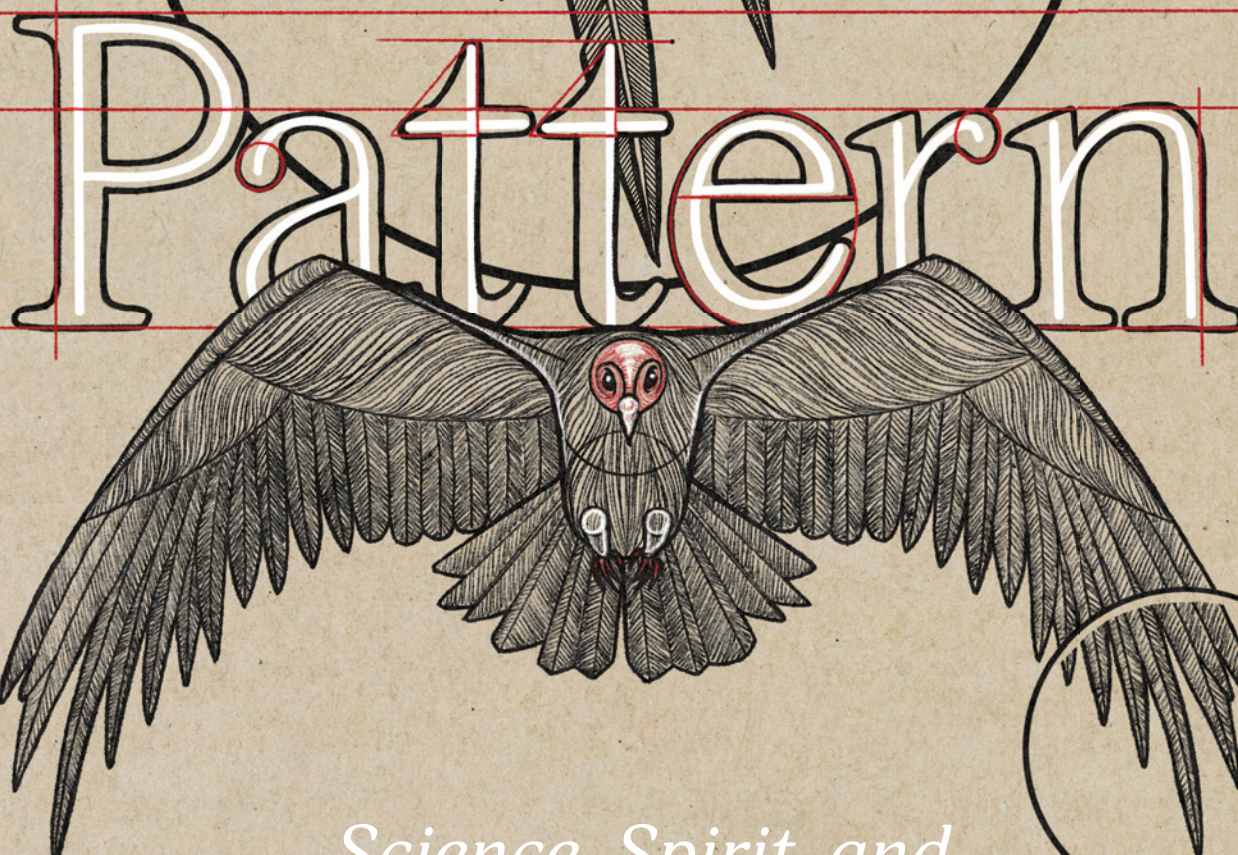
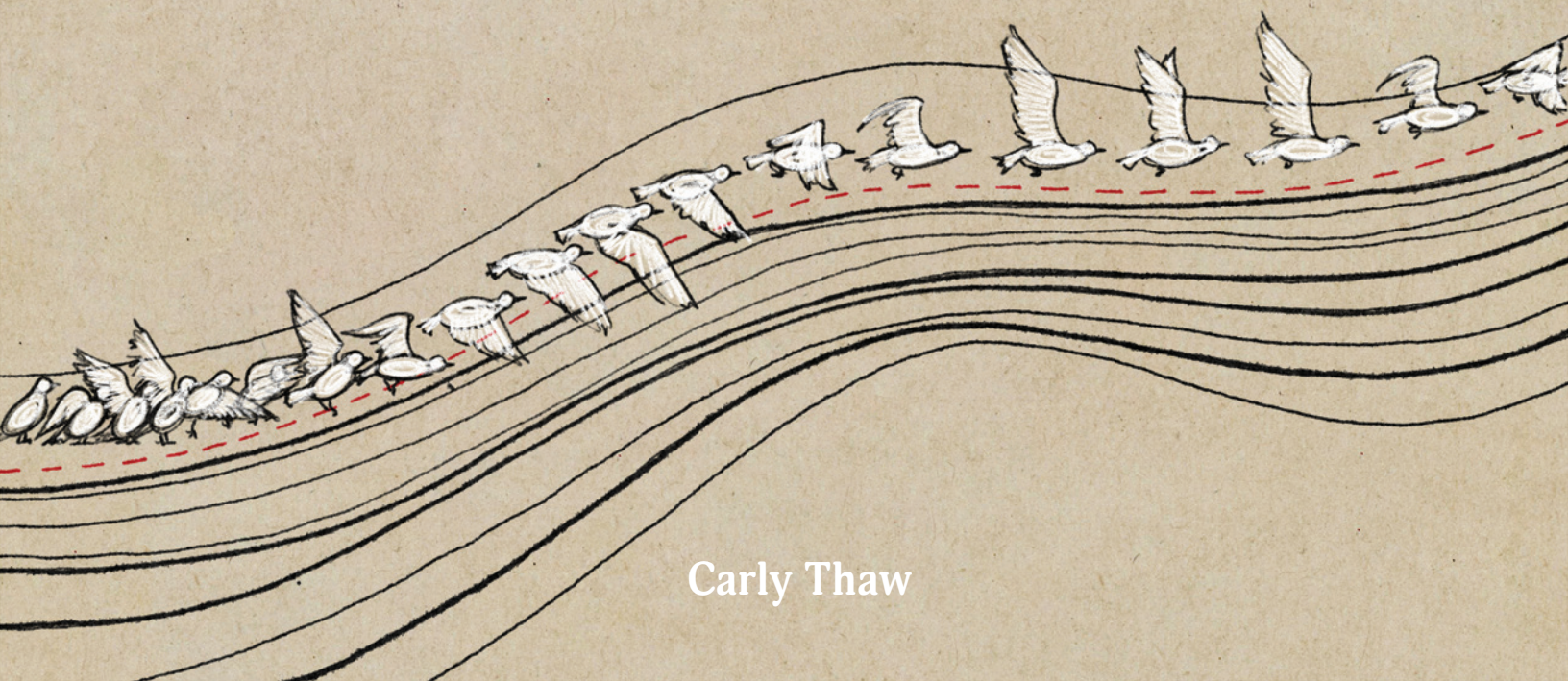




