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# A WHEEL INSIDE A WHEEL

by

ELIZABETH STORM

Under the Direction of Craig Dongoski, MFA

## ABSTRACT

Getting lost in nature, I can sense the unfixity of its countless forms and processes. Recurring patterns at micro and macro scale arise from creative and destructive forces in space and time; reality appears simultaneously constant and impermanent. My thesis work, *a wheel inside a wheel*, explores the self in relation to contemporary conceptions of reality. I look at static and dynamic representations of stripped-down patterns modeled from nature, like circular bursts, splintering branches, or the meander of a wave. The action-based works on paper and cloth leverage invisible forces and signal to permanency and physical embodiment, deepened through an engagement with archetypal materials. Time-based media renders an altogether separate point of view. Presenting documentary footage alongside artifacts of this abstraction

practice, I speculate on the role sensing and recording technologies have in altering perceptions and observations of reality.

INDEX WORDS: Art, Nature, Perception, Consciousness, Phenomena, Process Art, The self, Patterns, Metapatterns, Metaphysics, The body, Trace, Artifact, Media, Technology

A WHEEL INSIDE A WHEEL

by

ELIZABETH STORM

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Fine Arts

in the College of the Arts

Georgia State University

2022



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2022

A WHEEL INSIDE A WHEEL

by

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May 2022

## **DEDICATION**

To my late mother, Nancy, I wouldn't be here without you.

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## 1 INTRODUCTION

By deeply observing and representing nature through the years in various degrees of realism and abstraction, I have come to question constructions of reality through those dual lenses. I recall a childhood game my sister and I would play. We would pick something out of our field of view, a tree, or a cloud, and we would ask, how do I know you are seeing the same tree as I am? And we would describe the tree from our point of view. I would detail its form and colors, relate them to essential shapes and qualities, making a metaphor for how it looks like something. She would define it as a living organism, elements and atoms that together form into a branching shape as it collects water from the earth and light from the sun. She would further illustrate any piece I might not understand, like “living,” or “atom.” Despite our efforts, we could not convince each other we were seeing the same tree. Would it even be the same tree tomorrow?<sup>1</sup>

These curiosity sessions were some of my earliest forays into abstract thinking. Over the years, I made work about visual perception and scientific thinking, undoubtedly inspired by those early conversations with my sister.<sup>2</sup> As an artist trained in traditional, classical drawing and painting, I worked through scientific topics, matching the way I saw the world, as stable and built from discernable parts to the way I portrayed it, built from the Cartesian ideals of point, line, plane, and volume. I combined linear perspective drawing and illusionistic space with otherworldly landscapes and abstractions of scale to draw a connection between visualization in

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<sup>1</sup> This thought experiment echoes in the embodied philosophy of Ludwig Wittgenstein, namely, some of the logical statements and propositions of *Remarks on Color*. Wittgenstein came to me much later, but there must have been some of his foundation in my early educators and mentors. See Ludwig Wittgenstein et al., *Bemerkungen Über Die Farben = Remarks on Color / Ludwig Wittgenstein ; Hrsg. Von G. E. M. Anscombe*, Remarks on Color. (Berkeley: University of California Press, 1977).

<sup>2</sup> Who went on to become a Doctor of Philosophy in astrophysics, no less!

the arts and visualization in the sciences as parallel modes of thinking with an early-modern historicity (see Figure 1.1).



*Figure 1.1 Lizzy Storm. Cloud Field. charcoal, conte crayon, and acrylic on canvas. 24 x 36 inches. 2014.*

My practice is steeped in early modern European conceptions of reality. Lens technology and architectural perspective drawing, guided by geometry and mathematics, gave draftsmen and painters new tools with which to conceive of, envision, and portray the visual world.

Mathematics technology, in turn, made lenses useful in early telescopes and microscopes, making images of previously concealed worlds possible. My early work employed optical devices in various capacities in order to link the two modes of visualization, of art and of science, underscoring the notion of a sensible universe, built from discernable parts in definite

relationships (see Figure 1.2). This was a rationalistic way of knowing and depicting the world. My pre-graduate work responded to modernist depictions of reality. I was seduced by modernism's logical and mathematical ways of conceiving the visual world.



*Figure 1.2 Lizzy Storm. This Must be the Place (diptych). charcoal, conte crayon, and acrylic on canvas. 32 x 24 inches each. 2016.*

I engaged with late 20<sup>th</sup> century postmodernism in the humanities and art more fully for my graduate research. It seems the 20th century's scientific progress and the resulting technological atmosphere have rendered old models of conceiving reality obsolete. Points, lines, and planes have become nodes, flows, and networks. I have yet to form a sense of what this contemporary reality *looks* like for me. The typically static media of drawing and painting do not easily accommodate the flexibility and dynamism characteristic of contemporary reality. This

has led me to a reevaluation of the medium and materials of my practice, seeking a closer connection to nature through physical media, yet yearning for the technological vision of high-speed video and aerial photography.

With this thesis, I will uncover and begin to challenge the origins of my assumptions about vision and art. I will trace a limited course through early modern notions of image making and point to how they could have laid the foundation for 20<sup>th</sup> century modernism. Some of what I have found the most interesting in relation to my work are theories based on optical devices, like early cameras, the telescope, and others, which find connections to conceptions of reality. I wonder, what obsolete models of portraying reality have I inherited from the past? Modernist theories of visuality are being critically examined to this day, and I will speak to some art and writing from the late 20<sup>th</sup> and early 21<sup>st</sup> century. Some of the larger themes surrounding my practice are embedded in models of reality inherited from the distant and recent past. My practice has changed as I incorporate critical research and I have unearthed alternate points of view.

Witnessing new models of perceiving reality has led me to reevaluate the so-called fundamental building blocks of my own practice. My thesis body of work, *a wheel inside a wheel*, explores the self in relation to contemporary conceptions of reality. The action-based works on paper leverage invisible forces and signal permanency and physical embodiment, deepened through an engagement with archetypal materials like biocompatible earth pigments, inks, and fibers. My expanded drawing and painting practice looks into static and dynamic representations of stripped-down patterns modeled from nature; like circular bursts, splintering branches, or the meander of a wave. Time-based media renders an altogether separate point of view. By presenting high-speed documentary footage alongside artifacts of this abstraction



practice, my work speculates on the roles sensing and recording technologies have in altering perceptions and observations of reality.

## 2 OLD MEDIA

*“The eye which is the window of the soul is the chief organ whereby the understanding can have the most complete and magnificent view of the infinite works of nature.”<sup>3</sup>*

My practice begins with observation. I like to get lost in nature, from the multi-dimensional lushness of a secluded wooded trail to a scraggly patch of urban landscaping. I notice different things. Some days its rocks, geology, colors and textures of dirt and granite. Others it might be grasses, leaf shapes, bark textures, fruits. Mushrooms are a favorite eye candy, their incredible range of forms and colors, their fruiting body allusion to the mycorrhizal network beyond. Simply observing phenomena, forests, waterways, landscapes, ecosystems, vast or small, I can sense the paradoxical permanence and unfixity of nature’s metamorphic appearance and manifestations. So, my impulse is to pin it down somehow; to describe it, remember it, to honor its existence, this remarkable, fleeting phenomenon. Some questions arise. What does it mean to want to capture an experience? Does the mechanism for capturing the experience, whether through image, language, or some other translational device (a camera, the senses), influence the record? Can a static image convey the dynamism of natural processes? These are the questions I ask when I assume the task of abstracting what I notice about dynamic phenomena in the world.

At the foundation of my practice are inherited ideas around “observation” and “learning to see.” The primacy of vision is deeply rooted in my psyche. Do visual artists think the visual sense is the most important? Looking back at myself as a young visual artist, I did. Why

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<sup>3</sup> Irma A. Richter, Leonardo, *Selections from the Notebooks of Leonardo Da Vinci* (New York: Oxford University Press, 1955). 110.

wouldn't I? I became preoccupied with representational drawing as a way of seeing and knowing. I thought I could sense more about a thing if I were able to draw it deftly.

Early on, I recognized this in the expert sketches of Renaissance master, Leonardo da Vinci. The Leonardo notebooks were frequently referred to in my drawing lectures. Viewing the sketches as a thought process, I remember analyzing the artist's attention. Leonardo's writings on water are extensive. His sketches mystified me as a student. (see Figure 2.1) As a primal, formative element in its own right, water held a sacred place in the artist's studies. It was also a subject that occupied his attention as an engineer.<sup>4,5</sup> "He was able to *atomize* the process by concentrating on its component parts..." [emphasis mine].<sup>6</sup> Using "atomize" here is a concise descriptor of the type of world view Leonardo was functioning in. His fervent curiosity for the world set him on a path to extract and separate out many aspects of physical (and metaphysical) dynamics, to strip the world down to parts and understand each one of them individually. I introduce Leonardo here as both a historical and a personal touchstone.

Around the time I graduated with my Bachelor's in 2012, I came across the Hockney-Falco thesis in *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters*. Its much-debated theory says that Renaissance masters used optical drawing aides, with proof in the form of analyzed artworks.<sup>7,8</sup> For the first time, I linked optical devices with worldviews or

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<sup>4</sup> Martin Kemp, *Structural Intuitions : Seeing Shapes in Art and Science* (Charlottesville: University of Virginia Press, 2016). 141.

<sup>5</sup> I was so interested to learn from Kemp's exposition on Leonardo's studies of the dynamics of water that the drawings referenced in Figure 2.1 were likely observed from a custom-built device designed by Leonardo to specifically study the movement of water over a barrier (as seen in the top-right corner of the figure). I always assumed it was a common fountain or simply a drainpipe. You can also see a *pentimento* of what looks like the first attempt at setting up the lower drawing (the rhombus-like shape of a rectangular recess drawn in perspective), realizing there was not enough space, and then starting over.

<sup>6</sup> 139.

<sup>7</sup> David Hockney, *Secret Knowledge : Rediscovering the Lost Techniques of the Old Masters* (New York: Viking Studio, 2001).

<sup>8</sup> American inventor Tim Jemison, spurred on by book *Secret Knowledge...* attempted to craft a device that might mimic the ones painters like Vermeer were purported to use. The jury is still out, despite Jemison's rigorous and

models of reality. Its premise made me reevaluate my own attitude around drawing and drawing aids, which I had previously seen as a crutch to good draftsmanship, or worse, a “cheat”. The book and subsequent conversations with peers opened me up to using optical devices in my own work, for example using projectors to blow up sketches. I had not yet conceptualized how photography had impacted drawing, painting, and the arts in general, although I was using reproductions and photographs as reference from the start. I had, however, been thinking about microscopes and telescopes for some time, and these devices fit right into the time period of the early modern era that I was fixated on.

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enthusiastic five-year quest which produced a full-size replica of the scene in Vermeer’s *The Music Lesson*, and a replica painting. Most art-minded folks detest even the premise of such an experiment, claiming they undermine the genius of artists. See David Stork, Christopher Tyler, and Sara Schechner, "Did Tim Paint a Vermeer?," *Journal of Imaging Science and Technology* 64 (2020).; Kurt Andersen, "Reverse-Engineering a Genius (Has a Vermeer Mystery Been Solved?)," *Vanity Fair* 2014.



Figure 2.1. Leonardo Da Vinci, "Recto: Studies of water", 1510-1512, Royal Collection Trust, United Kingdom, Studies of water, JPG, [www.rct.uk](http://www.rct.uk). (accessed April 25, 2022)

In my research I have found that in the early modern age, lens technology and architectural perspective drawing, guided by a revival of classical geometry and the invention of new mathematics, presented a rigorous framework for European society to build visions of reality. After my Bachelor's, I started to think more about how new tools gave artists of the European Renaissance novel ways to envision of the world. If their optical tools led to ontological and philosophical developments, what impacts are modern technology having on our perceptions of reality? It was important to me to look into the role of linear perspective because I had used it as a model of space and reality of which I was previously uncritical. "Growing out of the late medieval fascination with the metaphysical implications of light... linear perspective came to symbolize harmony between the mathematical regularities in optics and God's will," writes Martin Jay in *Scopic Regimes of Modernity*.<sup>9</sup> Linear perspective takes the two actual eyes of perceptual vision out of the corporeal realm and puts them into a realm of abstracted isolation as one "eye." Leonardo's notes on "the eye," perspective drawing, and a description of a camera obscura have led scholars like Martin Jay to start down a path of piecing together the story of modern vision, optical technology, and visual art.

If "the eye", ("the window of the soul"), represents the clearest pathway to knowledge about the world, then the camera obscura introduces that model to the artists' studio. Leonardo's lengthy note on the phenomena of the camera obscura, also known as a pinhole camera is as follows:

[The phenomena] is shown when the images of illuminated objects penetrate into a very dark chamber by some small round hole. Then you will receive these images on a white paper placed within this dark room rather near to the hole; and you will see all the

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<sup>9</sup> Martin Jay, *Scopic Regimes of Modernity* in Hal Foster, *Vision and Visuality* (Seattle: Bay Press, 2009). 5-6.

objects on the paper in their proper forms and colors, but much smaller; and they will be upside down... These images, being transmitted from a place illuminated by the sun, will seem as if actually painted on this paper, which must be extremely thin and looked at from behind. And let the perforation be made in a very thin plate of iron.<sup>10</sup>

Here, Leonardo is actually using the analogy of the *camera obscura* (Latin, translates to “dark room”) to explain the function of the lens and pupil of the human eye.<sup>11</sup> As a result of this exercise, he makes the famous claim that the eye does not project rays of vision, as was the consensus since Plato (roughly 300 BCE). Instead, he suggests that rays project into the pupil of the eye, which is our current scientific understanding of vision.

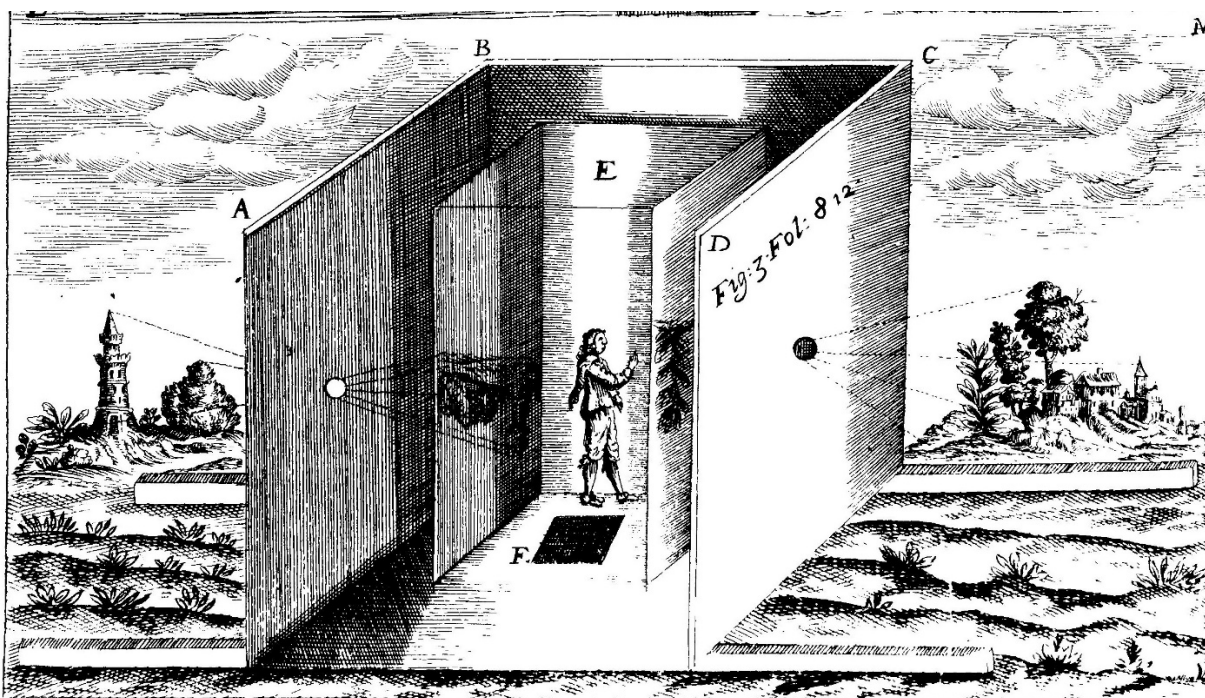
Besides predating 20<sup>th</sup> century developments in the physiology of human sight, Leonardo’s studies into the camera obscura and the human eye were reflective of an early modern epistemological framework. American art critic Jonathan Crary argues that Western philosophy adopted the camera obscura, formalized in Europe around the turn of the 17<sup>th</sup> century, as an epistemological framework for a perceiver receiving truthful knowledge about the natural world. This meant that not the two eyes of physical perception, but only “the eye” of the observer, abstracted from their corporeal body, is endowed to reason on and contemplate knowledge of the world. This, he says, sets up a situation that leads to modernism and the condition of modernism’s sense hierarchy privileging vision above all the senses.

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<sup>10</sup> Richter, *Selections from the Notebooks of Leonardo Da Vinci*. 115-116.

<sup>11</sup> The history of the camera obscura and its origins is gaining traction and attention as the 21<sup>st</sup> century progresses, as the camera continues to affect art and humanity. Early sources place the discovery of the phenomena of the pinhole camera to 5<sup>th</sup> century China. Aristotle noticed a solar eclipse would refract through overhead leaves, producing miniature crescent shapes. Arab scholar Al-Hassan Ibn al-Haytham described a pinhole camera to study the effects of light during an eclipse in 1038 CE, and this was translated and found its way to Franciscan friar Roger Bacon in 13<sup>th</sup> century England, but an 18<sup>th</sup> century translation of Leonardo’s description of the camera obscura is the commonly-cited source of this knowledge for Western art history.

It is interesting to me that wisdom, intelligence, learning, and education all came to be synonymous with vision during the multi-century modern era, when for ages, vision was, and still is, associated with divine inspiration, hallucinations, and enlightenment. As a spiritual and philosophical seeker, I also retain the association with mysticism, alchemy, and illuminating visions. As a visual artist working in two-dimensional media, of course I once thought the visual sense was the most important. What I encountered in this research is that Western epistemology is obsessed with vision too.



*Figure 2.2. Seventeenth century engraving showing a portable camera obscura. Dotted lines can be seen indicating the phenomena of the reversal of the image through the pinhole. Athanasius Kircher, "Illustration of a 'portable' camera obscura in Ars Magna Lucis Et Umbra", 1646, Wikipedia, JPG, [www.Wikipedia.org](http://www.Wikipedia.org). (accessed April 25, 2022)*

In addition to the camera obscura, early telescopes and microscopes made images of previously concealed worlds possible. The optical devices were designed to extend the scope of the human eye in order to attain new knowledge about the workings of miniature and massive



worlds. There was a rationalistic way of knowing and depicting the world driven by the human sense of vision as a clear pathway to knowledge.

