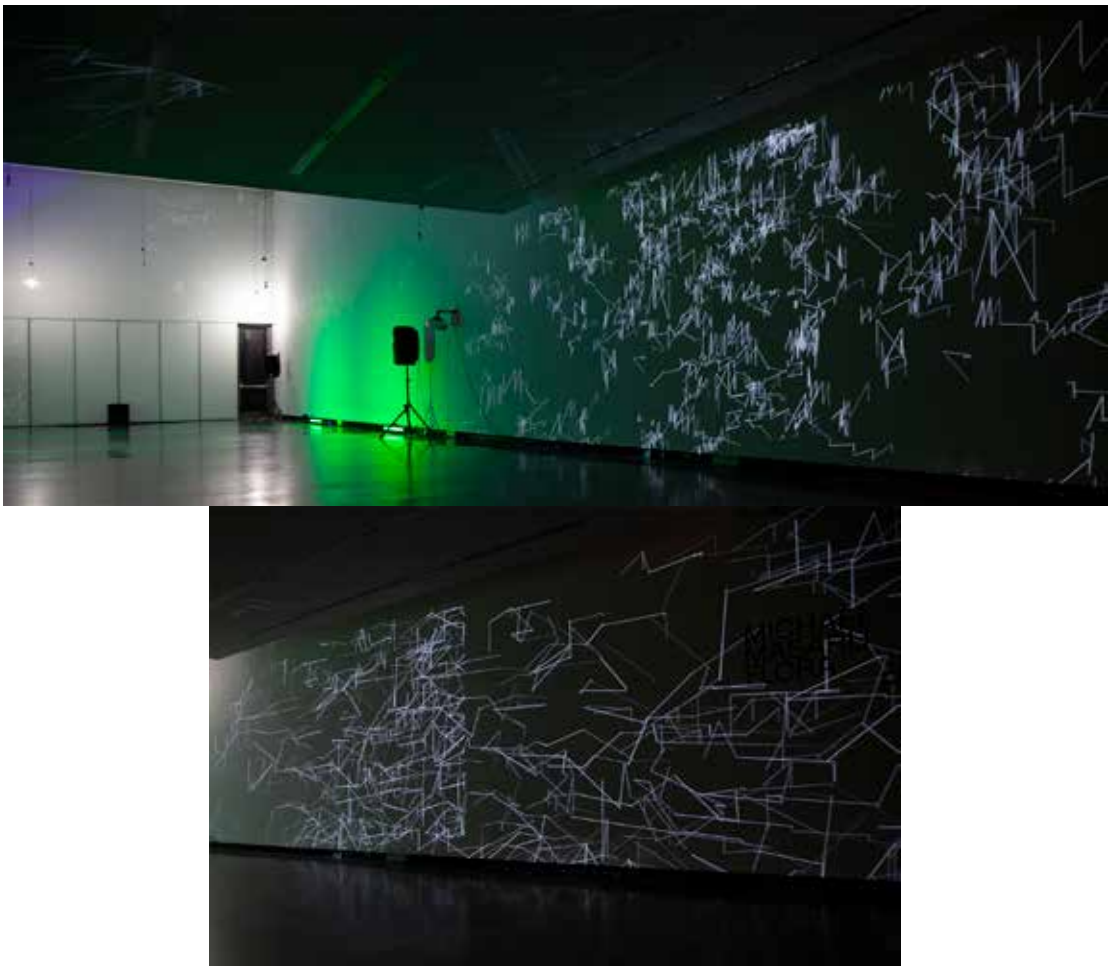

Figure 29. *Pedesis* (2021). The interplay between cacophonous shrapnels of noise and rapidly flashing imagery, compelled some audience members to suggest a feeling of being caught in a thunderstorm.

Biography

Michael Masaru Flora is a multidisciplinary artist working within the intersections of art, music, and science. As an artist entangled in an ever shifting set of relationships with materials, human collaborators, energies, and forces, his practice explores the emergent phenomena that occurs through the interaction between human and nonhuman agencies. Informed by architecture, generative systems, perceptual psychology, visual art, and computer music, Flora's work often takes the form of installations, performances, prints, and books.

Notes

This thesis book is written and organized by Michael Flora for his 2021 MFA Thesis Exhibition at the School of Art and Design, Alfred University, New York, USA.

Design development by Alyson Coward and Michael Flora over the course of Spring 2021.

Typesetting and layout by Alyson Coward in Ben Lomond, California, with title page design by Alyson and Michael. Pages and text are printed in registration black. Perfect bound and covered with remaining exhibition posters designed by Michael.

Typefaces used in this book are Helvetica Now—redrawn and refit in 2019 by the Monotype digital foundry from its original 1957 Swiss designs by Max Miedinger, and Courier—a slab serif typeface designed for its functional use in typewriters by Howard Kettler in 1955 and popularized by International Business Machines.

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1 May 2021