Pattern

*Science, Spirit, and
Earth's Poetic Force*



Carly Thaw

Pattern

Science, Spirit, and Earth's Poetic Force

BY
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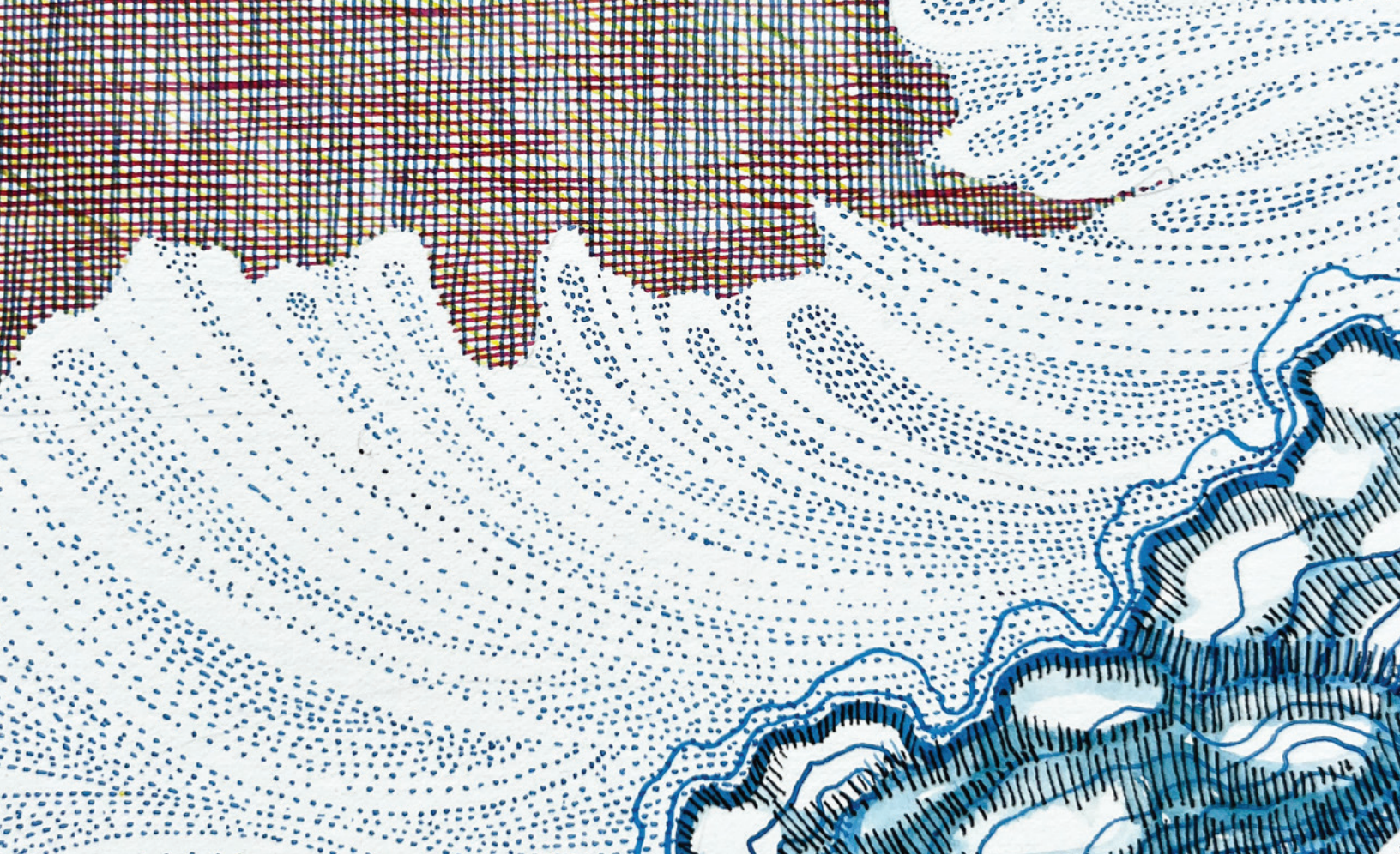


Fig. 1: detail of *Prairie Shore*, 2024

ABSTRACT

Pattern in nature takes many forms. Ecological systems overlap and create a web of interconnected organisms that blanket the Earth. Migration patterns intersect to connect geographically distant ecosystems. Mathematically predictable patterns determine physical structure of the geological forces that influence deep planetary rhythms. Chaotic, energetic patterns describe the behavior of the weather and the stars. Biochemical patterns influence the unique structure and aesthetic beauty of each organism we share this dynamic planet with — even humans.

This thesis is an exploration of these patterns of movement, structure, growth, and time in relation to my own human experience. It is also a real-time development of a drawing technique of meticulous pattern and color building to communicate both literal and metaphorical interpretations of interacting with ecological patterns. This document supports the work that has resulted from the iterative investigation of three species of birds — the American white pelican, turkey vulture, and European starling — and the patterns that make up both their bodies and ecological stories.

Pattern

Science, Spirit, and Earth's Poetic Force

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I am completing my work on the ancestral homelands of the Coast Salish Peoples, in particular the Lummi Nation and Nooksack Tribe, who have lived in and cared for the Salish Sea basin and North Cascades watershed from time immemorial. I take guidance from the actions of these specific indigenous communities when conducting my research and work on this land, also known as Bellingham, Washington, USA.

I would be remiss if I didn't also mention the land of my beginning. I was born among the ancient sprawl of the Appalachian Mountains.

These storied hills have been shaped and changed by millennia of human cultures that have sheltered among them.

There is archaeological evidence of human presence in Appalachia nearly 20,000 years ago, but that is far from the beginning of the story of the geology, which dates back 480 million years. The story of the Appalachian's and their humans follows prehistoric hunter gatherers, to a complex network of sophisticated agricultural and hunting cultures with overlapping tribal territories shaped by migration and warfare (Weidensaul, 166-171). Europeans, including my early ancestors, arrived in the 17th century, forcefully disrupting the already present and dynamic human cultural landscape. Though the origin of my ancestors is shrouded in violence, the intimacy I developed with the ecosystems in Appalachia in my early life directly informs how I address global ecology now.

Additionally, I would like to thank my supervisor Amory Abbott for helping me sort through my tangled web of ideas, and for providing valuable feedback and much needed encouragement along the way.

And finally, thank you Kevin, Mom, Dad, and Robbie for remaining my most ardent supporters through this process and through life.

Fig. 2: Appalachian mountain range, 2025, digital

INTRODUCTION

For as long as I can remember, drawing has been how I process the world around me. I honed my observation in order to disassemble and reassemble subjects on the page as a way to understand their uniqueness. As a child I was infatuated with drawing faces, hands, and skeletons in order to understand my own body. I would draw imagined scenarios with the math equations and chemical reactions from my homework in order to visualize what was happening. This method of taking things apart and drawing them back together as a means of understanding started to become progressively more challenging as the things I tried to understand became more complicated and abstract. I believe that art and visual communication play a vital role in making accessible and communicating abstract concepts such as history, humanity, geological time, and climate change. It is my intention to use my work as a tool to not only expand my own understanding of this planet we all share, but also to provide a window of access for others when words aren't quite enough.

My interest in nature started in my early childhood and has been linked to physical activity for just as long. I have always loved to connect with my body outside, and quickly developed admiration and respect for the inexplicable power of the living Earth. At first, it was fear; fear of my smallness and vulnerability in this big world. How inconsequential it would be for a black hole to swallow me up. How easy it would be for the ocean to sweep me away or for the avalanche to bury me without a trace. But then the fear turned to curiosity and reverence. How can I learn the rhythm of nature and work with it, with reciprocity?

I thought of myself as an explorer. I wanted to be immersed in the wilderness, living in the hollow trunk of a tree with nothing but the forest around me and my tamed wild falcon.¹ I thought of myself as curious, fearless and strong, one with the Earth. As I age and educate myself, I continue to adjust the framing of this childhood precociousness, but the core of it is still the same. I still long to deepen my connection to the Earth and sit confidently in my smallness. And I have never stopped believing in magic. The deeper I look, the deeper the intricacy of the energetic relationship between my body, perception, and planet becomes.

As I began to take my art practice more seriously, I first focused on honing my hyper-realist drawing and painting technique. During this period of technical development, I was particularly inspired by the observational discipline of scientific and natural history illustrators like Earnst Haeckel, Maria Sibylla Merian, and David Allen Sibley. I felt like I had something in common with them: artist/scientists, illustration as a method of research. What better way to honor the

1 I am referencing the children's adventure novel "My Side of the Mountain" by Jean George

extraordinary specificity of a mountain laurel or magpie? Simultaneously, I was pursuing an education in graphic design, where I was introduced to the power of visual communication and my own creative voice. I was inspired by the dynamic storytelling of contemporary playwrights like Annie Baker, graphic novels like Alison Bechdel's *Fun Home*, and symbolic fantasy animations like Hayao Miyazaki's *My Neighbor Totoro*. I developed my own point of view through illustrating political cartoons as well as writing and illustrating an autobiographical graphic novel. The technical illustration and design, painting, and storytelling strands of my practice have been developing parallel to each other. Over the course of this program, I have been working to braid them together. My work has now evolved into a multi-media exploration of composition and material to mimic the complex concoction of pattern in nature.

I'm working to develop creative visual narratives while remaining committed to the science behind my observations. Through my work, I explore the intersection of my own sensory experience of observing animate ecological networks, and the science, math, and entropy that describe the layering of pattern in nature. This thesis is an examination of complex overlapping natural phenomena, and the real-time development of a visual lexicon to translate my interpretation of Earth's language of animacy.