Italian polymath Galileo Galilei famously turned the usually-Earth-bound magnifying telescope towards the sky and drew images of the face of the moon in the 17<sup>th</sup> century. Through the use of illustrations and mass print publishing, he was able to disseminate this new knowledge far and wide to the intellectual community. (see Figure 2.3) Dutch amateur Antoine van Leeuwenhoek, at nearly the same time as Galileo, designed and handcrafted the lenses for a looking glass that he would point at miniature worlds on Earth. His work was influenced by and influenced English polymath Robert Hooke, one of the first people to observe the “tiny creatures” under the lens. With the microscope van Leeuwenhoek designed and created, he observed and experimented with microbial life, publishing his work in letters to the Royal Society, and later in *Nature's Mysteries Disclosed / Arcana Naturae Detecta* (1695). (see Figure 2.4) Print publishing allowed these thinkers to all communicate with each other and with a base of knowledge from the past in unprecedented ways, leading to an effervescent climate of invention and discovery driven by the extension and calibration of human sight in the search for knowledge about the universe.

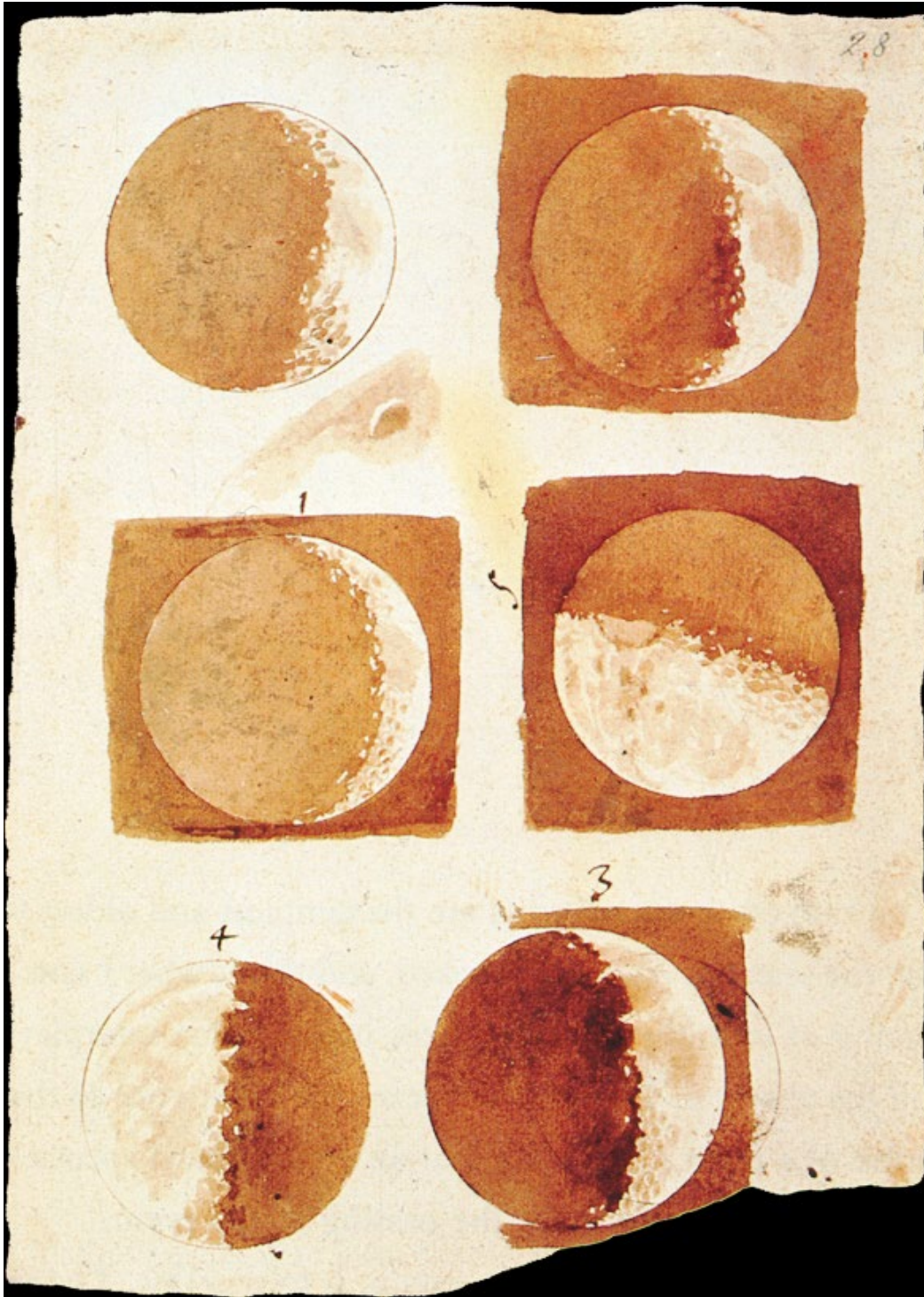


Figure 2.3. Galileo Galilei's sublime ink drawings of the phases of the moon, showing its textured, cratered surface seen through an early telescope. Note how the author works out a subtle detail of light bouncing off of a recessed crevice in the upper section between the first two drawings on the top – a matter of illusionistic technique. Galileo Galilei, "Disegni originali delle Lune", 1609, Biblioteca Nazionale Centrale, France, Wikipedia, JPG, [www.commonswikipedia.com](http://www.commonswikipedia.com). (accessed April 25, 2022)

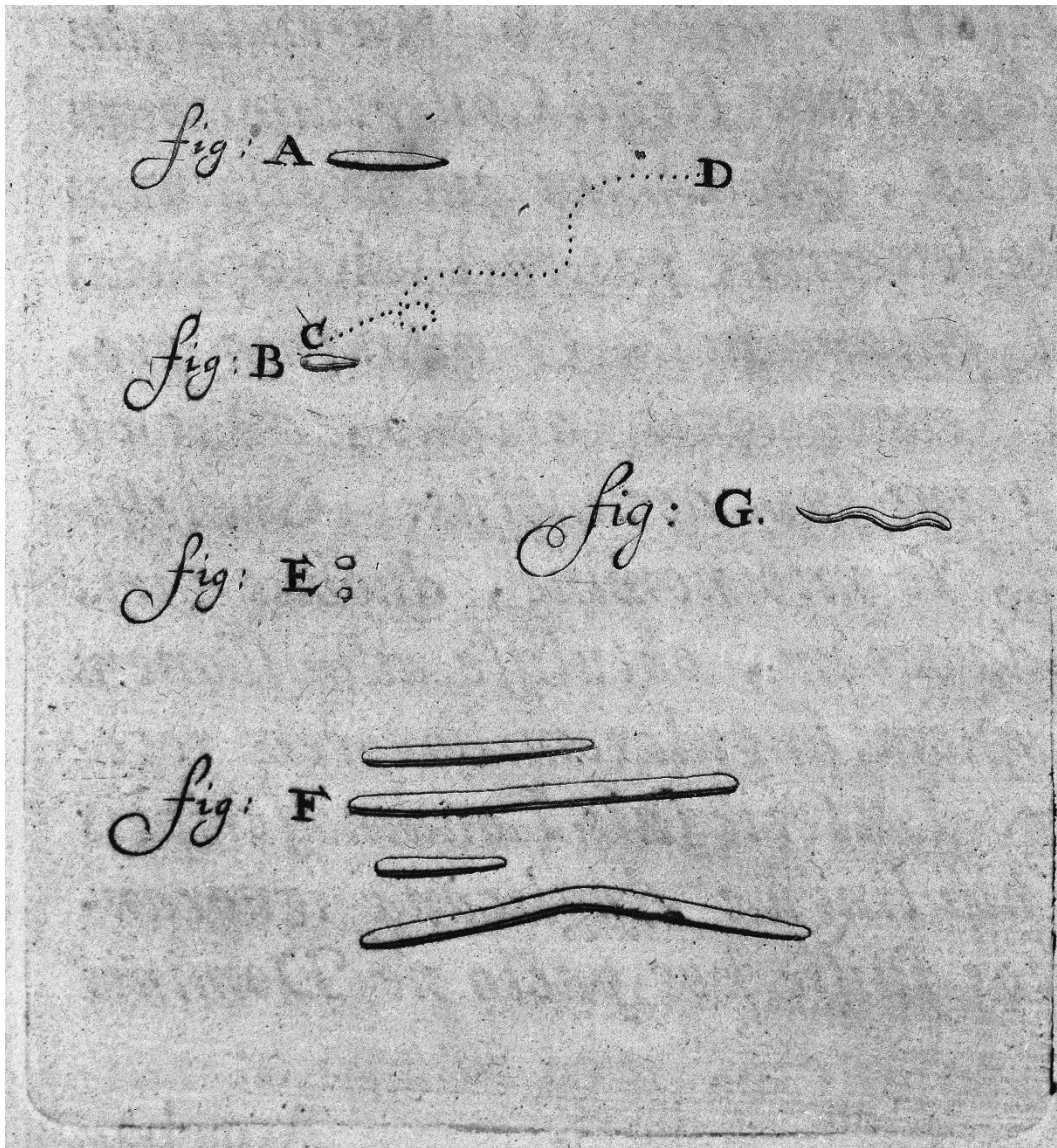
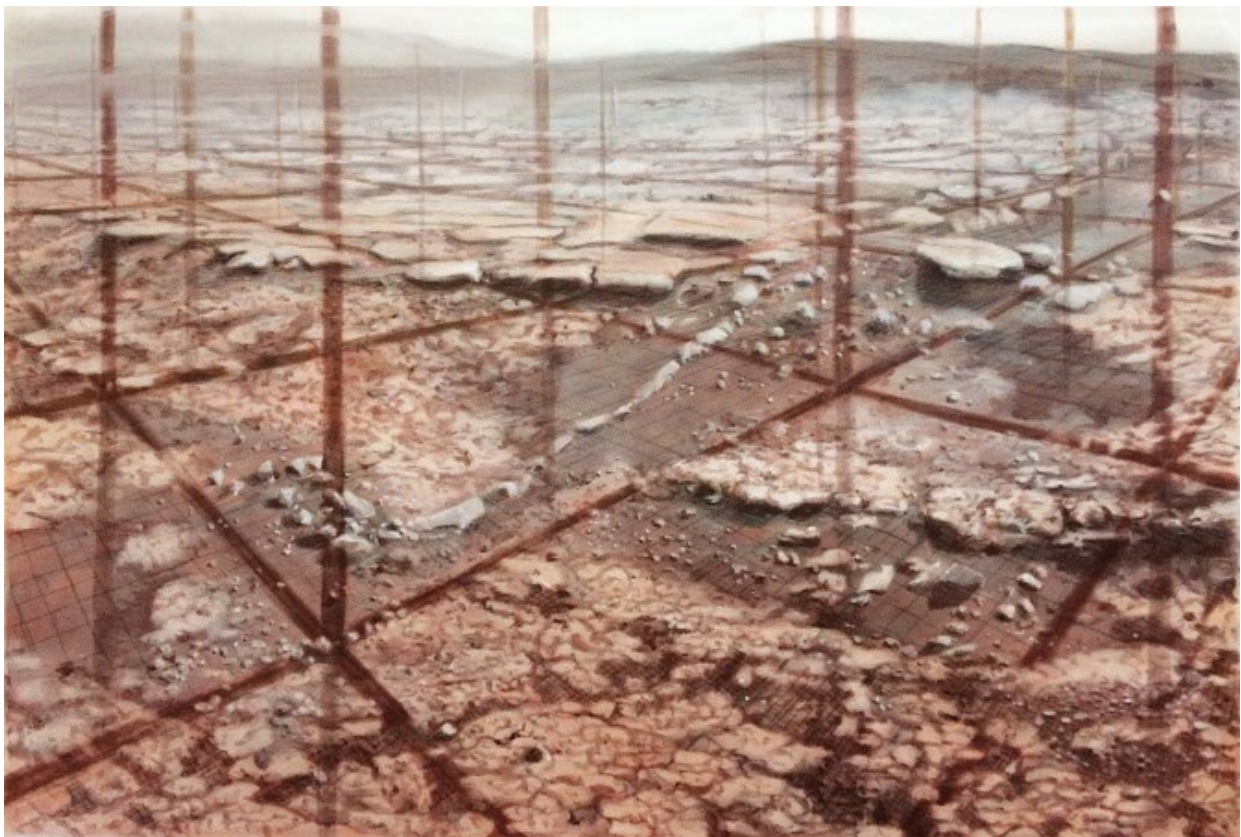


Figure 2.4. Antoine van Leeuwenhoek. Text and diagram of bacteria. *Arcana naturae detecta* / *Ab Antonio van Leeuwenhoek*. (Delphis Batavorum: Apud Henricum a Krooneveld, 1695). Wellcome Collection. <https://wellcomecollection.org/works/agr427ae>. (accessed April 28, 2022)

In the years intervening my Bachelor's and Master's studies, I used the classical techniques of perspectival rendering alongside images sourced from telescopes, for example, to give my work an early modern historicity. My mode of drawing with chalk alluded to the quick thoughts and sketches of a notebook study. I used traditional warm and cool transparent glazes of



acrylic to mimic the classical style of painting. (see Figure 2.4) My 2016-2017 painting *View of Yellowknife Bay, Mars* is based on a panoramic digital photograph sent to Earth from the NASA-JPL Rover stationed on Mars. The view is of a site on the red planet near where the rover was landed. The landscape shows an ancient lakebed on Mars, which I thought was a poignant symbol of deep, geological time scales. A two-point perspective grid system is embedded in a Romantic landscape to reinforce the physicality and depth of space. The grid also draws your attention to the contrast between the Rationalistic, linear, constructed foundation of knowledge that is wrapped up in the symbol of linear perspective, and the longing for direct experience of a natural vista.



*Figure 2.5 Lizzy Storm. View of Yellowknife Bay, Mars. charcoal, pastel, conte crayon, and acrylic on canvas. 108" x 84". 2016-2017.*

Leading up to my Graduate school application period, I had arrived at the recurring theme of optical devices in my practice, so I continued to investigate vision itself. When I look out into the world attempting to discern elements in the landscape, in the perceptual field, where does my attention go? It used to depend on what type of picture I was trying to make; a landscape, a still life, a portrait, for example. The concepts of image-making and perception were already stirring in my mind. I first reflected on the subjectivity of perception with this new dimension to my practice.

I remember I used to notice the orthogonals of modern architecture and spatial planning, the parallel lines stretching to meet at the infinite horizon. Then I would glimpse these same spatial ordering structures in forests. The comparison between the manufactured and the living, organic structures was fascinating. I was most fascinated by the parallax effect, the “apparent displacement of objects caused by a change in position of the point of observation”.<sup>12</sup> It reinforced for me that vision perception happens at the point of the observer. The arrangement of the materials in forests and half-finished skyscrapers emphasized the effect for me. I was looking into perspective drawing and its historical, cultural impact at that time. Clearly, my attention to arrangements of perpendicular intersecting lines and planes, of vertical and horizontal axes and vast expanses of space, was guided by this specific interest. I made artworks reflective of this Cartesian universe. In this context, I can also bear in mind how the way of drawing became a way of seeing and reinforced a rationalistic way of knowing reality.

I thought of the perspective system as a high abstraction. I thought of how information about a physical and material space was encoded into a lesser-dimensional system, and could then be retrieved by the observer, almost as if reconstructed in their mind. I wanted to use that

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<sup>12</sup> *Merriam-Webster.com Dictionary*, s.v. “parallax,” accessed April 27, 2022, <https://www.merriam-webster.com/dictionary/parallax>.

system to talk about space itself. I felt I needed to articulate something about how space is not “out there”, not just empty space, and not “outer space”. I still feel that impulse in my practice. Perspective drawing was such a tactile way for me to engage with the expansive character of deep space. I used a pin and a length of yarn to create the radiating lines that make up the one- and two-point perspective grids. Something I was trying to capture with this work is how our bodies can sense the fluctuating scales of deep space through looking at these vistas; and I questioned, could our bodies also sense time?

### **1.1 The threshold of our modernity**

This burgeoning practice of mine coalesced around the theme of sight. While I thought about how my work with the three-dimensional perspective grid, and later with the two-dimensional grid, was referencing Cartesian perspectivalism and Rationalism, it was hinting at Modernism too. When I studied the grids and cool cubic logic of Modernist painting and sculpture in the first semesters of graduate school, I wondered at the historical threads tying the Renaissance to modernity. If the telescope and microscope were following the logic of the singular eye of point-projection, what optical devices in the years intervening the Enlightenment and Modernism broke from that pattern to propel us into Postmodernism? I wondered how the invention of photography and cinema affected the arts from a critical perspective. I brought these lines of questioning with me to graduate school.

For this thesis, I studied the topic further and have found a trove of opinions and theories. Critic and theorist Jonathan Crary’s making of “the observer”, founded on a close reading of Goethe’s *Theory of Colors* (1810) and aided by Modernist theorists Roland Barthes and Walter

Benjamin,<sup>13</sup> suggests the early 19<sup>th</sup> century is a historical period when physical optics merges with physics, and physiological optics comes to dominate the study of vision.<sup>14</sup> He links early Enlightenment optical experiments and later Enlightenment and Rationalist philosophers and theorists to the thinking of Modernists, Postmodernists and Structuralists. His work is important to my study of vision, observation, and the self because he suggests how studies into optics propelled by Goethe's theory and optical devices of this period contribute to placing the observer in the physical, corporeal body.

His argument, which I find so interesting as a speculation on models of reality and visuality, is that, as an epistemological model, the camera obscura's historic specificity to the early modern age becomes complicated at the turn of the 20<sup>th</sup> century with the popularization of early cinematic devices and is rendered obsolete. He suggests a pivotal rupture occurs within the history of the science of optics and modern technology that disrupts the comfortable narrative of an oculocentric universe. Crary's interweaving of practices of visuality and visualization, of science, mechanics, and technology history, and of philosophies of reality is so interesting to me. He points out how studies into optics led to "proto-cinematic devices"<sup>15</sup>, like the thaumatrope, phenakistiscope, zoetrope, kaleidoscope, and stereoscopic photography, which all worked on the actual, physical visual system through an optical illusion, in ways radically different from the culturally dominant optical device of the static image and disembodied eye of the camera obscura. (see Figure 2.6, Figure 2.7, Figure 2.8, Figure 2.9) In describing the key feature of the how the optical devices function as models of reality, Crary says "... though they provide access

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<sup>13</sup> See Roland Barthes and Richard Howard, *Camera Lucida : Reflections on Photography / Roland Barthes ; Translated by Richard Howard*, 1st American ed., Reflections on Photography (New York: Hill and Wang, 1981).; Walter Benjamin and Esther Leslie, *On Photography / Walter Benjamin ; Edited and Translated by Esther Leslie* (London, UK: Reaktion Books, 2015).;

<sup>14</sup> Jonathan Crary, "Techniques of the Observer," *October* 45 (1988). 9.

<sup>15</sup> Rosalind Krauss, "The Im/pulse to See", in Foster, *Vision and Visuality*. 58.

to ‘the real,’ they make no claim that the real is anything other than a mechanical production.”<sup>16</sup>

The proto-cinematic devices worked on newfound knowledge of vision, such as the afterimage, to create the illusion of moving pictures before the eye, the most primitive of which might be a flipbook. But, Crary points out, they made no attempt to conceal their mechanical trickery, and thus usher in a new model of embodied perception flavored by the Marxist machinations so signature of modern thinking.

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<sup>16</sup> Crary, "Techniques of the Observer." 33.





Figure 2.6. Thaumatrope, circa 1828, from the collection of Richard Balzer, pre-cinema archivist. The left column shows the image on one side of the disc, and the right column the opposite side. When activated by twirling the strings (seen in the images at the top), the images on the two sides appear to combine in a static animation. Source: Richard Balzer. *The Richard Balzer Collection*, Academy of Motion Picture Arts and Sciences, Margaret Herrick Library, Boston. <https://wayback.archive-it.org/12244/20190603165133/https://www.dickbalzer.com/Thaumatrope.602.0.html>. (accessed April 28, 2022)



*Figure 2.7 Phenakistiscope, circa 1833, from the collection of Richard Balzer, pre-cinema archivist. The 7 inch disks would be housed in a box with a mirror called a “spindle viewer” that would spin the disc and create a seamless loop of animation. Source: Richard Balzer. The Richard Balzer Collection, Academy of Motion Picture Arts and Sciences, Margaret Herrick Library. <https://wayback.archive-it.org/12244/20190603182226/https://www.dickbalzer.com/Phenakistiscope.604.0.html?&L=0>. (accessed April 28, 2022)*



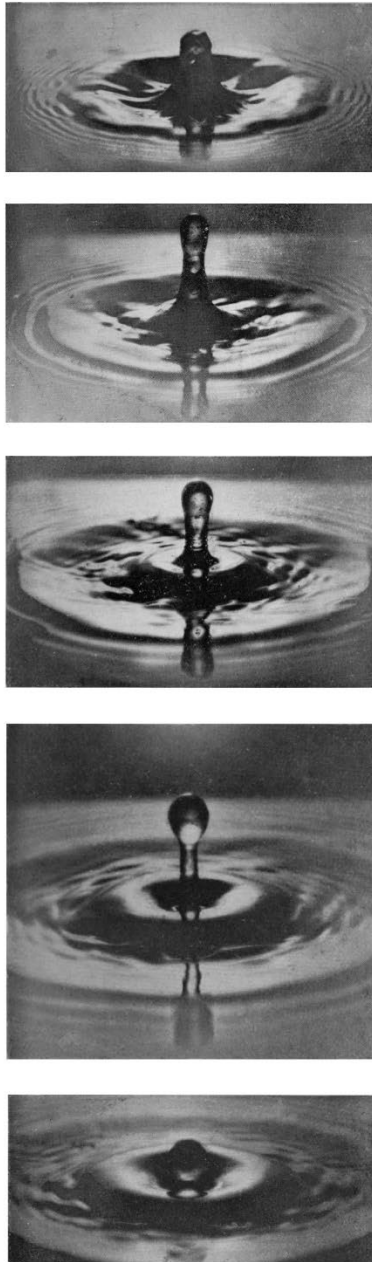
*Figure 2.8 Zoetrope, circa 1870, from the collection of Richard Balzer. The image shows strips of paper that would be inserted into the drum device at the right. The drum would spin and the animated image would be viewed through the slits in the side of the drum. Source: Richard Balzer. The Richard Balzer Collection, Academy of Motion Picture Arts and Sciences, Margaret Herrick Library. <https://wayback.archive-it.org/12244/20190603165328/https://www.dickbalzer.com/Zoetropes.610.0.html>. (accessed April 28, 2022)*



*Figure 2.9 A kaleidoscope, circa 1880. The device on the left produces the images on the right when the eye is placed at the viewing end and the opening at the other end it pointed toward a light source. When turned, the abstract, symmetrical image morphs. Source: Richard Balzer. The Richard Balzer Collection, Academy of Motion Picture Arts and Sciences, Margaret Herrick Library. <https://wayback.archive-it.org/12244/20190603184427/https://www.dickbalzer.com/Kaleidoscopes.681.0.html?&L=0fu-promotes-a-good-living-earning-income-for-online-marketers%2F0.htm%25>. Accessed April 28, 2022.*

Looking into the historical influence of optical devices opens doors to theories about the aesthetic foundations of Modernism. Pointing out this juncture historically gave me an indication for how to position my thoughts on the static versus the dynamic image. Without going into too much detail, these early optical devices led to the development of the modern photographic camera, photosensitive chemicals, and film. This technology was almost instantaneously adopted by the scientific and military communities to study physics at the fringes of human sensory perception with aerial survey photography and high-speed photography and film. The resulting images undoubtedly shook the foundations of what was thought possible for human visual perception. The jump from the orderly rationality of a perspectival reality to the flux and instability of contemporary reality is almost too wide to cross, a gap I thought I would not be able to bridge. But with this historical framing, I can continue being critical about the ways

depicting reality in the static or dynamic image reflects ways of perceiving reality in societies. The following images will serve as an illustration of some of the imagery at the aesthetic foundations of Modernism.



*Figure 2.10 A.M. Worthington. Collage of scans from Chapter 4: The Splash Continued in A Study of Splashes by A.M. Worthington. (Longmans, Green, and Co.: London, 1908). Instantaneous photographs. <https://www.gutenberg.org/files/39831/39831-h/39831-h.htm>. (accessed April 28, 2022)*

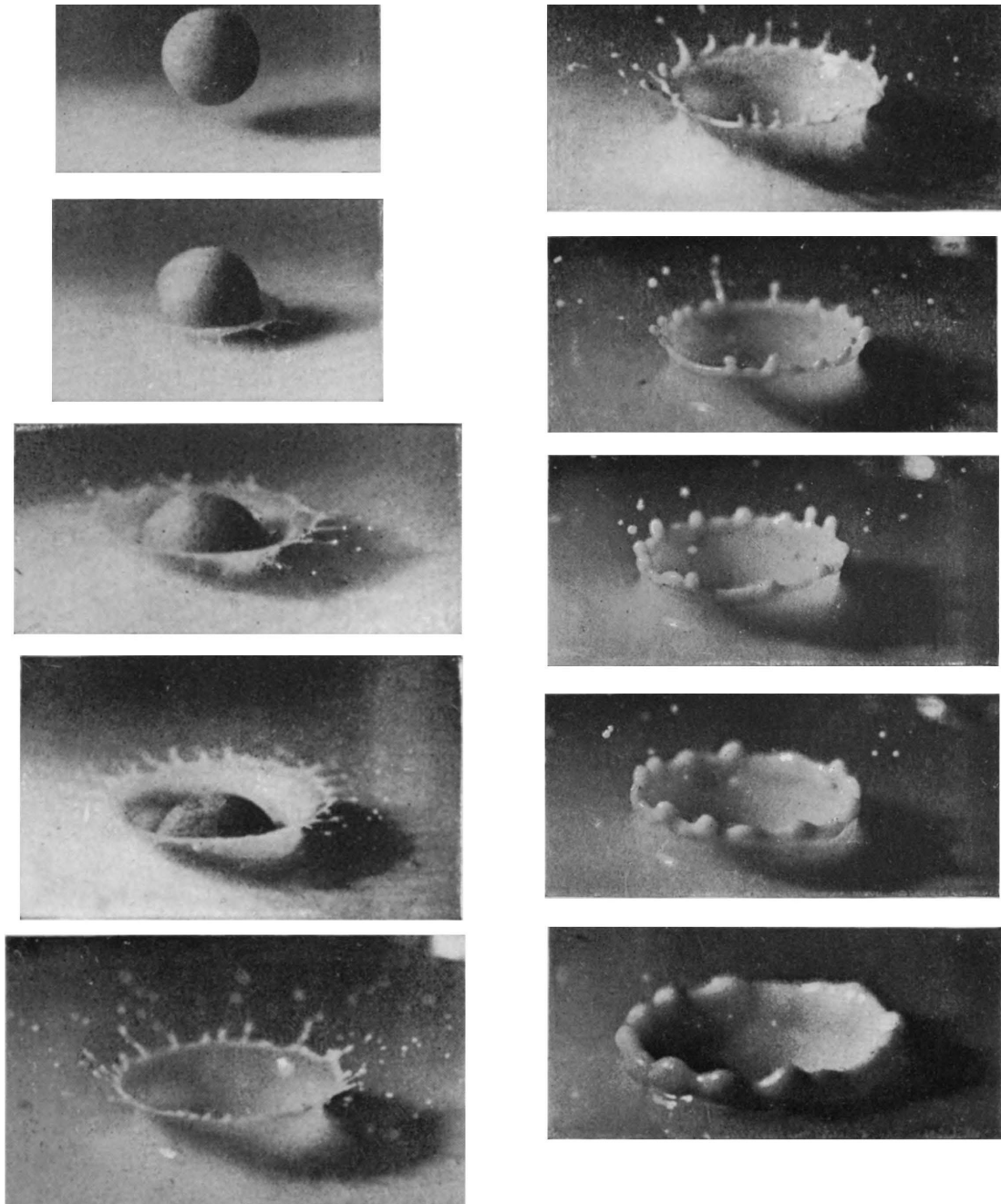
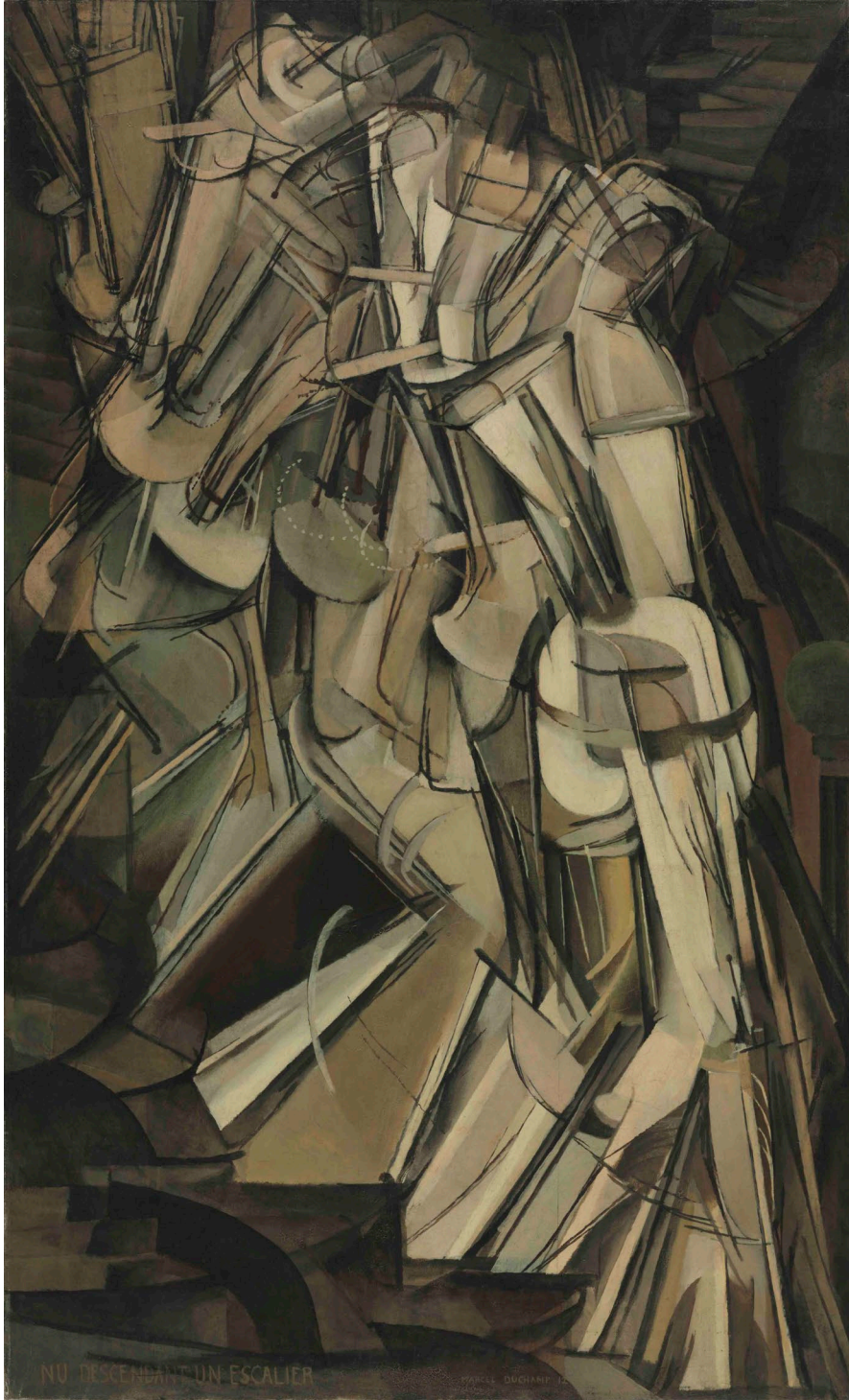
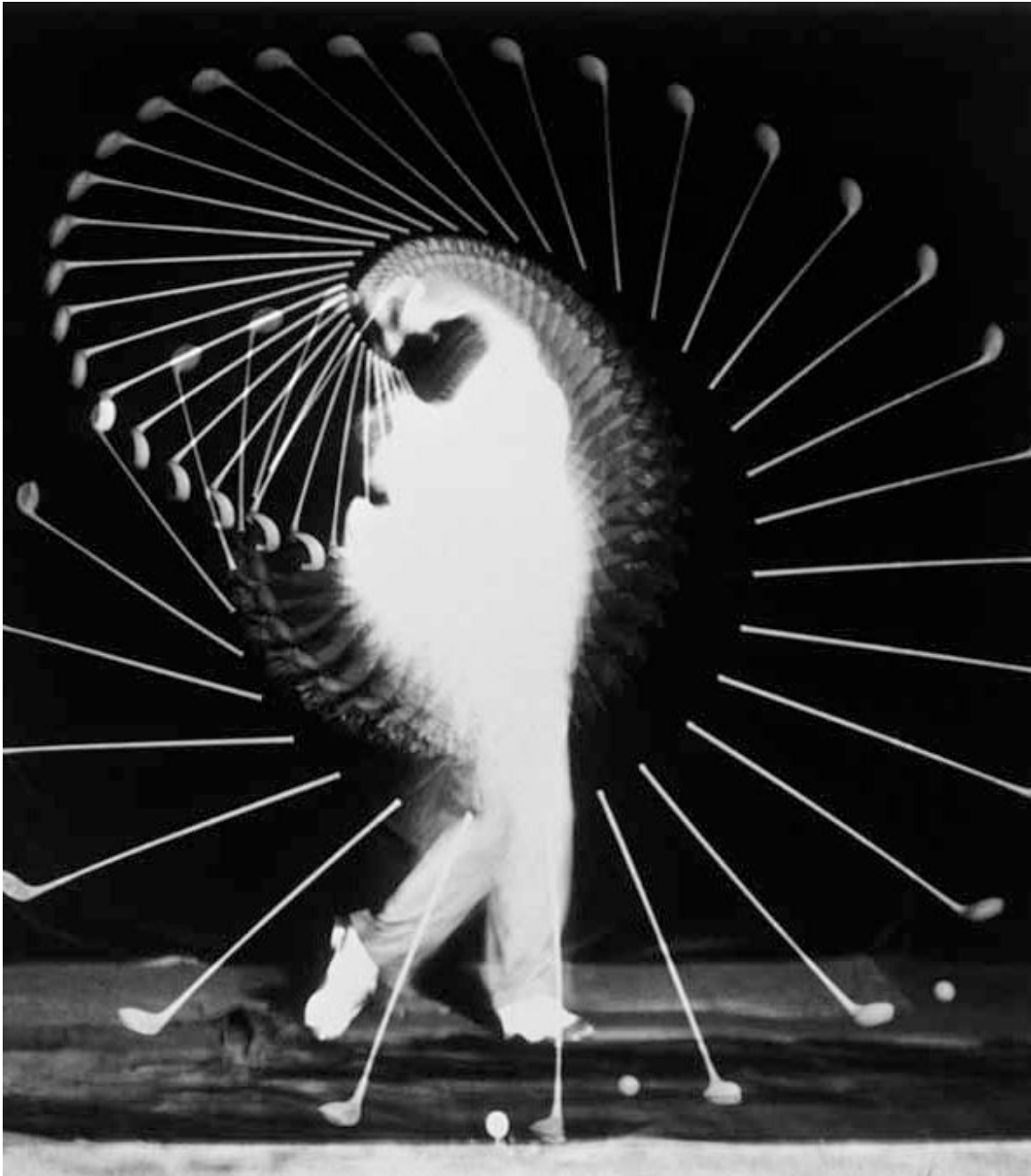


Figure 2.11 A.M. Worthington. Collage of scans from Chapter 4: *The Splash Continued* in *A Study of Splashes* by A.M. Worthington. (Longmans, Green, and Co.: London, 1908). Instantaneous photographs. <https://www.gutenberg.org/files/39831/39831-h/39831-h.htm>. (accessed April 28, 2022)





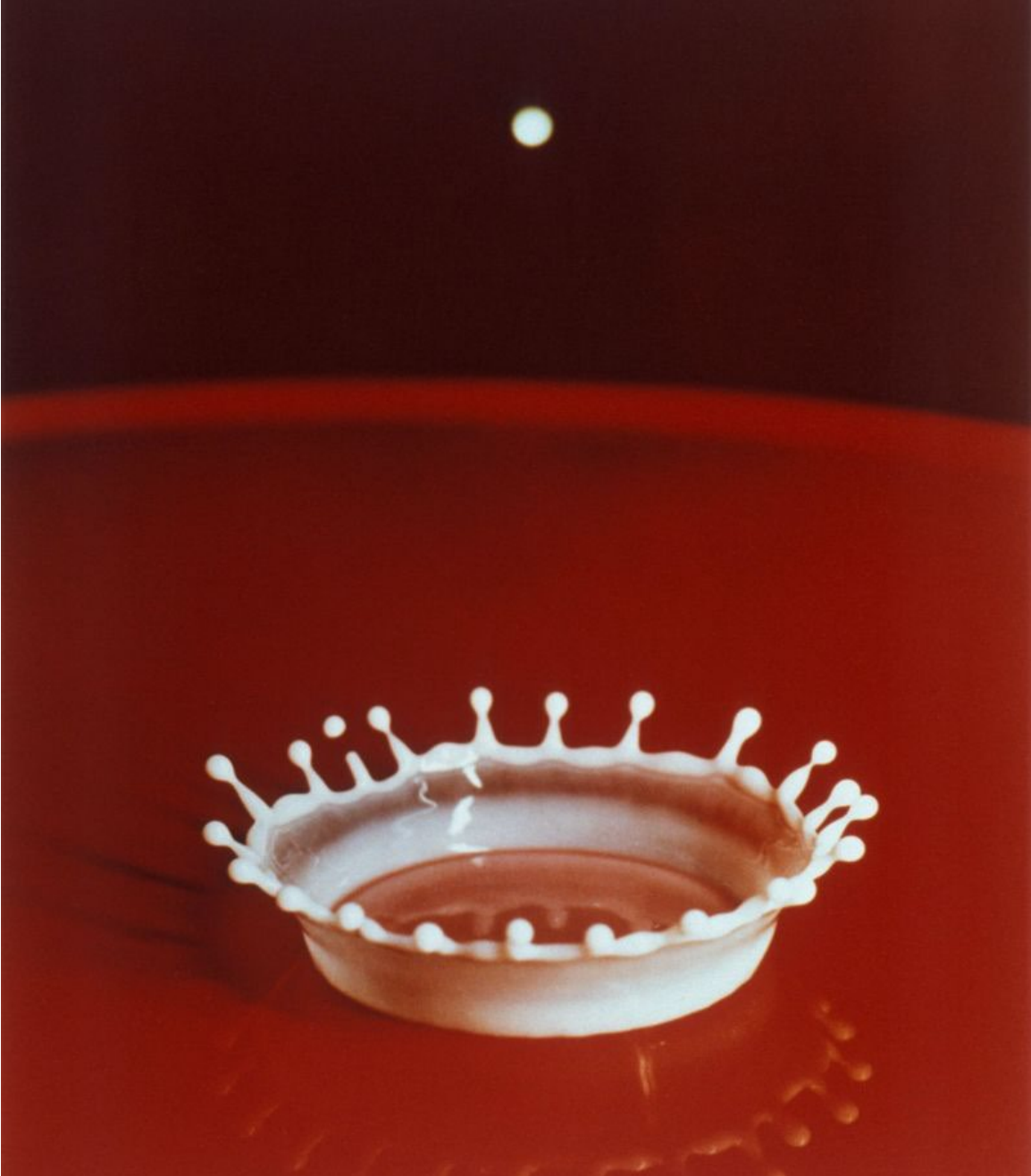
*Figure 2.12 Duchamp's Nude Descending... fits right in here amongst these photographic representations of dynamic movement. I studied this painting in high school. It has stuck around for me all these years. Marcel Duchamp. Nude Descending a Staircase, No. 2. Oil on canvas. 57 7/8 x 35 1/8 inches. (Philadelphia Museum of Art: Philadelphia, 1912). Wikipedia. [https://en.wikipedia.org/wiki/File:Duchamp\\_-\\_Nude\\_Descending\\_a\\_Staircase.jpg](https://en.wikipedia.org/wiki/File:Duchamp_-_Nude_Descending_a_Staircase.jpg). (accessed April 28, 2022)*



*Figure 2.13 Harold Edgerton. Densmore Shute Bends the Shaft: high-speed photography, golf – 1938. Stroboscopic photograph. 1938. <https://edgerton-digital-collections.org/galleries/iconic/athletics>. (accessed April 28, 2022)*

© MIT. Courtesy of MIT Museum.