I have chosen 3 species of birds to use as lenses through which to focus my exploration. Birds not only possess unique and diverse biological attributes, they also interact with systems that span the globe, and have done so since they evolved during the Jurassic period nearly 200 million years ago. Inspired by the precise intricacy and entropy of the fabric of nature, I am developing a technique of meticulous pattern and color building through drawing, using my own visual vocabulary, crosshatching, and other illustration and printmaking techniques.

The following sections will introduce my approach to addressing the climate crisis in my work and my own philosophical perspective, discuss long distance running as an artistic methodology, the entropy of nature, and how I navigate the balance of order and chaos in my work. Finally, I will introduce some artistic influences and discuss in depth the work that has resulted from this period of research and technical development.



Fig. 3: detail of *Nurse Tree*, 2024

UNITY OF NATURE

If we want thought different from the present, then thought must veer toward art.

— Timothy Morton (16)

I would like to start with how my artistic practice fits in the context of climate change and environmental conservation. I am especially interested in how complex ecological networks function, and how seemingly isolated human actions can trigger changes that affect entire environments. The climate crisis of the Anthropocene² is immense and sparks both challenging and existential pondering of human nature. “Ecological awareness is weird:” explains Timothy Morton in his book *Dark Ecology*, “it has a twisted, loop form”; and because we are all part of this cycle too, “we live in a universe of finitude and fragility, a world in which objects are suffused with and surrounded by mysterious hermeneutical clouds of unknowing (6).” Pondering these loops — ecological systems, life cycles, time, migration patterns — in relation to my own

² The Anthropocene is our current geological epoch characterized by the impact of human industrialization and the unique waste it is depositing on Earth’s crust, like micro-plastics and nuclear waste. It also philosophically distinguishes this period of time where human impact has begun to profoundly alter conditions and processes on Earth - like climate change (Garner).

existence, informs the philosophical core of my practice. I find myself caught in many loops, trying to reconcile my own presence on this planet.

I am from an area where the extraction and distribution of fossil fuels – coal, oil, and natural gas – have been the identity of the community and primary economic driver for everything my family has, and everything I experienced growing up. I can acknowledge how much I benefit from the fruits of the fossil fuel industry, but at the same time I hold immense regret for what was done before my time, and grief for what extraction practices have wrought upon the ancient and enchanted crinkle of hills that I was also taught to revere and respect. There is an inherent paradox in this messaging; that the destruction of the hills, the very pride of our existence, is somehow necessary if not beneficial. This internal conflict has pushed me to further critique and evolve my own relationship to the Earth.

To explore this relationship, I need to first situate myself in time. The alchemy of Earth, the planetary recipe of time, heat, and pressure follows a timescale that is so incredibly disconnected from the human experience that we have the audacity to call the resulting matter “fossil fuel”. It’s as if the hundreds of millions of years of biological decomposition was specifically intended for our consumption. In her book *Vibrant Matter*, Jane Bennett highlights the significance of this alchemy and its evolutionary timescale, where “mineral material appears as the mover and shaker, the active power, and the human beings, with their much-lauded capacity for self-directed action, appear as it’s product (26).” In other words, when compared to the immensity of tectonic movement, we humans are merely along for a very short ride. But here we are somehow, with overwhelming evidence that humans are in fact altering what would be the natural rhythms of these epoch timelines, hence “*Anthropocene* (Morton, 11).”

In the context of the Anthropocene, human history and geological time are bound together in a “strange loop”. As Morton puts it: “Every time I start my car or steam engine I don’t mean to harm Earth, let alone cause the Sixth Mass Extinction Event in the four-and-a-half billion-year history of life on this planet (21).” It is challenging to all at once conceptualize oneself as a piece of the hyper-object of “humanity”, an individual with an identity, responsibilities and ethical duties, and as an animal on Earth: *Homo sapiens*. The conceptual capacity for understanding geological and ecological time in relation to our own existence can become existential and scary to think about. I will further discuss my own interpretations of the colossal scale of the biosphere and how it relates to my work in a later section.

Let’s return to this current moment and the ecology of day to day. Much of the lasting effects of the Anthropocene are hard to conceptualize because of the enormity of geological time,

but it starts to become more clear if we think about it in relation to human history, as opposed to geological history. During the 17th century, there was a major human migration event which resulted in the European settlement of North and South America. I would like to acknowledge the genocide and pathological extermination of Indigenous people that resulted from this and prior migration events, but for the purposes of this thesis, I will not be discussing the politics of colonial westward expansion in the United States. I would however, like to discuss the origins of western environmental theory that emerged as a result of European documentation of the Americas.

The theories that influenced American environmentalists of the mid 20th century can be traced back to the “unity of nature” theory, coined by Dutch scientist and explorer, Alexander Von Humboldt, in the mid 17th century. Humboldt’s theory, “that all aspects of the planet, from the outer atmosphere to the bottom of the oceans, were interconnected” was revolutionary and radical thinking for the time (Harvey). Reference to Humboldt’s unity of nature theory continues to wax and wane in environmentalist conversation even today. For example, when Rachel Carson wrote her 1962 book *Silent Spring*, she invoked the same logic Humboldt postulated regarding human-caused climate change. His theory is once again rising to the surface and being re-associated with those, perhaps still radical ideas of global ecological interconnectedness with the emergence of climate science in the Anthropocene (Harvey).

In addition to influencing the development of environmental policy, Humboldt’s research and theories were the genesis of the American “wilderness aesthetic” and fascination with the sublime (Harvey). His unity of nature theory along with his harrowing tales of exploration inspired western artists and writers like Thomas Moran and John Muir to explore and tell their own tales of the untamed wild.

John Muir spent four months of 1869 in the Yosemite Valley experiencing his profound wilderness encounter which would become *My First Summer in the Sierra*. Muir expounds: “When we try to pick out anything by itself, we find it hitched to everything in the universe (157).” Thomas Moran’s magnificently luminous “The Grand Canyon of the Yellowstone” was painted just 3 years later. This period of “exploration” painted the wilderness as untouched, untamed, and profoundly magnificent; something to be admired and collected.

There is trouble with this concept of the wilderness being some aeonian thing unaffected by human behavior. In his essay *The Trouble with Wilderness*, William Cronon points out that the avoidance of history, the failure to think through the monstrously gigantic implications of geological time in relation to our own behavior, creates the illusion that we can somehow

redeem ourselves from the catastrophe that is the Anthropocene (Cronon). He explains that “far from being the one place on Earth that stands apart from humanity, [wilderness] is quite profoundly a human creation — indeed, the creation of very particular human cultures at very particular moments in human history (Cronon).”



Fig. 4: Thomas Moran, *The Grand Canyon of the Yellowstone*, 1872, oil on canvas, 96 1/2" x 168 3/8"

There is a reason nature writers and artists like Muir, Moran, and their many contemporaries inspire naturalists and artists to this day. The wild and powerful, absolute hugeness of Earth that they have identified is relatable; it's real! The visceral sensory overload from these global systems at work sparks inexplicable emotion one could easily compare to a religious experience. It is no wonder Muir and Moran perpetuated the myth — as Cronon puts it: “the mountain as a cathedral (Cronon).” But with the knowledge of the present, it is clear that we are not innocent bystanders witnessing those things untouched by humans. We are enmeshed in this strange loop, not the center. The mountain is not a cathedral, it is an interconnected and delicate mega-structure of ancient animate systems. It is alive.

This idea of a living Earth with its glacial tectonics and seasonal rhythms is the basis for my own interactions with nature. In the next section I will further illustrate this concept and how it ties in to my artwork, as well as discuss how I use long-distance running as an artistic methodology, and integrate myself — a human — into the conversation.