*Figure 2.14 Harold E. Edgerton. Milk Droplet Coronet. Panatomic SX and Ekatcolor films. Negative, 1957. MIT Museum, Cambridge. <https://collections.mitmuseum.org/object/hec-nc-57001/>. (accessed April 28, 2022) © MIT. Courtesy of MIT Museum.*

## 1.2 Modernism: medium, materiality

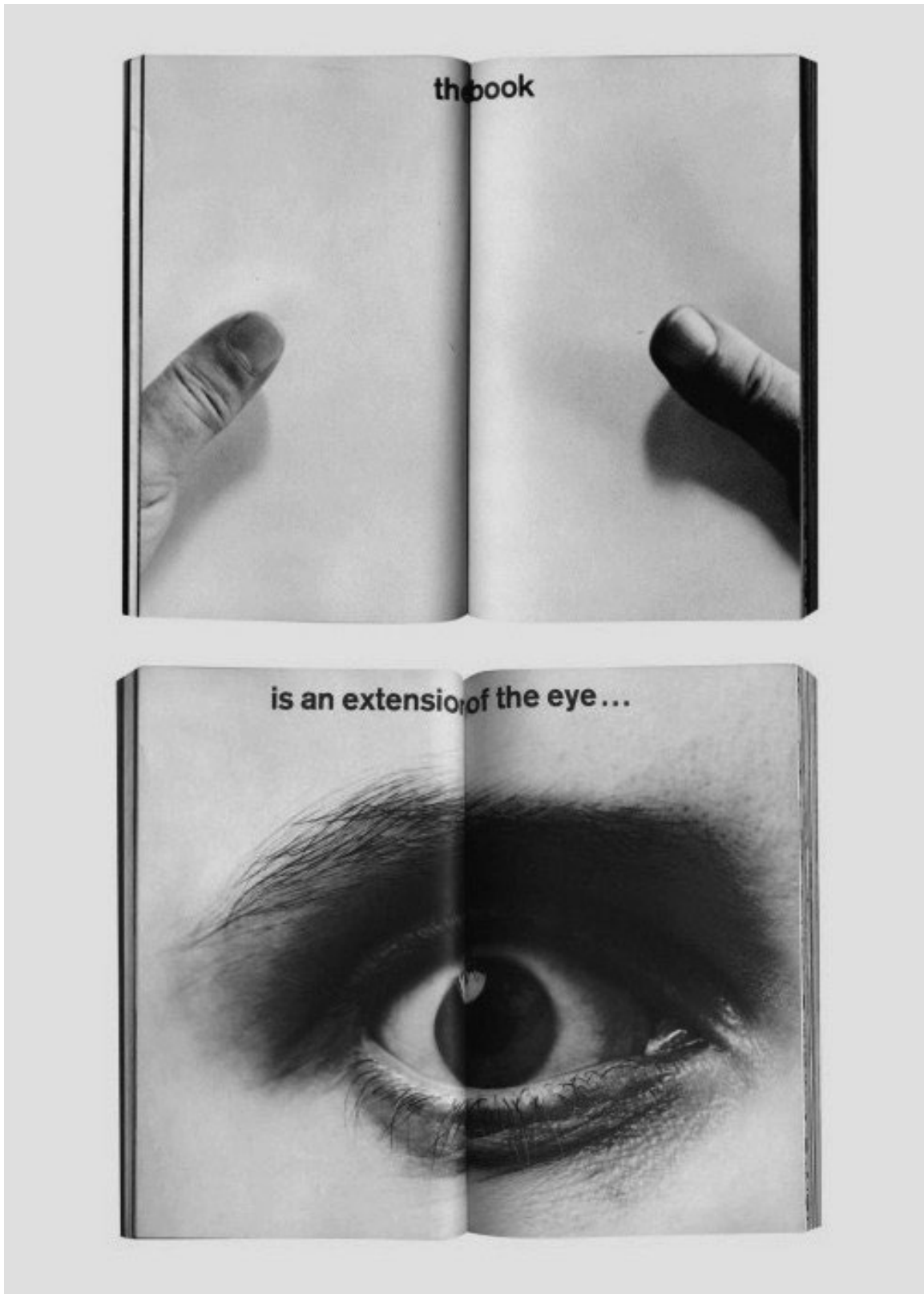
The larger questions surrounding my work come down to how my work speaks to a record of expressions or impressions based on lived observation, following a long line of artists who contemplate phenomena. Rather than rely on verisimilitude as a rubric, rather than strive to create pictures of a scene or how an experience *looks* to the eye, I wonder, what else I can record? Can my works speak to the manifestation of the process they record? What can they reveal about invisible worlds? As artifacts recording physical action, can they speak to growth, change, and time? What are the processes saying through the materials, and what are the materials saying through the process? How do I reconcile my foundation of early modern epistemologies, my ways of learning from the world, with those that are up-to-date?

These questions are in alignment with a larger conversation in the humanities of materiality. The 1967 book *The Medium is the Massage* is an amazing combination of written media and visual design in a book format that explores what it means to present and perceive information in material form in the mechanical, technological age.<sup>17</sup> (see Figure 2.15) *The Medium is the Massage* attests to the beauty of direct experience in its material form and speaks to issues of the (then newfound) simultaneity of communication and the study of media itself. Quotes from Marshall McLuhan's work on media studies and materiality help me put things in perspective: "The past went that-a-way. When faced with a totally new situation, we tend to always attach ourselves to the objects, to the flavor of the most recent past. We look at the present through a rear-view mirror. We march backwards into the future."<sup>18</sup>

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<sup>17</sup> Marshall McLuhan was a 20th century philosopher whose work laid much of the groundwork for today's media studies. See Marshall McLuhan, *The Medium Is the Massage / Marshall McLuhan, Quentin Fiore Co-Ordinated by Jerome Agel*, ed. Quentin Fiore and Jerome Agel (New York: Bantam, 1967).

<sup>18</sup> Ibid.



*Figure 2.15. Marshall McLuhan and Quentin Fiore, "The Medium is the Massage" (Toronto: Random House, 1967), 34-37.*



*Figure 2.16 Marshall McLuhan and Quentin Fiore, "The Medium is the Message" (Toronto: Random House, 1967), 74-75.*

As a visual, kinesthetic learner, encountering this book summarized many of my concepts about media, medium, and material that were hard for me to put into words, but which I had in mind when I thought of my work as the record of a process rather than a fixed, stable image-message.

Ours is a brand-new world of all-at-onceness. 'Time' has ceased, 'space' has vanished. We now live in a global village... a simultaneous happening. We are back in

acoustic space. We have begun again to structure the primordial feeling, the tribal emotions from which a few centuries of literacy divorced us...

At the high speed of electric communication, purely visual means of apprehending the world are no longer possible; they are just too slow to be relevant or effective...

...Information pours upon us, instantaneously and continuously... Our electrically-configured world has forced us to move from the habit of data classification to the mode of pattern recognition...<sup>19</sup>

When purely visual means of apprehending the world are no longer possible, McLuhan provides a solution. We move to “the mode of pattern recognition.” Suddenly, the progression of all of this history of vision, of visual art, of media snapped together in a sort of epiphany. “The book is an extension of the eye...,” and the poster, the billboard, the film, the television, the LED screen, *the painting* and so on...

What does it mean, in the 21<sup>st</sup> century, to want to capture a memento of an experience? Are purely visual means adequate to “structure the primordial feeling”? Prior to encountering this work, I already had a feeling my work would take me outside the realm of traditional drawing and painting.

Something that has always followed me through my development as an artist has been an exploration of image-making as it relates to visualizations of hidden or novel realities. My earliest graduate work was grappling with the line between objective and non-objective abstraction through an expanded vision of drawing. I was cognizant of cave painting and hieroglyphics, illuminated manuscripts, algebra, calligraphy, the writing/drawing dichotomy, and

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<sup>19</sup> Ibid. 63.

I was beginning to invite chance to my practice. I experimented with the paper sheet as a register for simple linear forms interacting with forces in space by using rubbings and monoprint. This practice of recording a unique instance of a loop of string took on the character of a sort of divination. What was the loop responding to in its transit through space from my hand to the surface where it landed below? (see Figure 2.17)



*Figure 2.17. Lizzy Storm. entangled beginnings 1. acrylic, India ink, and pastel on found paper. 6 x 12 inches. 2020.*

I thought of Marcel Duchamp's *3 Standard Stoppages*, Max Ernst's surrealist *frottages*, Jackson Pollack, Helen Frankenthaler, and Lee Krasner's drip and pour paintings, but also of quantum uncertainty and chance. Tiny changes in position, air flow, force from my fingers, timing, and gravity, all coalescing to result in an instance, imaged with a crude transfer process in primitive materials. Taking the impression of the string solidifies *this* particular instance of the numerous superimposed possible configurations as real. As the reader of these divinatory casts, I could assign any meaning to them, or none. I recorded the outcomes as abstracted loop shapes

signifying a character, letter, or word in a script from a parallel reality. The two-dimensionally compressed shape of the three-dimensional divining loop was transferred through rubbing onto a sheet of dyed, found paper. Being of the materials of drawing, dry marking medium on paper, I equated these pieces with drawing, while simultaneously confusing them with writing and recording. A number of these pieces seen in series might suggest a continuity of the string shape, alluding to frames in an animated movement. With this series, I started settling into a palette of monochromatic blacks, greys, and whites with warm and cool undertones, and cultivating a practice using the limited material kit of paper, ink, charcoal, and other dry marking media like wax crayons, graphite, and carbon pigment pastels, the archaic and archetypal materials that I still work with today. Part of why I chose to start working monochromatically was to reduce the variables of what I was presenting to have a focus on texture, pattern, gestalt shape, and linear gesture. This series was a way for me to break out of old habits of creating abstractions with a dependence on illusionistic space. It also gave me a chance to find ways to create totally non-objective forms that are somehow still linked to nature and natural processes.<sup>20</sup>

In addition to thinking of materials, I also thought very much about process. The process of mark making can take many forms, some of which are as simple as literally dragging (*drawing*) a marking tool across a surface, or a stick in the sand, a wet foot on a stone, colored dust smudged with a finger. Or it could be as elaborate as a prepared surface of finely ground and sifted marble dust suspended in skin glue medium marked with .999 percent fine silver.<sup>21</sup> Certain surfaces do their recording better, or with a different quality, than others do. Whereas I used to take the drawing mediums for granted, I now arrive at ideas about materials in a

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<sup>20</sup> “Non-objective” in that they would not be derived from a visual observation and translation process.

<sup>21</sup> Also known as *silverpoint*, or broadly, *metalpoint*, commonly used by artists of the early modern period to create sketches.

subjective, relational way. What can I allow my materials to say by allowing them to be themselves? Why say something in silverpoint when charcoal would do better? What other processes can I allude to and incorporate into my drawing practice by augmenting my approach to the medium?

The process of texture rubbing or *frottage* was instrumental to a shift that happened in my studio practice as I became more critical of the model of reality I was projecting through my work. There was a previous dependence on illusionistic space that was liberated through an exploration of the concept of the trace through gesture, action, and texture. The trace is a sign of an object through its imprint, “the footprint, the death mask, the photograph...”.<sup>22</sup> This term encompasses a lot of the things I like to include in my work; referring to physicality, action, impression, transfer, compression, emergence, embeddedness, multi-dimensionality, and translation. Texture rubbings are a way to capture a direct impression of something, alluding to the subjectivity and transience of lived experience.

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<sup>22</sup> Mary Ann Doane, "Indexicality: Trace and Sign: Introduction," *differences* 18, no. 1 (2007). 2. As a concept, “the trace”, under the umbrella of “the index”, was elaborated on linguistically by Charles Sanders Peirce in *Theory of Signs* in the late 19<sup>th</sup> century and became adopted as an enduring term in the humanities in the decades following. See Rosalind Krauss, "Notes on the Index: Seventies Art in America," *October* 3 (1977).; and "Notes on the Index: Seventies Art in America. Part 2," *October* 4 (1977).



### 3 NEW MEDIA

What does it mean to desire to capture an experience? As my practice develops out of a foundation of visual and extended sensory observation, and I introduce a more critical angle to my conceptual foundation, I wonder how my use of the medium of drawing and painting can accommodate the ubiquity of photographic and lens-based technologies and representations. If I desire to capture an experience, why not make a photograph? For me, I built my artistic practice on a foundation of observational drawing, to which photography was always supplemental. I did not think about the ways the photographic had already leaked into my conception of drawing until later. I am still reconciling my dynamic perceptual experience with the static image representation, with the plural image-as-sign translation in the mind of the observer, and with the impact photography has had on art and my notions of perception and vision. What my exploration has led to are theories of modern oculo-centric visuality that reach their zenith with mid-20<sup>th</sup> century art in America, fringe theories in postmodernist consciousness studies, and contemporary theories of the “post-medium condition”.<sup>23</sup>

When I look into nature, my perennial muse, I perceive the traces of processes happening at simultaneous physical and temporal scales. My intellectual mind wants to take over and rationalize everything down to atomic building blocks. But the certainty that Cartesian perspectivalism once offered my practice has been convoluted by the historical updates I have made.<sup>24</sup> What medium, method, and materials can I use to create works that are more like a record, like an artifact of action that positions me as a kind of natural force? In the dynamic,

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<sup>23</sup> Doane, "Indexicality: Trace and Sign: Introduction." 1.

<sup>24</sup> It never matched the *feeling* of the real thing anyway.

chaotic formlessness of the contemporary lived experience of space, time, and matter, what can my work materialize and help us perceive as a common body?

In “The Mediated Sensorium,” Caroline A. Jones explores the postmodernist and contemporary turn to new media through the history of Modernism. The book’s introduction opens:

Now more than ever we need to think of the body’s utopian call to desire. Now more than ever we need to think the body, and embody our thoughts – now when that “cavern” and its visceral surroundings are studded with earphones, zooming in psychopharmaceuticals, extended with prostheses, dazzled by odorless tastes and tasteless odors, transported by new media, and buzzing with ideas.”<sup>25</sup>

I have sought to question the privileging of sight in my observation and image-making practice. “Not surprisingly, in developing the method subsequently known as “formalism,” this writer [Clement Greenberg] fetishized sight, which had traditionally been the sense capable of producing the most “distance” from the body.”<sup>26</sup> She articulates a shift away from the 20th century isolation and elevation of the visual sense by Greenberg, towards a contemporary 21st century exploration of the full sense hierarchy. The author’s identification of “the modernist sensorium” is useful for my practice to conceptualize the foundation of late 20th century art history and begin to imagine what comes next.<sup>27</sup> Her psycho-socio-political thesis asks, “What

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<sup>25</sup> Caroline A. Jones and Bill Arning, *Sensorium : Embodied Experience, Technology, and Contemporary Art / Edited by Caroline A. Jones ; Essays by Bill Arning [and Others] ; Abecedarius Entries by Bill Arning [and Others] ; Artist Statements by Mathieu Briand [and Others]*, 1st MIT Press ed. (Cambridge, Mass: MIT Press, 2006).. The “cavern” references Michel Foucault’s “le corps utopique” (1966). The following quote opens the essay: “My head, for example, my head: what a strange cavern that opens onto the external world with two windows. Two openings – I am sure of it, because I see them in the mirror, and also because I can close one or the other separately. And yet, there is really only one opening – since what I see facing me is only one continuous landscape, without partition or gap.”

<sup>26</sup> Ibid. 8.

<sup>27</sup> Ibid. 42.

do we gain by the deformations, exaggerations, or substitutions found in contemporary art?”, and answers, “... we are exposed to subliminal histories that we can choose to explore, alternatives to the sensory map bequeathed to us”.<sup>28</sup> Pointing to these subliminal and alternative histories acknowledges the irreconcilable multiplicity of sensory realities that comprise the contemporary fragmented collective conscious. Through Jones’s thorough analysis of Modernist sensory models of reality, I can begin to conceptualize the formless dynamism I witness in nature and approach materializing it through abstraction in ways critical of history and conscious of the contemporary moment.<sup>29</sup>

We are now in a model of reality where vision is no longer isolated and privileged in the *sensus communus*.<sup>30</sup> The technological model for our age may have yet to emerge, as the camera obscura did for early modernism, and cinema did for late modernism. Signs point to it not being an optical model at all. But one thing is sure, the model is fragmented.

The fragmentation and reassembling of the world effected by Pablo Picasso and Georges Braque in their Parisian cubism of 1909 to 1914 had allowed, encouraged, even goaded several artists... to push farther into a world of forms... The invention of these new kinds of abstract or ‘non-objective’ art coincided with the cataclysm of World War I, and the artists involved explained their innovations in terms of contemporary revolutions in both

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<sup>28</sup> Ibid. 11.

<sup>29</sup> Caroline A. Jones’s “The Mediated Sensorium” ties so many loose ends together for me, for example, the “marginal transgressives” of Robert Smithson (re: dedifferentiated vision and “Non-Sites”), Fluxus (re: performance art), John Cage (re: atonal music), and Lygia Clark (re: touch), Georges Batailles *Informe*, and Yves Alan-Bois’s and Rosalind Krauss’s postmodern updates (re: formlessness), the theories of self and subjectivity by Michael Foucault, Giles Deleuze, and Felix Guattari, (re: the body), Ludwig Wittgenstein (re: embodied perception), to name a few.

<sup>30</sup> See Caroline A. Jones, *Eyesight Alone : Clement Greenberg's Modernism and the Bureaucratization of the Senses* / Caroline A. Jones, 1st MIT Press ed. (Chicago: University of Chicago Press, 2005).; Sara Danius, *The Senses of Modernism : Technology, Perception, and Aesthetics* / Sara Danius (Ithaca: Cornell University Press, 2002).; Francesca Bacci and David Melcher, *Art and the Senses* / Edited by Francesca Bacci and David Melcher, 1st ed., Art & the Senses (Oxford: Oxford University Press, 2011).

society and consciousness, proposing in numerous manifestos that their art laid bare the fundamental, absolute and universal truths appropriate to a new spirituality, to modern science or to the emergence of a changed human order.<sup>31</sup>

Kirk Varnedoe's series of A.W. Mellon Lectures gives an impressive narrative on the origins of the American mid-century abstraction and its progression into the late century. "In addition to all the 'how' stories..." he says, "I feel obliged to ask some 'why' questions, including... *Why abstraction? Why abstract art?*... What's the use – for us as individuals, or for any society – of pictures of nothing?"<sup>32</sup> Where illusionism, the visual-privileging mode hard won by centuries of modernity, is a triumph of the sensible, rationalistic, knowable universe, representing an entire epistemology, abstraction "by its very nature, willfully and knowingly flirts with absurdity and emptiness, dancing on the knife edge of nonsense and beckoning us to come along."<sup>33</sup> His narrative frames the threshold between Modernism and Postmodernism as a porous exchange, not yet resolved, which resonates for me and my thoughts on the history of abstraction.

Lynn Gamwell puts it this way,

The present postmodern era uses "modern" to conjure the epoch that unfolded when Renaissance thinkers revived the ancient wisdom of cosmic unity, which in turn drove Enlightenment science and led to German Idealism. The postmodern era attempts to cope with the loss of that vision, and although its dialogue is often confused and conflicted, two fundamental features are clear: there is no unity in nature – no oneness of the universe

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<sup>31</sup> Kirk Varnedoe, *Why Abstract Art?* in Maria Lind, *Abstraction*, ed. Iwona Blazwick, Documents of Contemporary Art (London: Whitechapel Gallery, 2013). 48.

<sup>32</sup> Ibid. 55.

<sup>33</sup> Ibid. 62.

– and words like *nature* and *truth* do not name objective entities but are meaningful only within systems of human thought.<sup>34</sup>

In addition to Varnedoe's fragmentation, Gamwell names two more characteristics of the shifting conception of Postmodernism in cynicism and mysticism, while also acknowledging the dismantling of the Modernist pillars of *nature* and *truth*. Tying art history to science history, she points out early Surrealist-Postmodernist artists like Alfred Jarry, Marcel Duchamp, Salvador Dali, and Man Ray, whom, she claims, may have been aware of the new science of chance through mathematician Henri Poincaré's popular 1908 essay "Chance."<sup>35</sup> Duchamp's *3 Standard Stoppages* is a cynical joke on the Cartesian universe's adherence to standards of measurement, of tool making and use, and it incorporates an early 20<sup>th</sup> century instance of chance in art.

### 1.3 Postmodern senses

*"We have begun again to structure the primordial feeling..."*<sup>36</sup>

Where my work sidelines illusionism for non-objective abstraction, I am responding to what I see as problems of visualizability (*Anschaulikeit*).<sup>37</sup> What of growth, time, and change? What of chaos, unpredictability, of chance? Are these visualizable concepts? Two psychonaut<sup>38</sup> philosophers influential to my conceptualization of the shifting threshold of Modernist and

<sup>34</sup> Lynn Gamwell, *Exploring the Invisible: Art, Science, and the Spiritual* (Princeton: Princeton University Press, 2002). 281.

<sup>35</sup> The essay plainly described the interaction of particles of gas as probabilistic in nature, denying any deterministic approach to such a mathematical problem.

<sup>36</sup> McLuhan, *The Medium Is the Massage / Marshall McLuhan, Quentin Fiore Co-Ordinated by Jerome Agel*. 63.

<sup>37</sup> German for "clearness", loosely translates as "visualizability", the ability for something abstract to be visualized in the "mind's eye". Not the *person's* ability to visualize, but the quality of an abstract thought of being visualizable. The first I remember hearing this term related to art was in "Raising Compassion" a 2013 film by Tomas Gislason, commissioned by the Max Planck Institute and produced by Studio Olafur Eliason. See Tómas Gislason and Olafur Eliason, "Raising Compassion," (Berlin 2013).

<sup>38</sup> *Psychonaut* combines the Greek *psyche* "soul, spirit, mind", and *nautes* "sailor, navigator" to describe a person who engages in altered states of consciousness to methodically describe and explain the effects induced by meditation or mind-altering substances.

Postmodernist reverberations are Aldous Huxley and Terence McKenna. They ask us to reconnect with reality through physical engagement, then, begin to understand the conditions that shape contemporary reality are not inevitable. These thinkers are influential to me as links that bridge the span between 20<sup>th</sup> century Modernism and Postmodernism through consciousness studies. Just as optical science in the 19<sup>th</sup> century propelled shifts in epistemology, so too have late 20<sup>th</sup> century studies into the neuroscience of vision and perception, and interdisciplinary consciousness studies.

Aldous Huxley, 20th century speculative fiction and non-fiction author and philosopher, wrote an account of his professional experience of a dose of the psychedelic mescaline in the 1960 *The Doors of Perception* that expresses a similar sentiment to McLuhan's "simultaneous happening." In the following passage, Huxley is attempting to reconcile with the novel visuo-spatial experience of mescaline (a synthesized form of the medicinal sacrament *peyote* traditional to the Indigenous people of the Americas):

At ordinary times the eye concerns itself with such problems as Where? – How far? – How situated in relation to what? In the mescaline experience the implied questions to which the eye responds are of another order. Place and distance cease to be of much interest. The mind does its perceiving in terms of intensity of existence, profundity of significance, relationships within a pattern... Space was still there... The mind was primarily concerned, not with measures and locations, but with being and meaning.<sup>39</sup>

As a reflection on the state of altered consciousness, he was able to put into words the shift in interest from Cartesian "place and distance" to an archaic "being and meaning." Notably for my

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<sup>39</sup> Aldous Huxley, *The Doors of Perception and Heaven and Hell* (New York: Harper Perennial Classics, 1960).

practice, Huxley points out the increased significance of “relationships within a pattern” under the mescaline influence, the same perhaps that McLuhan recognizes.

Huxley articulates the state of the pre-reflective experience with the curiosity of a philosopher, recalling philosopher-poet William Blake’s *The Marriage of Heaven and Hell* in the book’s title. (see Figure 3.1) “If the doors of perception were cleansed everything would appear to man as it is, infinite.”<sup>40</sup> What must have struck Huxley under mescaline’s influence was a new awareness of the perceptual apparatus.

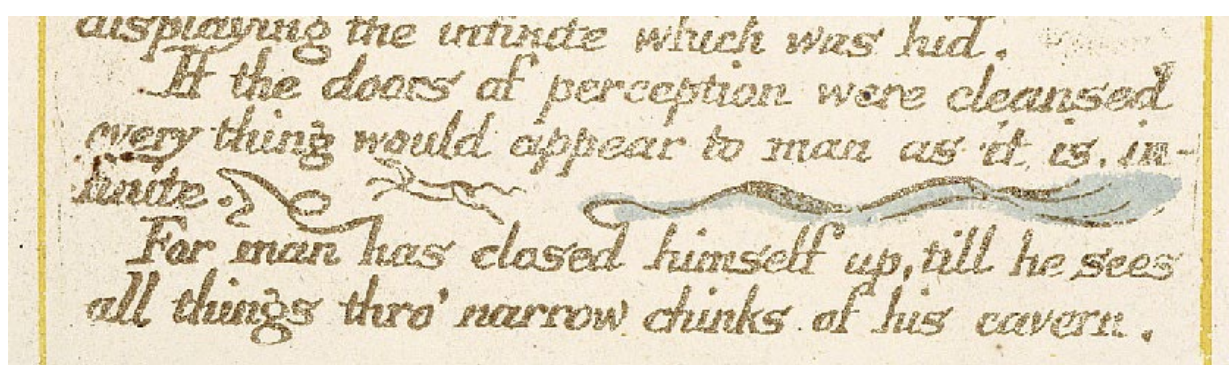


Figure 3.1. William Blake. “The marriage of heaven and hell” (Oxford: Bodleian Library, 2011)

Ethnobotanist, author, and psychedelic mystic Terence McKenna, a late 20<sup>th</sup> century contemporary of Huxley, in his characteristic mercurial and referential style, brings to mind ideas around shifting ideologies, models of reality, phenomena, and cultural progress and decline in writings and un-scripted lectures. To summarize from his “History Ends in Green” lectures, in the relatively short period of time we as civilized humans have lived as boundary-enforcing, ego-centric individualists (following a oculo-centric, deterministic, rationalistic philosophy), we have caused cataclysmic and irreparable change to the ecosphere, not least in our constant and

<sup>40</sup> William Blake, *The Marriage of Heaven and Hell* / by William Blake, with an Introduction and Commentary by Sir Geoffrey Keynes, ed. Geoffrey Keynes (New York: Oxford University Press, 1994).

habitual pollution of water, air, and soil.<sup>41</sup> In response to this, the evolution of the aesthetic experience of the 20<sup>th</sup> and early 21<sup>st</sup> centuries, McKenna suggests, has led to a dissolution of boundary and form, where experience is felt in a constant state of flux. As the visual culture of the late 20<sup>th</sup> century suggests, through the turn towards dreams and cinema, McKenna muses that the collective is looking for new models, “chaotic but not disordered”, to replace the deposed Cartesian sense of a world built from parts.<sup>42</sup> My exposure to the ideas from these two thinkers in particular has had a significant impact on the way I approach my own conscious awareness, my own perception. From them, I know that my culturally conditioned perception, regardless of the neuroscience of vision, is *not* representative of truthful pathway to knowledge about the universe (or my breakfast, for that matter). This distinction goes back to the very beginning of my curiosity towards the natural world with the question of the tree. Are you seeing the same tree that I am seeing? (No.) Is there an essence of the tree that we can meet at (also no) or is it more of an issue of meeting *each other*? The dissolution of traditional structures of locality and community, there is an imperative to spontaneous self-organization.

#### 1.4 Noticing

Artists that heralded the rise of postmodernism in the socio-political and cultural environment of the latter half of the 20<sup>th</sup> century were finding ways to cope with a new reality, one where man had divorced himself from nature in a heinously violent act that has proven to have changed the face of the planet forever.<sup>43</sup> Perhaps the intuitiveness of Pollock’s drip paintings, the incompleteness of Frankenthaler’s and Krasner’s, the limited scope of Robert

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<sup>41</sup> Terence McKenna, *History Ends in Green* (New York, NY: Mystic Fire Audio, 1993).

<sup>42</sup> *Ibid.*42.

<sup>43</sup> The end of the late modern period is typically understood as 1945, the year that the United States military all-but ended World War II with the use of nuclear weapons on the civilians of Nagasaki and Hiroshima, Japan. This date, and the later year of 1950, has been floated by the Anthropocene Working Group as an appropriate date to mark the beginning of the Anthropocene Era, the Age of Man.



Rauschenberg, and the referentiality and “de-differentiated vision” of Robert Smithson are part of its message.

New media art has become a nexus for exploring novel forms of expression and experience made possible through the rapid technological advancement of the late 20<sup>th</sup> and early 21<sup>st</sup> century. To the extent that these technologies have diverted our attention to nature through highly mediated experiences, the extra-sensory possibilities have only deepened the potential for experience no matter where you choose to look, what seems to matter now is *how*. To return to Jones:

Today we suspect that our experience of mediation itself is where the art happens, and where we enter the aesthetic of our sensorium. Artists and designers of the twenty-first century reject a single paradigm or master narrative even as they recognize the instrumentalization of the senses they inherit.<sup>44</sup>

This era has seen the dissolution of the Age of Reason as a guiding force. The emergence of a complexity of networks, systems, and chaos theory in its place have had a deeper impact on my experience of reality than the inherited past. Feeling caught between opposing ideologies of determinism and uncertainty, I have dug deeper into my aesthetic inspirations to attempt to uncover truths that only my body knows.

The communication age, this digital age of simultaneous parallel connectivity, has contributed significantly to what I notice when I observe reality. I’ve found my interest in chaotic and fractal patterns, waveforms in superposition, fracture mechanics, and centrifugal, centripetal, and spiral motion fits into the aesthetic and scientific zeitgeist of the turn of the 21<sup>st</sup>

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<sup>44</sup> Jones and Arning, *Sensorium : Embodied Experience, Technology, and Contemporary Art* / Edited by Caroline A. Jones ; Essays by Bill Arning [and Others] ; *Abecedarius Entries* by Bill Arning [and Others] ; *Artist Statements* by Mathieu Briand [and Others].

century (after learning their names, of course).<sup>45</sup> Art historian and Leonardo scholar Martin Kemp says, “The structures are shapes and patterns that exist in nature in complex relationships with various kinds of disorder and chaos....”<sup>46</sup> This book provides a touchstone for me to organize my thoughts on vision and observation around shapes and patterns reflective of a felt disunity, a disharmony, disorder, and chaos that comprise the Postmodern attitude.

When I return to the core of my practice, noticing what I notice, I tend to notice patterns. Specifically, patterns of dynamic forces like branching in plants or in cracks in concrete, spiral growth of pinecones, of human hands, waveforms in everything from doppler effect to radio to creek beds, and folding or buckling across man-made and organic material worlds.<sup>47</sup> I can see seeds of these pattern visions in my early works. The more I seek the experience of patterns, the more I find them. What is that about? What is it drawing my attention? While Kemp’s introduction highlights advances in neuroscience that have changed the understanding of intuition (as less associated with imagination and more with complex combination of theoretical and empirical deduction,) he does caution, “Intuitions can be wrong, directed by slanted interest and unwarranted preconceptions. They can be creatively redirected. They are very powerful agents.”<sup>48</sup>

Tuning my attention has become a part of my process. I am fully aware my outlook is influencing my attention. I still let my intuition guide me. Some days it can be trusted, others it might be “slanted.” In the past, I tried to annotate my attention textually, like Walter Benjamin’s famous little notebooks. Paradoxically, this practice aroused my analytical mind in such a way

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<sup>45</sup> Martin Kemp’s *Structural Intuitions* outlines many of these 21<sup>st</sup> century art-science motifs, see following footnotes.

<sup>46</sup> Kemp, *Structural Intuitions : Seeing Shapes in Art and Science*.1-2.

<sup>47</sup> See *ibid.* Chapter titles are organized by structural character, branching and fluid flow, spiral growth, waveforms, folding, and splashing.

<sup>48</sup> *Ibid.* 6.

that any intuitive interpretation of the notes I might have had were obscured. It also interrupted my pre-reflective experience. I would anticipate experience verbally without actually experiencing anything that was not premeditated. So, I have sought practices that quiet the chatter in my mind. My intuition always drives me towards nature, to observe seemingly simple, ubiquitous, elemental phenomena. This is my way of gathering sense data on how to be. As my concepts on vision, observation, intellectualism, existentialism, and consciousness have shifted, I train my senses to scan for instances of the knowable universe, letting the unknowable space between frame and highlight instances of order among chaos.

#### 4 MY JOURNEY FROM OLD TO NEW IN STUDIO

Confronting discrepancies in my own foundation of knowledge was unsettling. Leaving behind some models and tools I had trusted and relied on, like linear perspective, illusionistic space, and a rationalistic worldview, seemed daunting. All of this happening during the upheaval of a global pandemic and social unrest contributed to my adopting a “don’t look down” attitude I learned from the magic of cartoons. My Modernist way of explaining and visualizing relationships in my life, between myself, the community, the world, and beyond needed an update. Thankfully, I was exposed to great Postmodernist thinkers.<sup>49</sup>

The entanglement of experience, the subjectivity of perception, new models of reality, the upheaval of these ideas has impacted my practice. I still begin with observation, with a pre-reflective experience. I seek out novel experience in nature by attending to structural patternings and dynamic growth structures, textures, and forms. I notice a specific kind of chaos and disorder that balances with the Platonic geometry of ideals that my Romantic mind is well acquainted with. I wonder how translating this experience through recording it is going to change it. All of this is preliminary, all preface. It is like the gathering of notes in an intuitive, meandering way. Out of this developing practice, I now conceive of my works and projects in ways that will invite a sense of this controlled chaos into my process that I perceive in nature. Analogously, the works provoke a sense of controlled chaos in the mind of the viewer. Each painting, print, or drawing is an allusion to subjectivity and uncertainty as they develop from processes dominated by the spirit

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<sup>49</sup> Excerpts by and lectures on Jacques Derrida, Jean-Francois Lyotard, Jacques Lacan, Jean Baudrillard, Giles Deleuze and Felix Guattari, Georges Didi-Huberman, Judith Butler, Karen Barad, and Rosalind Krauss helped disrupt my romance with Enlightenment rationalism. See Derrida “Dematerialization, *Materiau, Materiel* (1985) in Petra Lange-Berndt, *Materiality* (Cambridge, MA: The MIT Press, 2015).; Lyotard “Les Immatériaux” (1985) in *ibid.*; Lacan “The Unconscious and Repetition (1973) in Margaret Iversen, *Chance*, ed. Iwona Blazwick, Documents of Contemporary Art (London: Whitechapel Gallery, 2010).; Jean Baudrillard, *Simulacra and Simulation* (Ann Arbor: University of Michigan Press, 2010).; Deleuze and Guattari “A Thousand Plateaux (1980) in Lange-Berndt, *Materiality.*; Didi-Huberman in *ibid.*; Butler in *ibid.*; Barad in *ibid.*, and Rosalind E. Krauss, *October : The Second Decade, 1986-1996 / Edited by Rosalind Krauss [and Others]* (Cambridge, Mass: MIT Press, 1997).

of chance. Yet the static works are each a singular record of a unique set of moments in time initiated by my action. By documenting the formation of the material artifacts in video, I can create visions of unpredictable rhythms and cycles of creation and destruction that speak to the flawed desire for certainty in the face of the unknown. My works use humble materials that are conducive to conveying ideas about gesture, action, index, and trace, and as Kemp says, “the formative geometry of nature,” “the geometry of growth,” specifically a contemporary, chaotic, fractal geometry.<sup>50,51</sup>

In my studio, I explored ideas about artifact, impression, and index with humble materials like mark-making in charcoal and ink on paper, and primitive transfers and rubbings of low relief textures. I questioned my drawing mediums by approaching mark making from various angles, like using unconventional tools, bodily gestures, and actions at a distance like dripping and pooling. I wondered if the material, the matter of the stuff I was working with, could communicate anything beyond the perception of the medium. Part of my redefinition of the materials of my medium, of drawing and painting, and of my art studio, has been a reconnection with my kinesthetic, bodily experience in the act of creation. What drew me early on to recalibrate my approach to process and materials was that I wanted to be immersed in them. Most oil and acrylic paints are just antithetical to this very notion, requiring plastic barriers and distancing tools to safely use, rightfully so. I learned to love charcoal, ink, and paper.