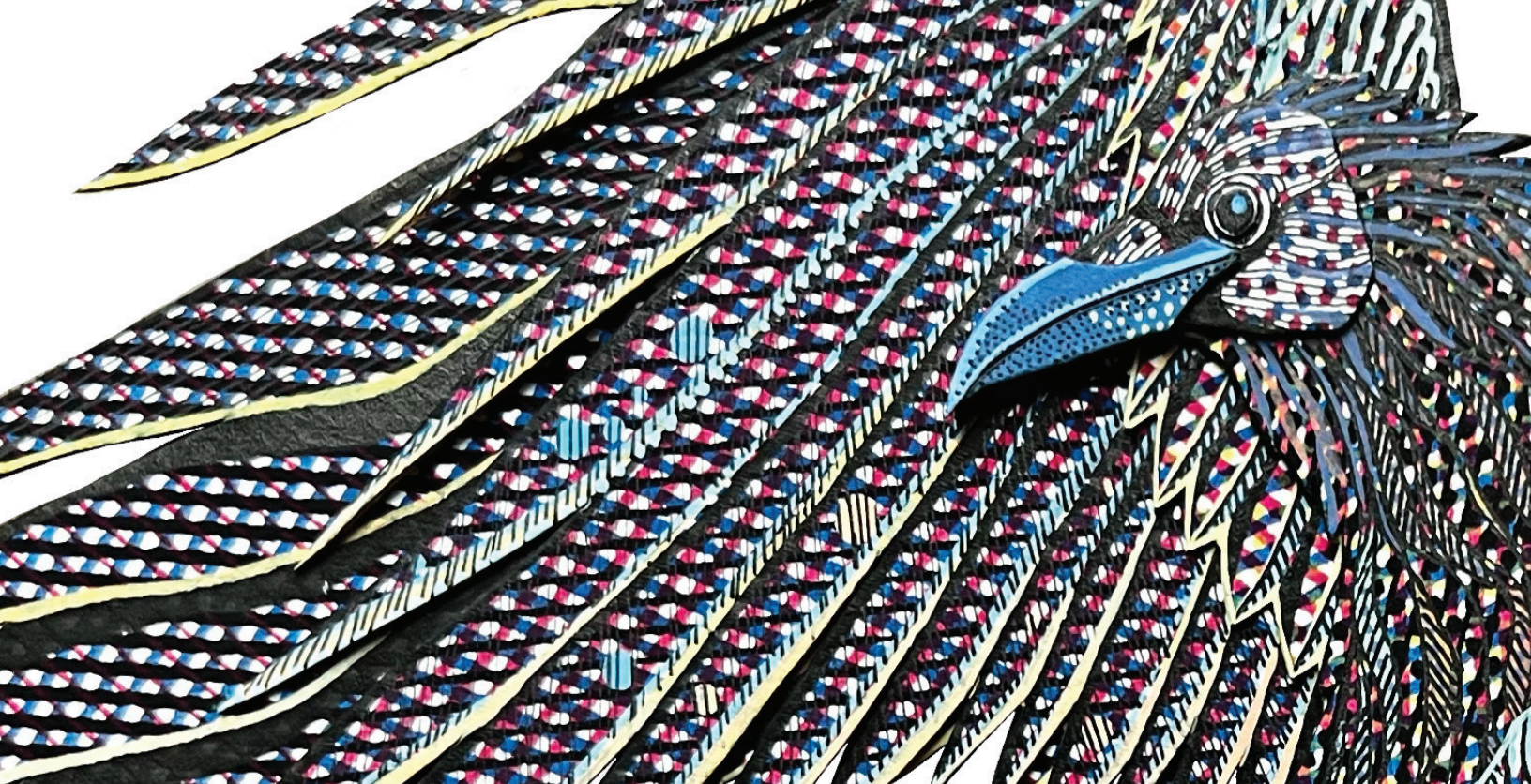


Fig. 5: detail of *Raven*, 2024

ANIMACY OF EARTH AND BODY

If we frame our view of Earth as a network of symbiotic animate cycles working at a geological scale, we can then infer the presence of some large, deeper intelligence. David Abram articulates this sense of Earth's deep intelligence in his essay *Creaturely Migrations on a Breathing Planet*. He poetically discusses the phenomenon of salmon evolution and migration, comparing the ebb and flow of glaciers and forests over time to the pulsing of a human heart. "This circulation, this systole and diastole" Abram elucidates, "is one of the surest signs that this Earth is alive (Abram)." This isn't new information to a lot of people. Indigenous cultures from around the world share this perspective of a vast global circulatory system, this breath of Earth. "The animacy of the world is something we already know" explains Indigenous scientist and author Robin Wall Kimmerer, "but the language of animacy teeters on extinction — not just for Native peoples, but for everyone (57)." If we ignore the languages that describe this mythic presence of Earth, it is much harder to confront our tendency towards anthropocentric perspectives. Over the course of this program, my artistic process has expanded to incorporate a new visual language that can articulate my own understanding of connecting with this non-human animacy.

In my practice, I am looking for the day-to-day "magic" like the unexpected iridescence on a raven's plumage as it catches the light, or the glittering, energetic leaflets along a forest trail in the spring. A method I use for connecting to the animacy of my own animal body and human



mind is long distance trail running. For me running is a form of meditation, a psycho-spiritual experience that connects the body, mind and Earth in a rhythmic way.

The biological explanation for this experience of animistic and rhythmic connection is called “runners high,” caused by the release of endocannabinoids in the brain (McGonigal). It is theorized that the neurofeedback we experience while running long distances is an evolutionarily developed trait to aid our ancient relatives in transversing the plains in pursuit of wild game. Humans have a unique proclivity for endurance, bi-pedal travel. It’s why our gluteal muscles are by far the largest of all other primates (Heinrich, 165). Running connects me to my “humanness” in relation to the ecosystem I am engaging with. The psychological experience of running is also a felt source of my creativity from which I draw to develop ideas for my work.

As modern humans, we no longer need to be chemically enhanced to chase down our prey, but the ancient remnants of this instinct create new opportunities to take advantage of one’s own biochemistry to transcend “reality”. I particularly value opportunities to run somewhere very remote for a very long time. These longer runs are vital parts of my research because when the activity is longer, I have more opportunity to notice longer-form patterns like topography and weather.

My initial communication with my surroundings is in the interpretation of color. For example, I keep a speed-painting journal of rough color sketches where I make an entry every time I go for a run. This ongoing project is called *Running Colors*. I specifically use watercolor in the context of these sketches because it has its own energy that I like to play off of. Working in this way helps me maintain a connection to the ecological stories I explore through my work. I am looking to capture the atmosphere: a lasting visceral impression of the experience that I then reconnect with when creating the finished works.

Currently, these speed paintings serve only a piece of my process. As I mentioned above, I am aiming to capture the energetic experience of being in these places. I think of it like capturing the *big picture (in a little picture)*. There is a common idiom concerning dysfunctional hyper-focus on details, where one “can’t see the forest for the trees.” In other words, someone is too preoccupied with individual details (Trees)

Fig. 6: *Running Colors*, 2023 — present, Select pages, watercolor on hand bound paper, 2"x3"

that they fail to notice the full picture (Forest). These speed paintings help me to always remember to see the Forest and it's unique essence with *those* trees, in *that* weather, at *that* time of year.

Imagine a seasonally changing hardwood forest. Maple and oak trees turn from lush, succulent summer green to flaming red in the fall to a gorgeous monochromatic, leafless winter, back around to an explosion of fragrant spring blooms. Imagine now coastal conifers: year-round greens and blues dripping with moss and a seasonal cycle of undergrowth. Even from a distance, or a quick run by, these forests exude their own unique personalities, all because of the specific trees. You can't have one without the other.

In studio, I bring the energetic memory I captured in *Running Colors*, and apply it to the development of the concepts and compositions of my studio work. With the time and stillness

Fig. 7: *Running Colors*, 2023 — present, Select pages, watercolor on hand bound paper, 2"x3"



Fig. 8: motion study for *Runner*, 2023, digital

of the studio, I am able to research the smaller details of the Trees while maintaining a link to the presence of the unique Forest. Specificity and fine details are fundamental parts of my work. One small detail has the capacity to cause a cascading transformation of an entire ecology. I will discuss my methodology for emphasizing this scientific specificity in my work in the next section.

Let's now return to the relationship between physical endurance and my work. There is a tedium, an enduring rhythm to distance running that reminds me of the ecological loops I mentioned in the previous section. When I move into the studio, I exercise endurance through sustained observation and focus. I use my reference photos and *Running Colors* as inspiration for the textures and patterns I create. Over the course of this program, I have experimented with a wide variety of media and techniques in order to achieve the energetic complexity I aim to capture in my work. The first project I created during this program was *Runner*. I used this as an opportunity to push myself conceptually and materially.³

Runner was also my first attempt at translating the sensory and psychological experience of running through line drawing. Following this vulnerable experience of giving my intuition full priority, I decided to use the



Fig. 9: *Runner*, 2023, Eco-print on cotton, water soluble ink, pen, print on canvas, 3' x 6'

³ For this project, I extensively researched techniques of natural pigment extraction. I created ecoprints from foraged leaves and made ink from foraged black walnuts. Ultimately, I determined that the time cost of learning the chemistry to achieve the richness and diversity of color I was hoping for was not feasible during this program, but this is something I intend to explore and integrate into my studio practice with more time.

second term as an exploration of technique, as a way of finding the visual vocabulary I needed to expand upon the concepts I explored in *Running Colors*. Ultimately, I developed a method of drawing with watercolor using a glass quill. This was inspired by my earlier research with natural pigments as well as my experience with digital drawing using the CMYK color palette and halftone color theory. The practice of this evolving technique has led me to explore more with color mixing, tools, and substrates.