I have found the character of what I refer to as elemental materials to mirror an ephemerality of experience that they are most adept at capturing. They also recall, not only the Western art history of sketches and designs (*disengo*) in graphite or charcoal or crayon or ink on

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<sup>50</sup> Kemp, *Structural Intuitions : Seeing Shapes in Art and Science*. 17.

<sup>51</sup> When I use “chaos” and “chaotic” I am referring to chaos theory and the mathematics of chaos and fractal geometry as much as I am also referring to the primordial formless energy predating the creation of the universe. I am less so referring to its colloquial usage as meaning completely disordered or disarrayed entropy.

paper, vellum, or papyrus and their ephemerality, but the simultaneous permanence and weight associated with marks on prepared surfaces that precious handwritten manuscripts and official documents carry.<sup>52</sup>

The simple marked surface, from the earliest known clay tablet, meant to be recycled, to the now ubiquitous sketchbook page, constitute an essential aspect of material history. As anthropological artifacts, they recorded characteristics of and evolutions in thought both visually and in writing, which initially evolved hand in hand.<sup>53</sup> As utilitarian objects, they record an account of an event or a record of an inventory. I find the ephemerality and transience of these early thought forms to be so poetic. The urgent nature of notes, especially, visual or textual, speak to the impulse to reflect on a subjective experience. The point of reflection, the means of recording, carries the character of the medium, and the form of transcription inevitably influences the remembering, but these things are only revealed with time. Imagine the disappointment when cuneiform was finally translated and the coveted clay fragments containing that script were transcribed to reveal stock inventories. And yet, this fact illuminates the necessity for the script's quick-natured, shorthand, almost speed-writing character. Time will only tell what becomes of our volumes of longform physical and digital records alike.

Artists have the ability and the imperative to imbue their visual reflections with meaning. Contemporary artists do that through combining materials, process, and concept into a unified expression where each element influences and reinforces the other, and where the art can be used to explore ideas about history, technology, and society, or simply, art itself. I use materials that

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<sup>52</sup> I think of the Library of Alexandria, centuries of human knowledge written on papyrus, lost in a flash. I think of the Dead Sea Scrolls, and the Book of Kells and other illuminated manuscripts and the efforts directed at their preservation. I think of ephemera; notebooks, sketchbooks, and letters that have changed history through the accident of their preservation.

<sup>53</sup> James Gleick, *The Information* (New York, NY: Knopf Doubleday Publishing Group, 2011).

have an elemental, ephemeral materiality, in an expanded practice centered around a traditional medium, drawing, retaining its embedded sense of simultaneous permanence and transience to reflect on the intersections and contrasts this seemingly unchanging medium has with contemporary new media. My practice requires my physical integration with my materials and processes to reach a level of embodied, kinesthetic understanding. Wanting and needing to be immersed in my medium leads me to what I consider as “natural” materials, I could them biocompatible. Combining materials in dynamic situations and recording their outcomes in objects as well as presenting them as projections and photographic representations engages this practice with the complexities of materiality in this digital, high technology, information age.

Having made my way to ideas about materials through exploring process, I have come to a juncture in defining my practice. I want to use processes more likely to contain both medium and material, and I have begun to look at my work by including this dimension. In the recent past, I continue to intuitively return to what I have begun to define as elemental materials. This definition is more expansive for me conceptually, although these typically tend to be the same fiber and foraged organic-matter materials of traditional art and visual culture throughout human history.<sup>54</sup> I look to “nature” as an orienting principle in this vast terrain, though what that term signifies for me is shifting. My curiosity for the way things work can be endlessly satiated on observing the workings of natural systems. Nature is a traditional and steadfast subject of the artist from time immemorial, and for now, I will accept its allure.

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<sup>54</sup> Earth pigments, dyes, and stains, especially carbon from burned organic matter, colored ochres, and walnut ink, fibers like cotton and mulberry which are derived from the tradition of papyrus paper, and woven cloths of cotton, linen, and silk.

## 1.5 Chance

Some of my early graduate work involved devising processes that would invite chance to arrange elements in the works. I was developing a way to incorporate forces beyond the scale of my own body into the work. To create *the mind is of much but all it initially included*, I took a length of yarn four-times my own height, tied it into a loop, and dipped it in a solution of water-soluble graphite. Then, climbing a short ladder, I would hold the loop of yarn between two fingers in each hand and with my arms held wide, drop the loop onto a plastic sheet below. I would then overlay a section of the loop (predetermined by a square area taped off on the plastic sheet) with paper and apply pressure to create a monoprint of the inked yarn. (see Figure 4.1)





*Figure 4.1 Lizzy Storm. the mind is of much but all it initially included. graphite on paper. 6 x 6 inches each. 16 unique monoprints. 2019.*

In the piece *everything and nothing*, I activated a set of river stones as chance elements in a nod to John Cage. The stones had been with me since the early days of the pandemic lockdown when I contracted my practice to a minimal kit of materials and processes. I created a set of stencils by tossing the stones onto a horizontal surface, where I would then mark their landing places, if they were to fall within a pre-determined circular area, and cut an opening there in the

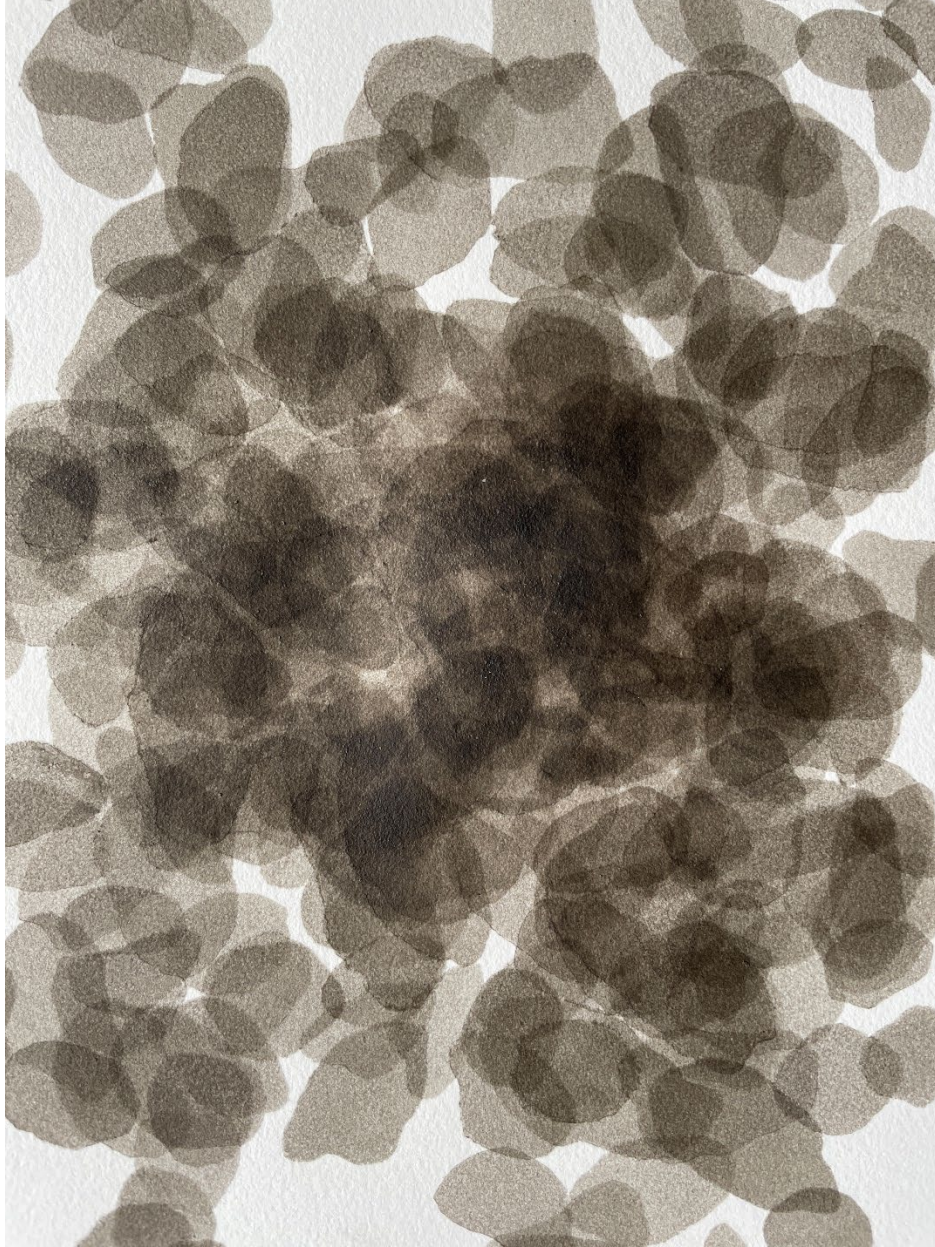
shape of the stone. Eventually, each stone became numbered, and I made individual stencils for each of them. For this piece, also influenced by Eva Hesse and Yayoi Kusama, artists who used repetition and accumulation, I made a pochoir monoprint of accumulations of overlapping instances of the stone “throws” as I call them. Conceptually, the piece is never finished. More and more transparent layers of ink are meant to be added, until maybe the page is obliterated altogether. You can see its current state in Figure 4.2, and Figure 4.3.

I look back to see these works as early instances of dynamic body movement, a sense of performance, collaboration with gravity, and chance being incorporated into my work. These processes have made me more receptive to application of materials, and vice versa, the materials have made me more receptive to process and phenomena.



*Figure 4.2 Lizzy Storm. nothing is the shadow of everything. carbon black ink, acrylic emulsion, cotton rag paper. 22 x 30 inches. Unique print. 2021.*





*Figure 4.3 (detail) Lizzy Storm. nothing is the shadow of everything. carbon black ink, acrylic emulsion, cotton rag paper. 22 x 30 inches. Unique print. 2021.*

Using a drawing, painting, and printmaking process that contains a kernel of an impression, for example, monoprint, frottage, or action marking, is my method to allude to the

pre-reflective experience.<sup>55</sup> I developed this concept in work I was making in my second spring semester. Ink on paper alluded to the permanence of a mark on a field, of an impression on a field of perception. Using the process of controlled dripping, I created a scenario where the wet paper and the liquid ink would interact, eventually coming to rest as the materials dried. The wet ink and clear water mixed and resisted each other, resulting in fractal patterns often found in alluvial plains where river water and silty earth interact, regenerating nutrient rich soil. The deep darkness of the carbon-black ink, centralized where it had been dripped, contrasted with the unmarked paper in a centrifugal composition that pulses outward and inward, recalling astronomical photographs of our Sun, gravitational bodies floating off in cosmic space, explosions, or flower blooms. Micro versions of that black spot on a white field radiate in fractal scale from the central void, revealing minute perturbations in the water and the sheet of paper.

(see Figure 4.4)

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<sup>55</sup> The pre-reflective experience is a state of unconscious awareness preceding the consciousness forming associations to past experiences and word and image signs.



*Figure 4.4 Lizzy Storm. and the star slips from its center in the space-time continuum AKA Number 24. carbon black ink and salt on cotton rag paper. 30 x 22 inches. 2021.*

Pattern-visions evident in my work are made possible by recent extensions of the human perceptual field, by lens-based optical-enhancement devices in the case of the space telescope, aerial flight and photography in the case of the alluvial planes, high-speed video in the case of explosions, and time-lapse photography in the case of blooming flowers. These works reference a long history of scientific visualization and photographic methods that I first encountered years ago in *The New Landscape in Art and Science* (1956), an essay and picture book of visualizations of research models in micro and macro photography, computer generated images, photographs of faraway astronomical objects, and analogous visual art compiled by painter, visual researcher, Bauhaus educator, and MIT Visual Studies Center founder György Kepes. (see figures) Kepes “attempted to present in pictures the new visual world revealed by science and technology, things that were previously too big or too small, too opaque or too fast for the unaided eye to see.”<sup>56</sup> I think it’s important to note here that the visions made possible through new technologies like the light sensitive photochemicals and digital print and photography are aiding not only the eye, but in many cases are revealing a process that references more than aesthetic form and something about three dimensional physical form and the sense of touch, space, materiality, and even physical light. Where Kepes presented these images-as-experimental-data in comparison to contemporary visual art to spark aesthetic inspiration, I was inspired by how the visualizations were making use of the trace. See the following figures to flip through pages of the book with me.

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<sup>56</sup> György Kepes, *The New Landscape in Art and Science* (Chicago: Paul Theobald and Co., 1985). 17.



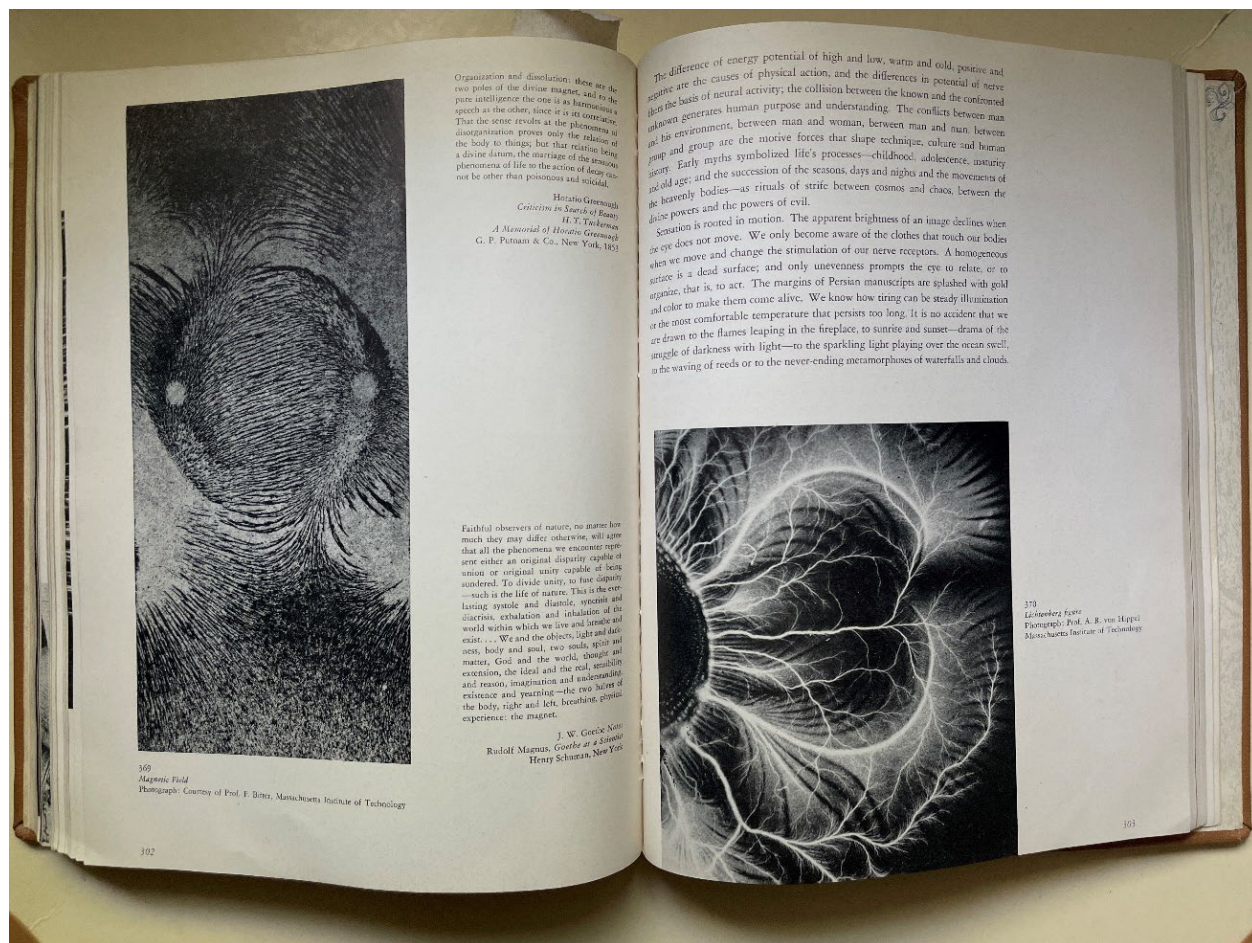


Figure 4.5 (left) Magnetic Field. Photograph: Courtesy of Pro. F. Bitter, MIT. (right) Lichtenberg figure. Photograph: Prof. A. R. von Hippel, MIT. György Kepes. *The New Landscape in Art and Science*. (Paul Theobald and Co.: Chicago, 1956). 302-303.

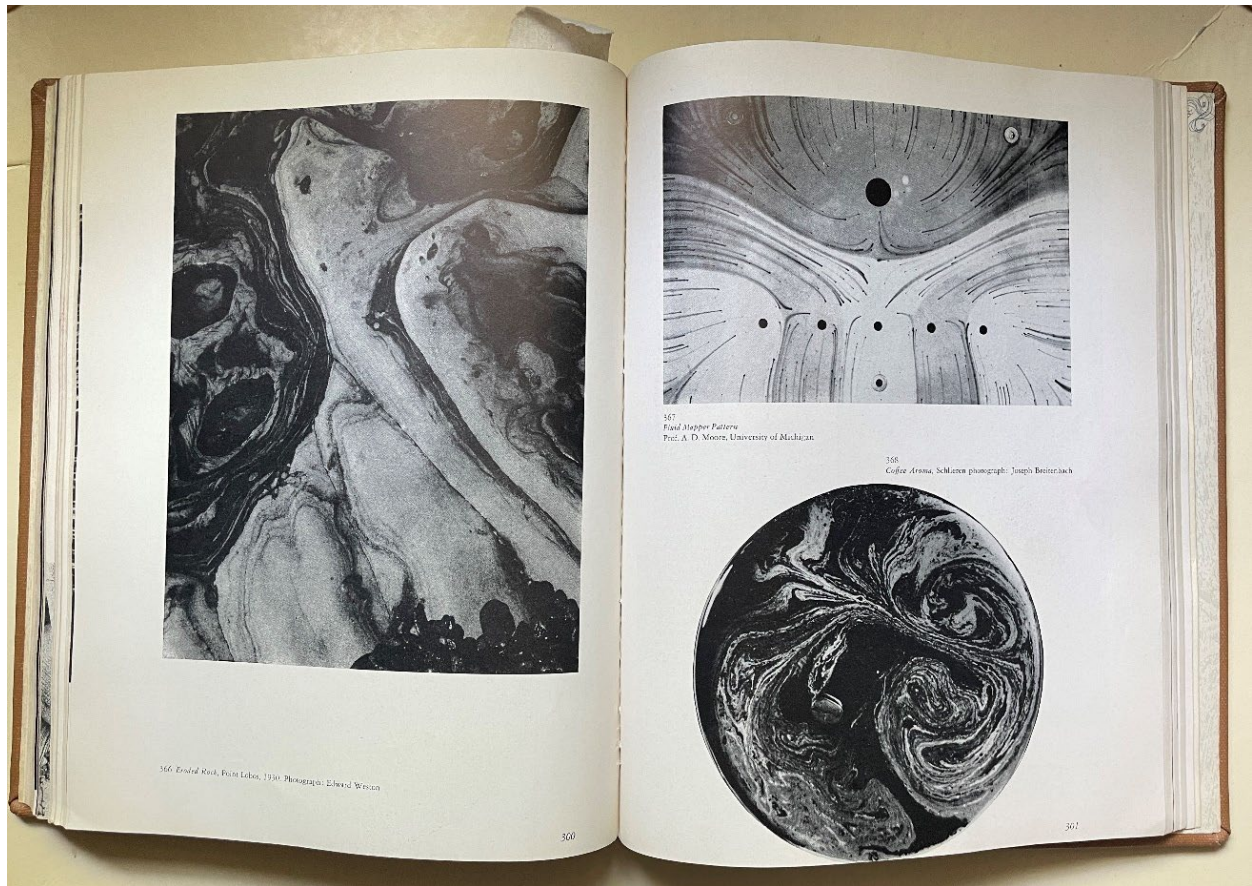
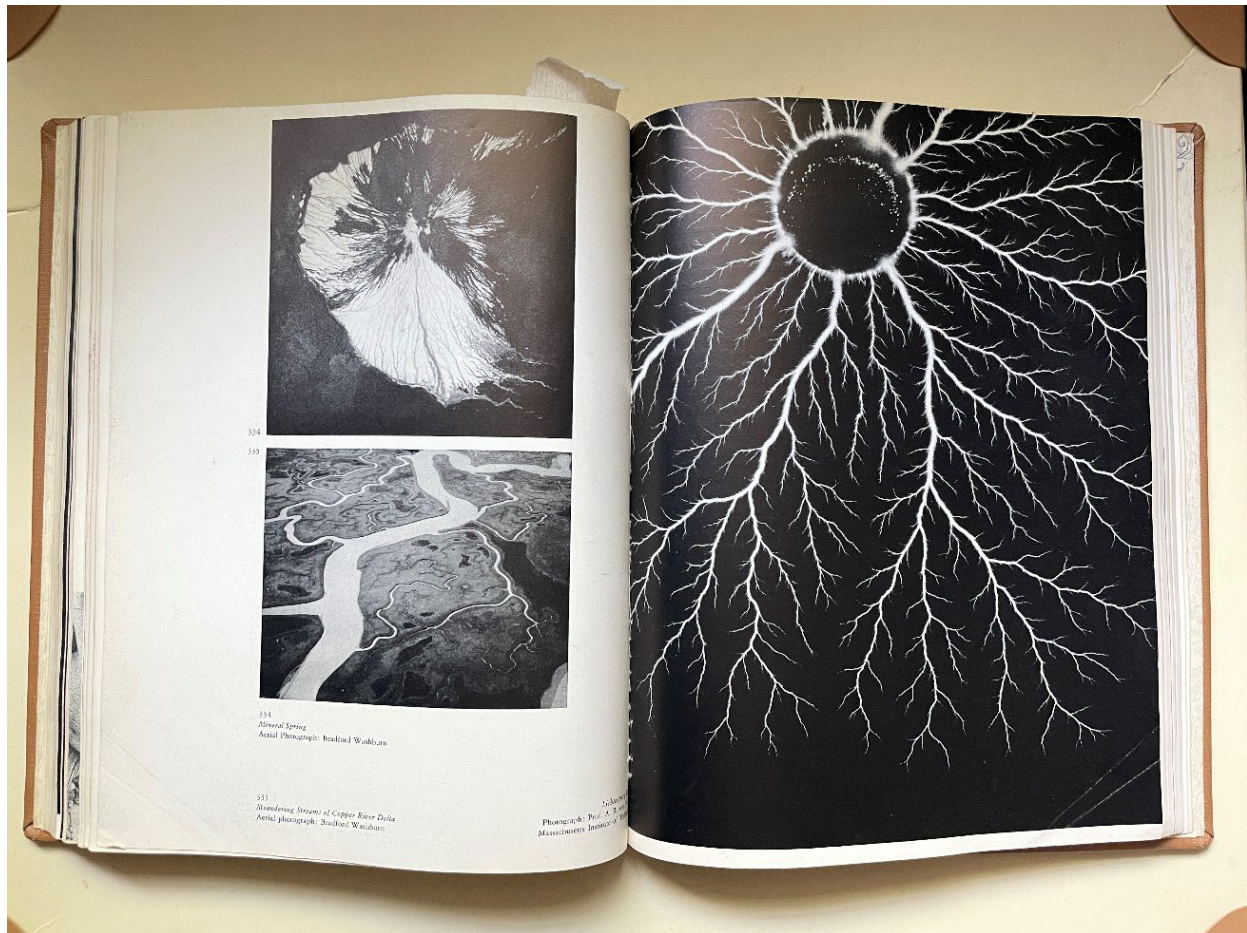


Figure 4.6 (left) *Eroded Rock, Point Lobos, 1930*. Photograph: Edward Weston. (top right) *Fluid Mapper Pattern*. Prof. A. D. Moore, University of Michigan. (bottom right) *Coffee Aroma, Schlieren* photograph: Joseph Breitenbach. György Kepes. *The New Landscape in Art and Science*. (Paul Theobald and Co.: Chicago, 1956). 300-301.



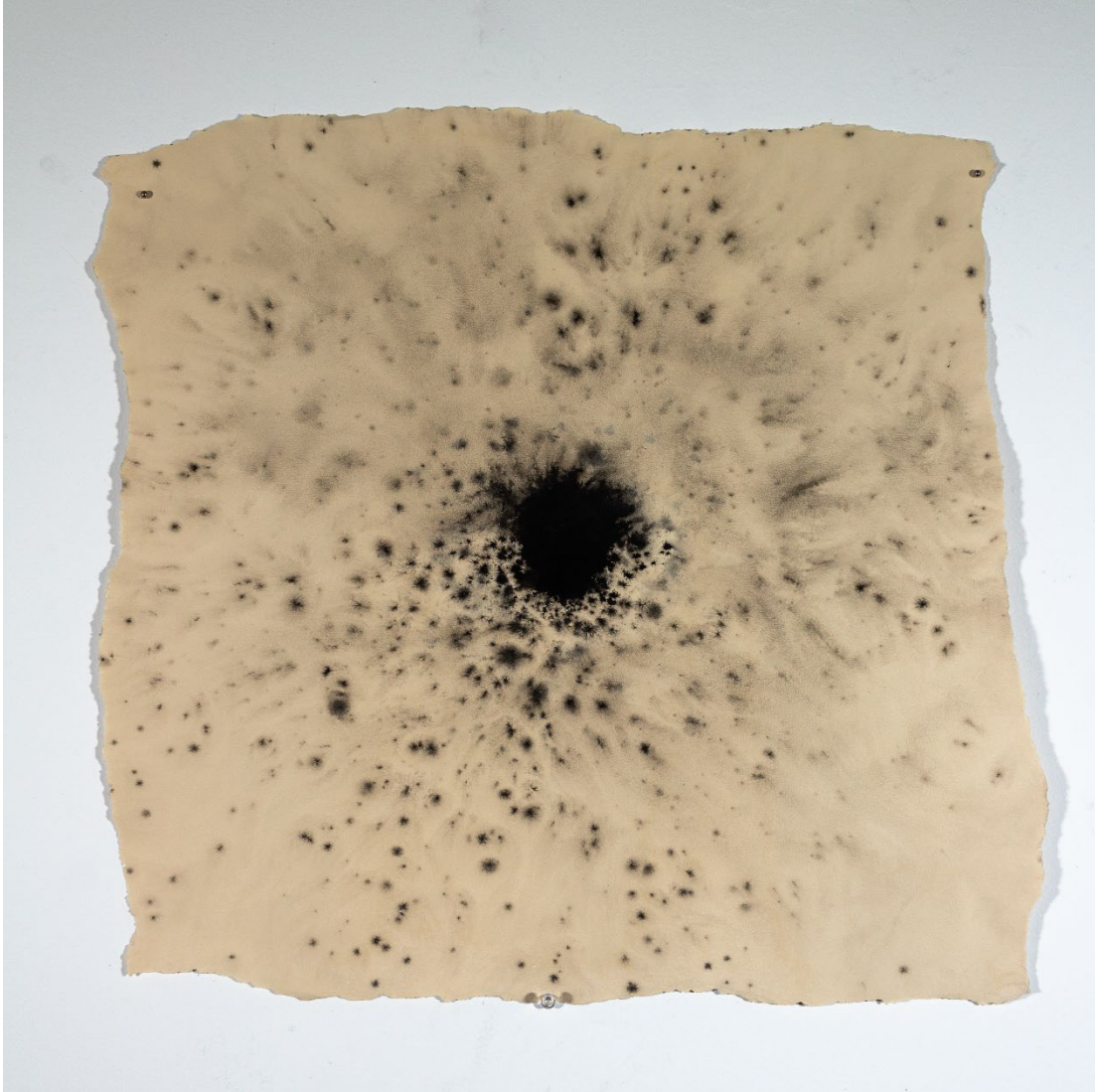


*Figure 4.7 (top left) Mineral Spring. Aerial Photograph: Bradford Washburn. (bottom left) Meandering Streams of Copper River Delta. Aerial Photograph: Bradford Washburn. (right) Lichtenberg Figure. Photograph: Prof. A. R. von Hippel, MIT. György Kepes. The New Landscape in Art and Science. (Paul Theobald and Co.: Chicago, 1956). 272-273.*

In the case of my work, the radial motion of water captured in the dried impression of ink on paper is an artifact of the instantaneous moment of ink contacting wet paper that results in an elongated phase of unpredictable change as the materials reach equilibrium. Rather than the static moment itself, a trace of the phase change is imaged in an interaction of gravity and evaporation, like how an open camera shutter takes a long exposure image. The series is called *when an explosion explodes hard enough, dust wakes up and thinks about itself*.<sup>57</sup> I think of the materials of the piece in an almost sculptural way. (see Figure 4.8)

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<sup>57</sup> The title is derived from Jarod Anderson's poem "The Big Bang" in Jarod Anderson, *Field Guide to the Haunted Forest* (2020). "The universe is an ongoing explosion. That's where you live. In an explosion. Of course, we absolutely don't know what living is. We don't know what happens in the gulf between molecules and cells. Sometimes, atoms arranged in a certain way just get very, very haunted. That's us. When an explosion explodes hard enough, dust wakes up and thinks about itself. And then writes about it."



*Figure 4.8 Lizzy Storm. when an explosion explodes hard enough, dust wakes up and thinks about itself AKA number 29. Carbon black ink and crystallized rock salt on tones cotton rag paper. Appr. 18 x 18 inches with hand torn edge. 2021.*

I found a touchstone for conceptualizing my process in Robert Morris's 1968 essay "Anti-Form", excerpted in the Documents of Contemporary Art Series edition on *Materiality*.

Speaking of Abstract Expressionist painters Morris Louis and Jackson Pollack, he says

The optical and the physical are both there. Both Pollack and Louis were aware of both.

Both used directly the physical, fluid properties of paint. Their 'optical' forms resulted from dealing with the properties of fluidity and the conditions of a more or less

absorptive ground. The forms and the order of their work were not a priori to the means.<sup>58</sup>

Here, Morris means the forms and order did not *come before* the means, the order and forms are a result of the way of making. I feel that in order to talk about dynamics, change, and the birth of form in nature, its necessary to engage my materials in an analogous process and let what comes come. The specific adjustment that I made in the process of creating the work *when an explosion explodes hard enough...* was to concentrate the ink in the center of the paper so the farthest edges of the interaction between ink and water would be recorded. The composition has an overall sense of unity through approximate radial symmetry, an intentional counterbalance to the non-objective abstraction produced by the fluid interactions.

As I refined my notions about materials and processes, I have simultaneously refined my subject matter for my thesis work to patterns displaying the signature energy patterns of watery processes and gravity. I think of our own watery bodies and our boundedness to the gravitational sphere of the Earth, and the mystical, mercurial nature of water due to our being so much made of it. Living, organic materials in dynamic processes with their environment display physical traces of energy patterns in a similar way that inert materials do. Observing dynamic phenomena like the movement of water in droplets and pools has a history in the development of sensing technologies.<sup>59</sup> In some of these ink works, the patterns of a branching and meandering river arise. In fractal self-similarity, miniature versions of the feathered-edge central drip form radiating bands towards the edges of the paper. (see Figure 4.9)

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<sup>58</sup> Robert Morris, "Anti-Form", 1968, in Lange-Berndt, *Materiality*. 92-93.

<sup>59</sup> See Appendix





*Figure 4.9 (detail) Lizzy Storm. when an explosion explodes hard enough, just wakes up and thinks about itself AKA number 29. carbon black ink and crystallized salt on toned cotton rag paper. Appr. 18 x 18 inches with hand torn edges. 2021.*

This work taps into a restorative link with Earth's forms and processes that has waned from neglect in the wake of industrialism and the progress of modern society. "Try always, whenever you look at a form, to see the lines in it which have had power over its past fate and which will have power over its futurity."<sup>60</sup> This quote has some insight as to why I keep coming back to patterns in chaotic and synamic instances of nature and natural processes. This work helps me notice patterns about myself, about my attention and my preconceptions, my impulses, and desires, and in identifying them, I can find their roots in my past and consider the power of their futurity. In noticing patterns about myself, the ways I relate to conceptions of reality comes up. By tapping deeper into the contemporary moment, in all its multiplicity, plurality, and intersectionality, through modes reflective of those qualities like using chaotic, chance processes in my work, I can seek new models.<sup>61</sup> Because of the ineffability of chaotic and chance processes, the forms and patterns they produce can soften and disperse the hard and fast structures I once imposed on myself in favor of a more enchanted perspective. I propose the models exist in nature; we just have to change our point of view. I seek new models to give form to our feelings, and by affirming our unease, offer a place of transformation and rest.

This is where I find myself investigating. What do I notice, now knowing my perceptual apparatus is mediated through not only my senses and the whole sensory body, but extensions thereof? Alongside a pre-reflective experience, I make use of lens-based technologies to augment, supplement, and contrast my purely subjective visuo-spatial awareness. The seemingly benign but pervasive cell phone camera, the high-tech high-speed video camera, and digital

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<sup>60</sup> John Ruskin's 1897 *The Elements of Drawing* is quoted by Martin Kemp in *Structural Intuitions* to set up a chapter on the pattern of branching and energy dispersal, see, Kemp, *Structural Intuitions : Seeing Shapes in Art and Science*. 65.

<sup>61</sup> "When you cut into the present, the future leaks out." William S. Burroughs and Brion Gysin, *The Third Mind / William S. Burroughs and Brion Gysin*, First paperbound ed. (New York: Seaver Books, 1982).

projections are some tools I use to expand on my bodily perception. My practice couples these visuo-spatial, extra-sensory perceptions with time-dependent, organic cultivation of forms through non-traditional, direct impressions of gestures and actions in space to explore the intersections of intuitive and speculative thinking and technology with embodied experience in the 21<sup>st</sup> century. My work combines tactile, bodily processes and traditional, biocompatible materials with a conception of reality informed by electronic sensing and high-tech lens technologies and in doing so, gives my body a place to integrate and digest this contemporary expanded perception.

## 5 A WHEEL INSIDE A WHEEL EXHIBITION



*Figure 5.1 (installation view) Lizzy Storm. a wheel inside a wheel. 2022. (photo credit: Travis Dodd)*

*a wheel inside a wheel* picks up themes I began exploring in my second spring semester. I dedicated myself to the practice of dripping ink onto paper and cloth grounds. The practice was predictable for me, for my body. I could go into the studio and enter a soothing meditative state of focus. I recorded high-speed audio and video of the instances of the ink dripping phenomena. The dripping action provided a framework to observe and document an unpredictable, chaotic event through a trace artifact. Because the action of the ink splatter happens instantaneously at the human visual scale, the high-speed video footage is a way to represent a timescale of the action that underscores the chaos. The static pieces simultaneously shed light on and obscure



aspects of that chaotic event, while acting as image-signs conjuring archetypal visions of navel- or iris-like voids – very bodily associations. (see Figure 5.1)

I devised a way to use multiple layered surfaces and light to disrupt the superficiality of these abstractions. The resulting works combine my controlled ink drip action-artifact on sheer woven cotton cloth with the same process of ink on cotton rag paper. The persistent pattern of a circular black void in a field of white recurs through the series of five works titled *when an explosion explodes hard enough, dust wakes up and thinks about itself 1-5*. The signature energy pattern of a splatter is evident in the works. The splatter is representative of a set of meta patterns that reveal centrifugal and centripetal energy, tying an archetypal vision to a bodily-sensory experience of movement, space, and gravity.



*Figure 5.2 (installation view) Lizzy Storm. a wheel inside a wheel. 2022. (photo credit: Travis Dodd)*

The optical effect of the pieces is hard to describe. The sheer transparency of the cotton cloth is marked by an ink splatter action, leaving a central black void surrounded by flecks of black that seem to take on an element of fluid movement. When viewing the piece head-on, the lighting scenario makes it so that the central dark area becomes translucent and reveals a hint of a layer obscured beneath. On the wall behind the cloth there is an artifact on rag paper of an ink drip. The cloth hangs about two inches away from the wall in relief. Much of the underlayer is obscured, denying the early modern observer's expectation of a singular, stable image-window to view. Enough of the layer underneath is visible though, that a parallax effect occurs when the viewer shifts side to side in front of the works. This sculptural effect is engaging with three-dimensionality in a way that reinforces the physicality of vision but denies a fully three-dimensional in-the-round point of view. These works engage the viewer's body in space by focusing attention on the space between the surfaces of cloth and paper, which then become reinforced as physical, material artifacts made of the same everyday stuff as we are familiar with. Another interesting effect of the double-layer is that the dark central void in these pieces seems to reference the camera obscura's pinhole, or the modern aperture. Can a once-mechanized model of the space of objective perception, the aperture that lets light (knowledge of the world) into the camera body (the cavern of the mind) become bodily again? The association to the circular iris of the human eye fluctuates in and out of the interpretation, with the chance arrangement of droplets tipping the scales towards the arcane realm of the subconscious and subjective lived experience.