A breakthrough moment for me was when I made *Raven* during the first year summer residency. Since the core of my practice is through the lens of ecological time, I am trying to touch upon the full spectrum of detail in nature while maintaining a very simple color pallet and relying on layering to build the colors and textural complexity. The work-shopping of creating the bird templates expanded my concept of “pattern” as a means of assembly, and let me explore more micro levels of detail. By pairing the birds with a larger scale landscape, I am trying to emphasize



Fig. 10: *Raven*, 2024, silkscreen and gouache on cut paper, 10" x 16" x 1/4"

the infinite scale of detail in nature.

This endless scale can be observed in virtually every realm of science: chemistry, biology, geology, astronomy... Regardless of discipline, it is just layers and layers of repeating patterns. While the complexity is mesmerizing, the incredible simplicity that emerges when these layers are isolated is just as intriguing. In the next section I will focus on my interpretation of pattern in nature, how I use it as inspiration in my work, and it's connection to both science and spirituality.



Left

Fig. 11: *Nurse Tree*, 2024,
watercolor and ink on
paper, 11" x 30"

Right

Fig. 12: *Big Sky*, 2024,
watercolor, gouache, and
ink on paper,
11" x 30"



Fig. 13: detail of *Prairie Shore*, 2024

PATTERN AND POETIC FORCE

Everything we encounter in this universe follows some sort of pattern or rhythm, even chaos is a pattern (Ball, 108). Along with our proclivity for endurance foot travel, humans are also evolutionarily predisposed to identifying pattern and order in our surroundings. In his essay *Entropy and Art*, Rudolf Arnheim explains that this observance of order is most often “apprehended first of all by the senses. The observer perceives an organized structure in the shapes and colors or sounds facing [them] (3).” In my work, this is the role of *Running Colors* and reference photography — to notice and record my first perception of the structure of an environment through color. This first perception is only scratching the surface though. With further observation, layers and layers of organized patterns begin to reveal themselves. Noticing these patterns is what helps us make sense of the world and sometimes even survive. The seeking of similarity, predictability, and regularity in the diversity around us is an instinct we humans share with many other living things, but it is our insistence on figuring out *why these things occur* that forms the guiding principle behind the emergence of science (Ball, 6).

There are many examples of repeating pattern systems that show up again and again in the natural world, often in a variety of places that seem to have nothing to do with one another (6-10). Imagine branches of a tree and the branches of human lungs. Now imagine a spiraled fern frond or snail shell, a hurricane or a galaxy. “Perceivable order tends to be manifested and



Fig. 14: detail of *Prairie Shore*, 2024



Fig. 15: detail of *Big Sky*, 2024

understood as a reflection of an underlying order,” describes Arnheim, “whether physical, social, or cognitive (3).” We can instinctively trust that there is an underlying order without necessarily understanding how or why. My work is rooted in not only working with and understanding the structure and appearance of patterns in nature, but also in creating new metaphors to express our relationship to nature and ecological time. To illustrate this concept even more, I will highlight two specific sets of patterns found in nature: spots and stripes.

Spots and stripes are conspicuous examples of pattern in nature that show up in many places. I represent these two patterns in my work more than any others due to the simplicity of creating the marks and the variety I can achieve by layering them. This ostentatious display of contrast can be found on mammal pelts and amphibian skins, insect bodies and bird feathers, flower petals and mushroom caps. The dazzling display of aesthetic beauty, it turns out, can be calculated with what Ball calls “clever chemistry (251).”

British mathematician Alan Turing was the first to offer a theory for how animal patterns are formed. He was investigating the entropic moment when the uniform soup of embryonic

chemicals spontaneously orders itself into a patchy structure of separate specific ingredients. Without getting into the weeds of biochemistry, the key to Turing's discovery was "feedback." In this case it was feedback of auto-catalyst chemical reactions which he referred to as an "activator inhibitor process (Ball, 251)". This idea of feedback is part of the equation of my own artistic process as well as in my choice of media specifically. Using watercolor and maintaining a limited color pallet allows me to respond to the feedback from the independent behavior of water and pigment to build dynamic textures and colors using simple ingredients.

Returning to Turing's research, this theory of an activator inhibitor process being responsible for animal patterns may also explain a variety of other biological patterns like the spacing of hair follicles or barbs on a feather and even the formation of fingers and toes. Turing's theory seems likely to be "one of nature's universal principles for converting bland uniformity to interesting... patchiness. It's not too fanciful to say that it is a means by which nature exercises her creativity (254)." Ball goes on to explain that this is a classic example of self-organization which relates back to what Arnheim discusses. "Man's striving for order, of which art is but one manifestation, derives from a similar universal tendency throughout the organic world; ... the striving towards the state of simplest structure in physical systems (40)." Considering Arnheim, Ball, and Occam's razor,⁴ it is clear that simplicity does not mean uniformity. In fact, it seems that this universal strive for order actually provides the opportunity for both entropy and synchronicity.

This universal concept is also used in print. In this case, an image is separated into the four source colors, cyan, magenta, yellow, and black (CMYK). Each color is isolated on individual plates and then printed one on top of the other, allowing the transparent colors to overlap and achieve a full color image (Mine). The ink is always applied at full saturation, so in order to simulate shades and gradients, each color layer is split into mathematically precise dots and stripes, much like the clever chemistry of biological spots and stripes. This is called "half-tone" because the tone of a color is perceived by optically mixing the full-saturation color plus

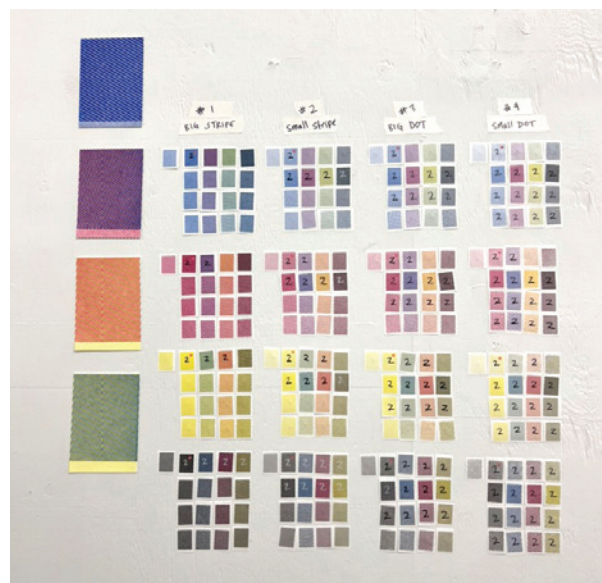


Fig. 16: CMYK swatches, 2024, silk screen and toner print

⁴ Occam's Razor is a philosophical problem solving principle in which the simplest explanation is usually the correct one (Cicero).

the empty space around it (Thrive). The most interesting thing to me about half-tone, however, is the rate of error. Historically, in digitally printed materials, because each color was printed and layered individually, the registration was often unintentionally misaligned which created unexpected color shifts and resulted in a set of unique reproductions, all from the same source data (Dots). This can be directly compared to the entropic synchronicities in nature.

Every layer of nature follows some sort of pattern. From the cosmos to a single grain of sand, so many secrets of the universe can be explained with mathematical equations like Turing's. It is like an endless zoom lens that reveals new patterns the deeper you look. It is through this concept of identifying each layer of deep, scientific precision that I draw inspiration for the deliberate layering of my drawings. "Nature uses only the longest threads to weave her patterns," muses theoretical physicist Richard Feynman, "so each small piece of her fabric reveals the organization of the entire tapestry (Ball, 10)." The repeat of patterns at the micro and macro level of scientific observation supports the unity of nature theory as well. Everything is connected.

If we focus too much on only those things which can be scientifically calculated or reproduced however, we miss the magic of Earth's animacy. This experience of the natural world as an elaborate patterning of animate life is what I seek to capture in my work; therefore, I intentionally do not interpret patterns as simple, material occurrences but instead use them to articulate metaphors and sensory experiences. As philosopher Carl Jung describes, this strictly quantitative view of the world naturally rules out any unique or rare events. It is a limiting view of nature (6-7).

There is a balance at play: a desire to have explained the phenomena around us, and knowing when to let go of the expectation of order. Lyanda Lynn Haupt echoes in her book the significance of this balance of data and spirit when interacting with the land.

It's wondrous mathematical synchronicities, the specifics of it's chemical analyses, the complexity of it's physics are beyond both the practical and intuitive knowledge of most lay naturalists (or mystics) no matter how seasoned. When mingled with the wildness of the natural world and the creativity of the human mind, good science reveals its center, its story, its deeper teaching. The science has its own poetic force (*Rooted*, ch. 1).

Robin Wall Kimmerer echoes this sentiment in *Braiding Sweetgrass*. "It is human perception that makes the world a gift (30)." My primary focus when creating an art piece is navigating the tension between my own experience of nature's rhythmic interconnectivity as glimpsed through running, and understanding the scientific reality of the experience: my human interpretation of science's poetic force.

ARTISTIC INFLUENCES

My earliest introduction to art was through the work of Barrie Kaufman and Charly Jupiter Hamilton, both from my childhood hometown of Charleston, West Virginia. Kaufman is a printmaker, painter, ceramic and glass sculptor, who addresses the environmental problems facing Appalachia and its context in the greater environmental conversation. Her influence as an early artistic mentor of mine is important to my current exploration of technique and material in my work.

For example, the main focus in her work is highlighting and juxtaposing the beauty of nature and the human destruction of the environment. She works freely across media both flat and sculptural, while maintaining the chaotic layering of symbols and forms to mirror the abuse of the environment

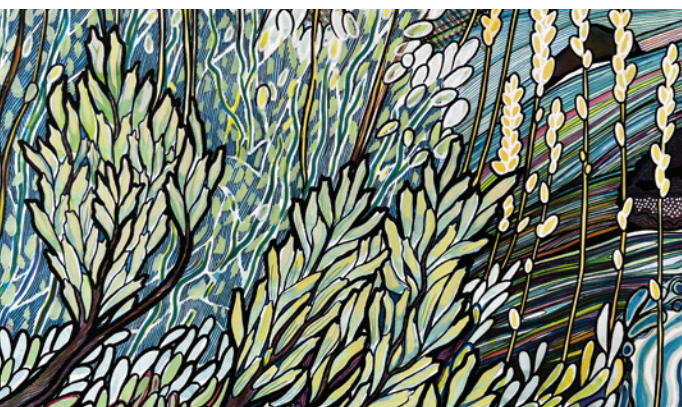
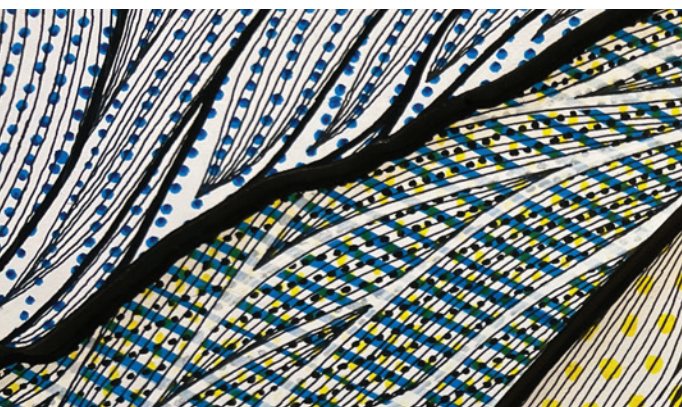
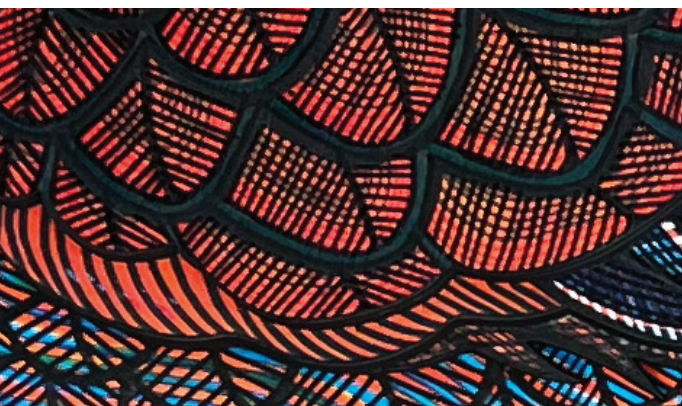
and comment on current events (Kaufman). In contrast to Kaufman's collage-like compositions and emphasis on the conflict of human destruction of the environment, I maintain a more representational structure to my compositions. I focus more on the intricacy and precision of nature and develop narratives using specific ecological systems as reference.

The late Charly Hamilton⁵ has a similarly chaotic, maximalist approach to his work with heavy emphasis on satirical humor and conflicting colors. His bio says it best: "His art seduces the viewers, encouraging them to search past the work's surface, beyond the intricacy of the design, to reveal images within images: animated figures, crooked visions of the world, snakes, fish and his trademark, dogs and demons. It's a teeming spectacle. It's the Big Idea, that goes straight



Fig. 17: Barrie Kaufman, *It's a West Virginia Story*, 2018, Acrylic, Ink and Crayon, 40" x 70", 2018

5 Please see Hamilton's website www.jupiter33.com for images of his work.



to the nervous system (Hamilton).” I am inspired by Hamilton’s use of the vibration of intricate details and primary colors to communicate a rich core of storytelling. In contrast to Hamilton’s exclusive use of opaque acrylic paint and separation of shapes, I employ layering and use of transparent media to enrich my own color and texture diversity.

Over the course of this program, I have been developing a multimedia drawing technique to better understand color theory and also build optical effects into my pieces so that they have the animated depth I observe in nature. I am inspired by the color and texture building techniques of the Post-Impressionists like Vincent Van Gogh and the color theory employed in the pointillism of Georges Seurat, as well as the detailed etchings of Albrecht Dürer. I also find inspiration in the Op Art movement of the 1960’s and artists like Bridget Riley. The illusionist paintings of Op Art “used a framework of purely geometric forms as the basis for its effects and also drew on colour theory and the physiology and psychology of perception (Tate).” While my work is not centered on human optical perception like with the Op Art movement, the sensory impact of color and pattern vibration plays a significant role in how I intend my work to be observed.

Studying other art movements like surrealism and the drug-induced visionary designs of psychedelic

Top to Bottom

Fig. 18: detail of *In Numbers*, 2025

Fig. 19: detail of *Buzzard*, 2025

Fig. 20: detail of *Big Bill eats a fish*, 2024

Fig. 21: detail of *Overflow*, 2025

Fig. 22: detail of *Prairie Shore*, 2024

art helped me to find the vocabulary to articulate how my own subconscious and biochemistry plays a role in my interpretation of the world around me. Surrealists were interested in the impossible logic of dreams. They “believed insanity was the breaking of the chains of logic, and they represented this idea in their art by creating imagery that was impossible in reality (History).” Instead of breaking the chains of logic per se, I am interested in exploring the dissonant space where scientific reality and personal perception interact. Psychedelic artists like Isaac Abrams used substances like psilocyben mushrooms and LSD to chemically alter perception. “Psychedelic experience emphasizes the unity of things, the infinite dance. You are the wave, but you are also the ocean (Oroc, ch. 20).” While at this stage of my life and practice I am not using psychedelic substances to enhance my perception of the unity of nature, I am using distance running to achieve a very similar thing. I have also shifted from viewing “reality” as an objective truth I can discover, to considering it an ever-evolving and primarily subconscious experience informed by how I (my specific brain and consciousness) interpret the information around me.

Fig. 23: detail of *Runner*, 2023





Fig. 24: preliminary template illustrations for *Big Bill eats a fish, Buzzard, and Mimics*, digital, 2023

BIRDS THREE

In order to communicate my interpretation of the endless scale and unity of nature, for this thesis I have created three pairs of works. Each pair explores a specific bird species and its ecosystem from my own perspective considering the greater context of the Anthropocene. I focused my interpretation on how each bird interacts with large-scale systems in nature such as seasonal cycles, weather, geological time, and diverse ecological networks. I have treated this body of work as an iterative series in order to explore, with nuance, the visual language I have been developing. I will discuss each pair in the order that they were created because I feel that the chronology is relevant to the honing of my techniques and conceptual development over time.