These semi-sculptural works interact with three-dimensional space and light in interesting ways, like through the emergence of undulating catenary curves resulting from the drapery of the fabric layer. The light, shadow, and form of the fabric shifts, wavering slightly with air currents

or with the viewers breath, causing the shadows cast by the pieces to reinforce the motion. Seen from a distance, the pieces' graphic composition conjures associations with the iris of the eye, but also of a navel. Both of these are associations I would like to work with further. There is an intrinsic rhythm to the dispersal of the droplets in these pieces, a biomorphic or biomimetic quality that leaves these artifacts with an organic order reigning in the chaos of fluid interactions.

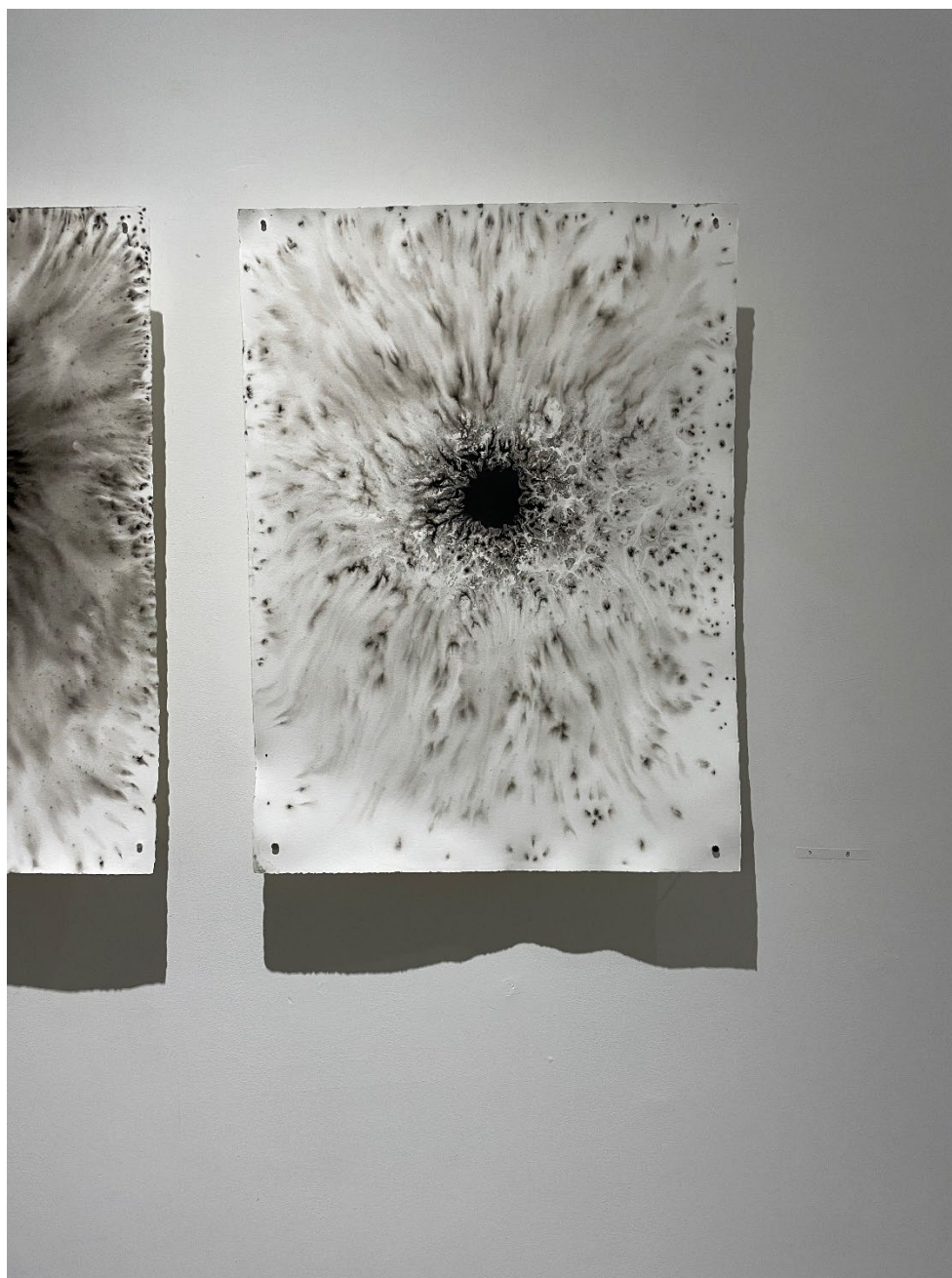


*Figure 5.3 (installation view) Lizzy Storm. a wheel inside a wheel. 2022. (photo courtesy of the artist)*



*Figure 5.4 (installation view) Lizzy Storm. when an explosion explodes hard enough, dust wakes up and thinks about itself 5 AKA Number 80, 49. carbon black ink, cotton, rag paper, hardware, magnets. 30 x 30 x 2 inches. 2022.*





*Figure 5.5 (installation view) Lizzy Storm. and the star slips from its center in the space-time continuum 2 AKA Number 58. carbon black ink, rag paper, hardware, magnets. 2022. (photo credit: Travis Dodd)*

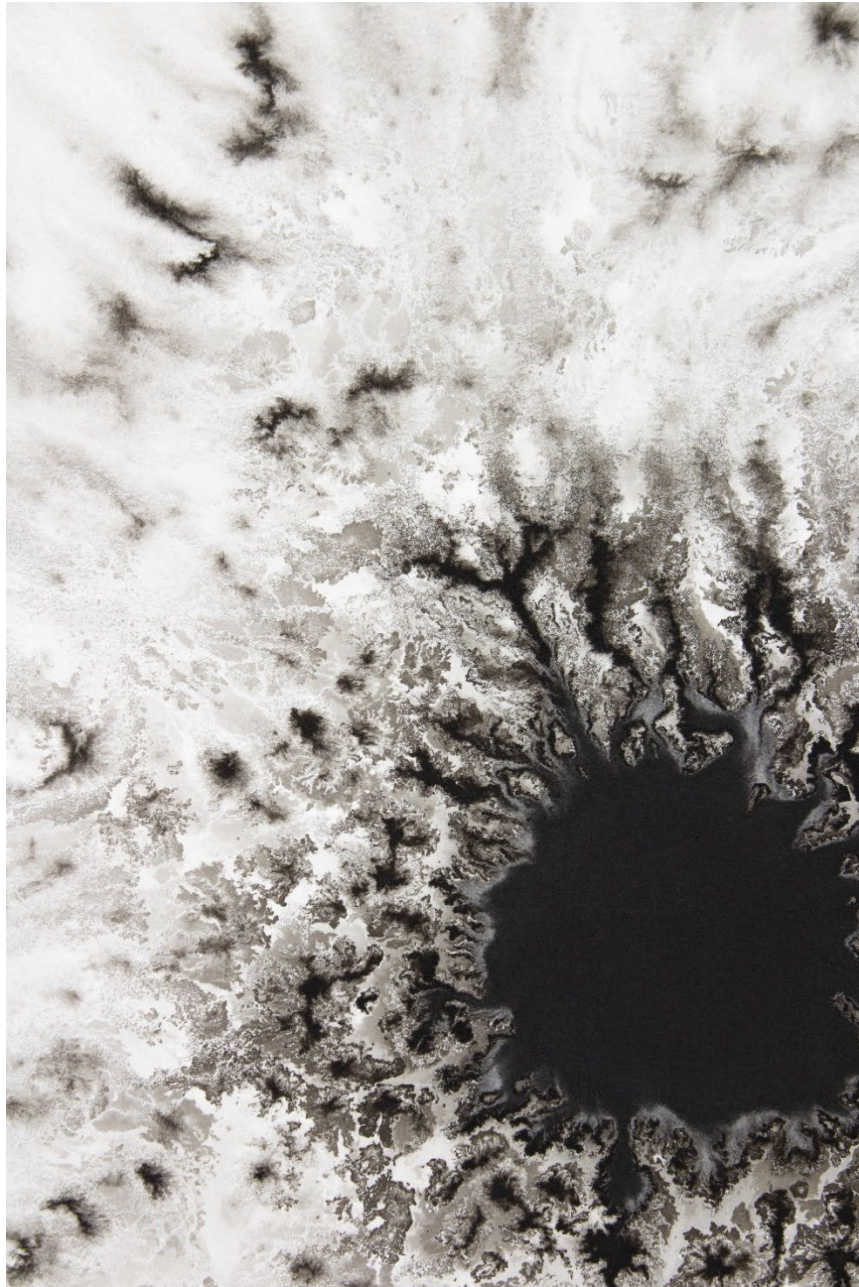
Two pieces on a more traditional ground of a full sheet on rag paper are titled *and the star slips from its center in the space-time continuum*. (See Figure 5.5) These works represent artifacts of a dripping action that I also recorded in high-speed digital video at 240 frames per

second. They were made on the same day, hours apart from each other in almost the same conditions, yet the forms that emerged are vastly different.



*Figure 5.6 (installation view) Lizzy Storm. and the star slips from its center in the space-time continuum 1 AKA Number 57. carbon black ink, rag paper, hardware, magnets. 2022. (photo credit: Travis Dodd)*



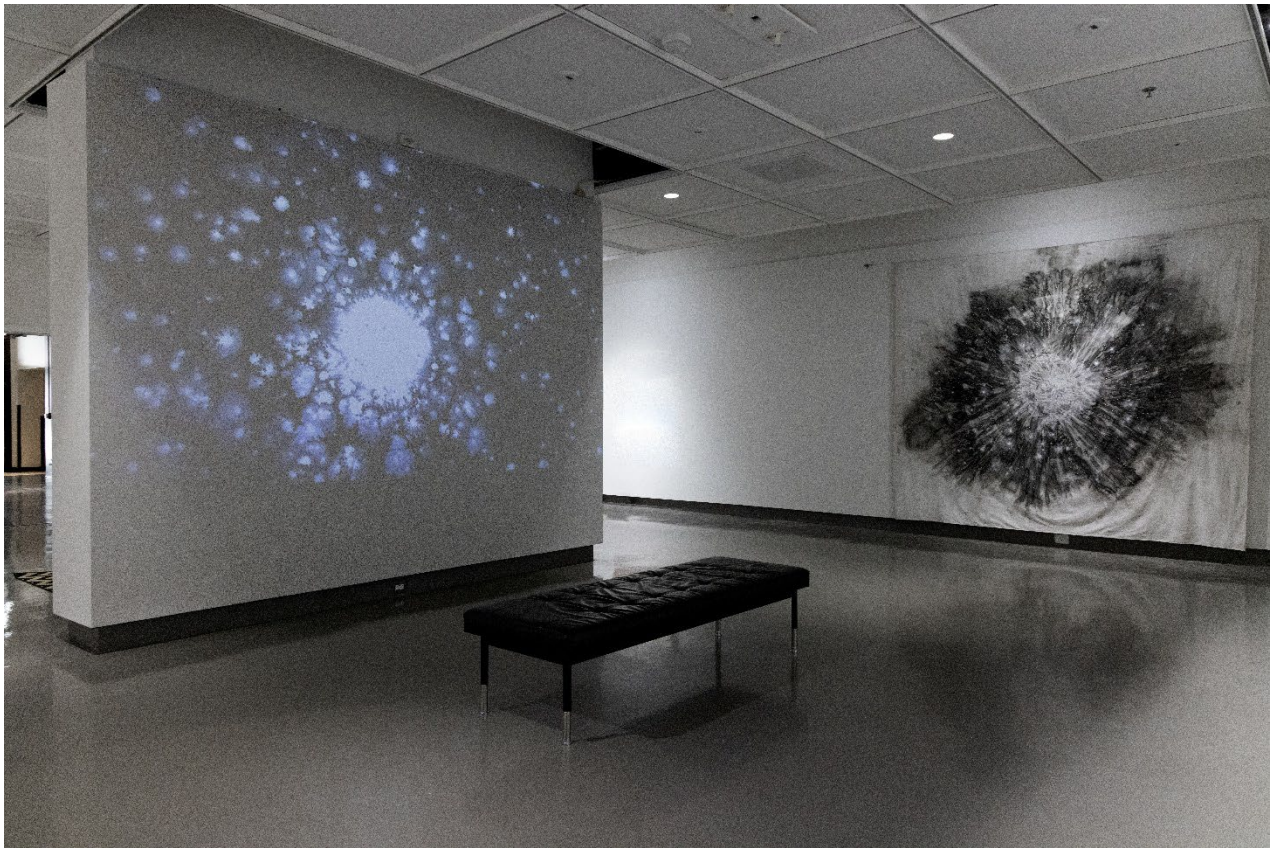


*Figure 5.7 (detail) Lizzy Storm. and the star slips from its center in the space-time continuum 1 AKA Number 58. carbon black ink, rag paper, hardware, magnets. 2022.*

On the wall adjacent to these pieces is a video installation titled “a wheel inside a wheel” showing a dynamic depiction of the ink dripping action recorded in the creation of the piece *and the star slips... Number 58*. The 2 minutes 41-second-long digital video has an ambient



soundtrack that I created in my first venture into sound design. The original audio and visual recording is at 240 frames per second, so it is about ten times slower than actual-speed. The ink dripping action is slightly slowed down or sped up in places to create a sense of shifting pace and rhythm in the action. The ambient soundtrack sounds like overlapping loops of droning and chiming sounds that correspond to the action in the video, signaling a rise and fall of action in volume and complexity. I pulled the sounds used in the soundtrack from ultra-high-resolution, surround sound field recordings I made of the sound of water in a creek. The original sound of the ink drip is also preserved, buried under layers of loops.



*Figure 5.8 (installation view) Lizzy Storm. a wheel inside a wheel. 2022. (photo credit: Travis Dodd)*



*Figure 5.9 (installation view) Lizzy Storm. a wheel inside a wheel. "cut open an atom and you will find the sun 2 AKA Number 6, carbon black ink, calcium carbonate pigment, titanium dioxide pigment, zinc white pigment, gouache, rock salt, cotton, hanging hardware. 108 x 128 inches. 2021-2022.*

In conversation with the video piece in both scale and composition is a keystone piece of the show, a larger-than-life size mixed media work on cloth titled *cut open an atom and you will find the sun 2 AKA Number 6*. I derived the title from an unknown translation of the Persian mystic poet Jalāl al-Dīn Muḥammad Rūmī. The process and evolution of this piece curiously echoes the sentiment of the title. I started it in early 2021 and this piece signaled the beginning of my exploration with water, ink, salt, and paper. I completed the base layer of ink on cotton in a process of lyrical movement and gesture that put me in the physical center of the expanse of cotton, spread horizontally on the studio floor. With my own body focused on my feet I spun the wet fabric into a spiraling mass, knowing the ink would travel in channels throughout the mass in

a way reminiscent of tie dye, leaving a trace of the physical shape that had resulted from my interaction with the materials. I added ink to the piece in an uncontrolled spiraling, dripping action, radiating out from the center again. I stepped out of the center of the piece and then walked around its circumference, spreading a layer of rock salt onto the inked areas, where I knew it would interact with the ink and water, drawing strange and unpredictable traces of trailing pools of ink. (see Figure 5.9) The combination of multiples modes of actions on materials left layers of overlapping trace information. This piece was so pivotal to my practice that I had to leave it up on the wall for months before finally putting it away, not knowing what exactly it needed to come to a state of completion.

I returned to the piece (cutting open the atom) and brought out my sketchbook. For the first time in months, I looked at the piece through new eyes, attempting to create a value sketch of the composition to check if that might help me see it from a new point of view. In the months intervening, I had created the smaller works in ink on paper and cloth that make up the rest of the show, I had created multiple video recordings of ink dripping action in slow motion and reviewed them for research and inspiration, and I had created the video *a wheel inside a wheel*, which exposed incredibly detailed, quickly transforming dynamic images of the ink interaction with water. I incorporated all of these new modes of sensing the ink-water interaction into *cut open an atom...* in subtle ways to reinforce the sense of movement, of change, of the contrast of order and disorder, of the organic, biomorphic fluid dynamics of ink, and of the radial composition that anchors the show as a whole. Shapes from a still image from the video became a layer of white ink accenting the central area of the composition. Noting the trailing movements of droplets in video, I highlighted points within the original ink painting to reinforce them as actants in the piece. (see Figure 5.10)





*Figure 5.10 (detail) Lizzy Storm. cut open an atom and you will find the sun 2 AKA Number 6. 2021-2022.*

One final piece I decided to include in the show, among all of the editing and weeding I had to do to choose which pieces would make it, was created in part in 2019. This piece was not totally resolved, but on reflection, it had influenced all of my subsequent work. *Cut open an atom and you will find the sun 1* is an assemblage of a charcoal drawing with a salt crystal,

contained in a glass cloche with a metal stand. It miniaturizes the explosive radiating and consuming metamorphosis of the ink splatter action into an even more abstracted black and white drawing that reads as a light source in a dark field. Placed in the center of the white light is a translucent white crystal of rock salt that I grew from solution in my studio over the course of many weeks. Underneath the glass cloche, the piece takes on an aura of mystery while alluding to the wonders of the *Wunderkammer*, the curiosities of an entomological exhibition, and an alchemical laboratory.



*Figure 5.11 (installation view) Lizzy Storm. cut open an atom and you will find the sun 1. charcoal, rag paper, salt crystal, glass cloche and metal stand. 2019-2022. (photo credit: Travis Dodd)*

## 6 CONCLUSION

In conclusion, my thesis work *a wheel inside a wheel* has led to the creation of one hundred and eight individual works in ink on paper and cloth. It has renewed my passion for exploring my medium in an expanded, extradisciplinary practice engaging with the tradition of Abstraction. Researching topics of vision, modern and postmodern visuality, and technology have helped me to place my practice in a critical, historical, and technical framework that leaves room for growth and development in both concept and technique.

The title *a wheel inside a wheel* came in a flash of inspiration while listening to music, as is common in my studio practice. The wheel represents a potent archetypal symbol, according to Jungian psychology. For me, it has come to represent the self. “A wheel inside a wheel,” then, comes to mean the self in the world, the self in relation to conceptions of reality. A changeable, dynamic, living being, inside another changeable, dynamic, living being. We are acting in the world and the world is acting on us. It is important to engage thoughtfully with ourselves, each other, and the world. We owe it to ourselves to be conscious of the ways we work, to observe patterns in ourselves and our relationship to the world. Late modernist conceptions of reality place the individual in a state of detached aloofness. Postmodern conceptions have drawn ideas about ourselves back into our material, sensory bodies. Contemporary conceptions of reality are multitudinous and wide-ranging, like the fractal branching edge of a great body spreading systematically and seeking release. Recognizing a restorative link to nature in patterns, my work seeks a balance echoing the equilibrium of entropy and negentropy, of chaotic decay and organized creation. My work taps into the present technological visions of nature and natural processes to speculate that the models we seek to reflect ourselves back to us, in the convoluted post-digital, post-modern age, are right beneath our nose. Art can show us how to look.

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