Prairie Shore and *Big Bill eats a fish* comprise the first pair of works which engage the concepts of migration and connection using the American white pelican as my muse. I studied the behavior of the individual and its continental ecosystem. I explored these concepts through the specific behavior of the American white pelican as well as my own personal “migration” story.

In my early 20s I spent two months in my car researching and illustrating the diversity of landscape and human culture in the United States. I prioritized paths through more rural areas



so I could catch a glimpse of less-disturbed ecosystems, taking in the micro-transitions of soil and vegetation as I made my way across biomes. After this experience, I moved from West Virginia to Montana with the intention of immersing myself in, and finding home in a new environment. I curiously introduced myself to my new surroundings. I learned about the practices of the ancestral people, the names of the wildflowers, and noticed the similarities and differences to Appalachia, the only other environment I had come to know so intimately.

I chose the American white pelican as my first subject of investigation because of my own introduction to this bird during my time in Montana. It was during my first summer there, having just experienced my first bone-chilling winter that extended into May. The air was thick with the hot haze of dry grass and distant wildfires. I had become familiar with the chatty magpies that begged for food outside my window and the ground squirrels that poked up from their burrows beneath the sharp and exposed alpine prairies. One day, I noticed a flock of shimmering pure-white birds flapping overhead. At first I thought they were snow geese, but the posture was different. I then watched them land, large and gracefully in a pond like sea planes, and it became clear that these were not geese, they were pelicans.

I experienced such a rush of curiosity seeing these birds I thought only lived near oceans. I came to learn that the northern prairies of central North America are the home to which they return each summer to nest (Sibley, 90). For weeks I watched the pelicans float in the ponds and rivers, collecting fish by dragging their stretchy beaks across the water's surface. As the wildflowers became crisp and the bears became fat in preparation for hibernation, the pelicans also began their seasonal transition and ushered the newest members of their flock hundreds of miles away to the temperate, salty, southern shore of their winter home. This experience with the pelicans is a reference point for me to illustrate the necessity of preserving far-away ecological networks in order to maintain the health of ones own backyard ecosystem.

Fig. 25: detail of *Prairie Shore*, 2024

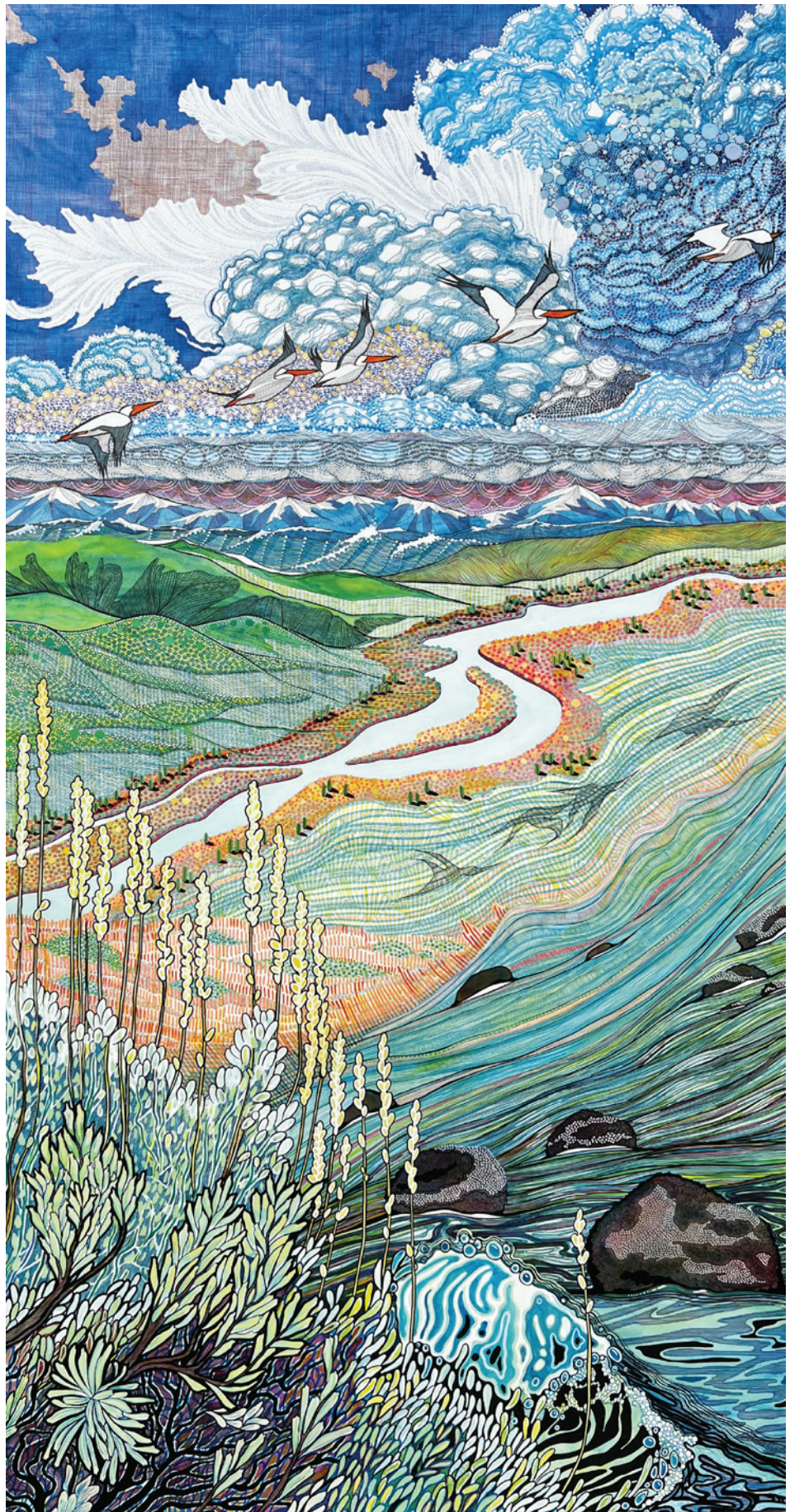


Fig. 26: *Prairie Shore*, 2024,
watercolor, gouache, and ink
on paper, 30" x 55"

Using the American white pelican as the subject matter for my first works also served as an exploration of my own experience of migration, belonging, and the development of intimate relationships to specific ecologies. I thought a lot about the Skywoman story Robin Wall Kimmerer passes along in *Braiding Sweetgrass* (7-9). In this Indigenous creation story, the original Skywoman fell from her celestial home to the earth and provided Original Instructions of how to conduct ourselves as visitors, as immigrants on Earth.⁶

It was through her actions of reciprocity, the give and take with the land, that the original immigrant [Skywoman] became Indigenous. For all of us, becoming Indigenous to a place means living as if your children's future mattered, to take care of the land as if our lives, both material and spiritual depend on it (9).

Prairie Shore is my imagined environment of the American white pelican which considers both my own observations and the full migration of the bird. It is a blend of the two primary biomes they travel between: ocean and prairie. I used layering of marks to build atmospheres by overlapping patterns of contrasting colors on a two-dimensional surface. For this piece, I used watercolor, acrylic ink, gouache, and various tools to achieve a dynamic interaction of transparency and opacity as well as vibration and color mixing. My intention with this technique is to emphasize the immensity of the ecological system the American white pelican is part of, as well as invoke a sensory response.

I maintained a limited palette of the 4 process colors (CMYK) throughout this series. While I limited the colors as a way of acknowledging the underlying consistency of pattern and science in nature, I did not limit the tools or media I used. The primary technique I employed however, was using a glass quill and liquid watercolor I made using diluted watercolor paint and gum arabic powder until I achieved my desired consistency and intensity. This allowed me to draw with watercolor which opened the door for experimenting with illustration techniques and creating new textures and optical sensations. To achieve this, I experimented with layering other transparent (acrylic ink, watercolor washes) and opaque (gouache, black ink) elements as well as over-painting with clear water.

Big Bill eats a fish is an investigation of the individual: a near life-size representation of this pelican species *Pelecanus erythrorhynchos*⁷, and the incredible intricacy of this unique being that is not only a relic of prehistory, but is the continent's largest

⁶ According to Kimmerer, this story is shared by the original peoples throughout the Great Lakes region of the United States. The Original Instructions are not "rules" but a guide that is intended to be interpreted differently by each of us and for every era. (7)

⁷ The politics surrounding an international scientific nomenclature standard, the navigation of cultural influences, and the necessity of unambiguous worldwide scientific communication is a complex conversation. For the purpose of clarity in this thesis, I will refer to the three bird species by their recognized binomial nomenclature and the regional common names I am familiar with.

Fig. 27: *Big Bill eats a fish*, 2024, gesso, acrylic ink, and plywood, 30" x 30" x 1 1/2"



migratory bird⁸. I examined the texture of each feather type and the veining structure of the rubbery scooped bill. I compared these patterns to other similar patterns that can be observed elsewhere in nature like maple leaves and dragonfly wings. In addition to parsing out the aesthetic patterns, observing the bird itself allowed me to understand its anatomical structure and movement patterns.

To interpret this element, I developed another pattern, almost like a sewing pattern or mechanical blueprint, to consider the unique presence and behavior of this bird. The template I developed is designed with the intention of combining the layers of patterns through drawing, as well as the consideration of planes in space and movement. The templates do not necessarily follow precise anatomy, but instead aim to communicate a combination of animacy and silhouette. I created digital files of each layer and used a laser to cut the shapes out of plywood. Using information from my observations and further research, I used gesso and acrylic ink markers to manually build the textures on each layer of the template. I followed this same process in the development of the templates for the other dimensional works, *Buzzard* and *Mimics*.

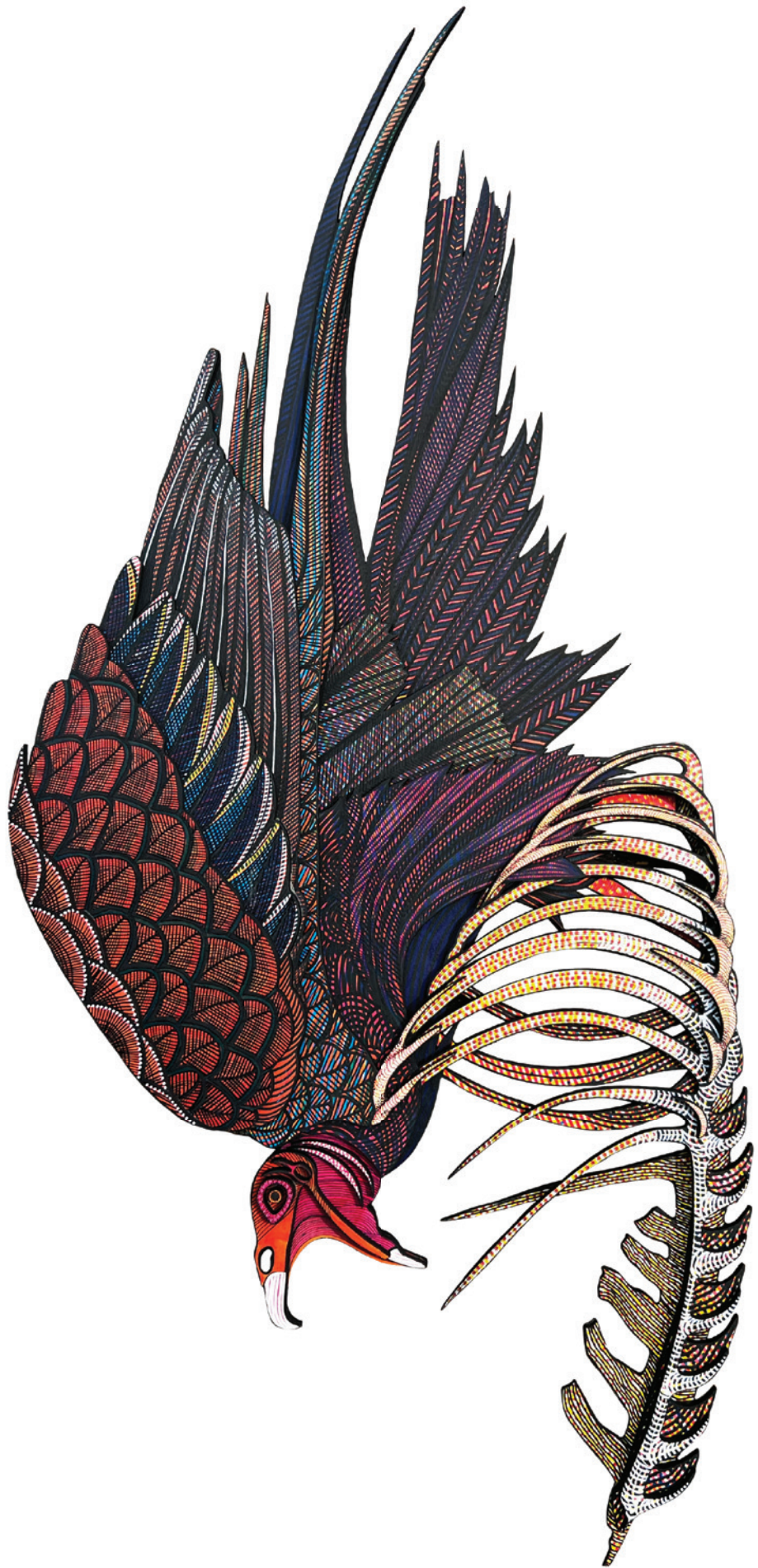


Fig. 28: template layers for *Big Bill eats a Fish*, digital

For the second pair of pieces in the series, I chose *Cathartes aura*, commonly known as the turkey vulture. While the America white pelican was an exploration of what it means to call a new place home, I chose the turkey vulture to represent my original home, Appalachia. The turkey vulture is not a new discovery to me. I regularly watched them circle above my wooded back yard as a child. I remember my heart dropping when I noticed the ominous hovering. I thought it was a bad omen, that my home was in a cloud of death. But then I learned that hovering vultures aren't always a sign of death below. They take advantage of thermal updrafts to soar in warm columns of air (Cornell).

⁸ The trumpeter swan also is a contender for this title. Whether you're on team trumpeter swan or team American white pelican, there is no debate that they are both enormous in both weight and wingspan, and both embark on long-distance seasonal migration.

Fig. 29: *Buzzard*, 2025, gesso, acrylic ink, and plywood,



Vultures⁹ are scavengers. They are the purifiers. They complete the transition from animal back to the Earth. They prevent a positive feedback loop of disease and rot from building up and wreaking havoc (Hay). They are vital to maintaining stable, balanced ecosystems. *Buzzard*, like *Big Bill eats a fish*, is a closer look at the individual. I refined my template process, now with better understanding of the tools and materials. I recalled my memories of watching these birds as a child with their ominous posture, featherless heads and frosted-looking feathers. I learned about their incredible sense of smell which rivals dogs when it comes to smelling chemicals related to decomposition, and extreme stomach acid that can process carcasses tainted with anthrax, tuberculosis, and rabies without issue (Cornell).



Fig. 30: unpainted laser-cut plywood pieces for *Buzzard*, 2025

There is a certain stillness to a hovering turkey vulture that is both haunting and mesmerizing. Growing up in West Virginia, it sometimes felt like time was standing still. To be brief, West Virginia's economy and energy demands rely heavily on the coal mining industry. The hyper-fixation of lawmakers on growing this extractive industry despite its rapid decline and clear toxicity to both workers and the environment offered me an interesting paradox to confront in my formative years. What are we protecting? What are we trying to grow?

The consumption of fossil fuels directly contributes to symptoms of climate change including extreme weather (Bertrand). The most significant manifestation of extreme weather that impacts Appalachia is flooding (Harvey). *Overflow* developed as I considered my own memories of

⁹ There are two main groups of vultures: New World Vultures, which include the turkey vulture and other vultures of North, Central and South America, and Old World Vultures which encompass the vultures of Africa, Asia, and Europe. These are two distinct taxonomic orders of birds that are not genetically closely related despite looking similar and engaging in similar behavior. It is a classic case of convergent evolution, where the two groups evolved independently to fill similar niches in their respective ecosystems, and are thus referred to by the same common name "vulture" (Hay).



Fig. 31: *Overflow*, 2025,
watercolor, gouache, and ink
on paper, 30" x 55"



local flood events as well as the impact of recent catastrophic flooding in Central Appalachia.¹⁰ Even with the impact of immense floods and collateral damage from mining, nature still strives for balance. I have used the vulture to represent this transition from death to growth in the cycle of life.

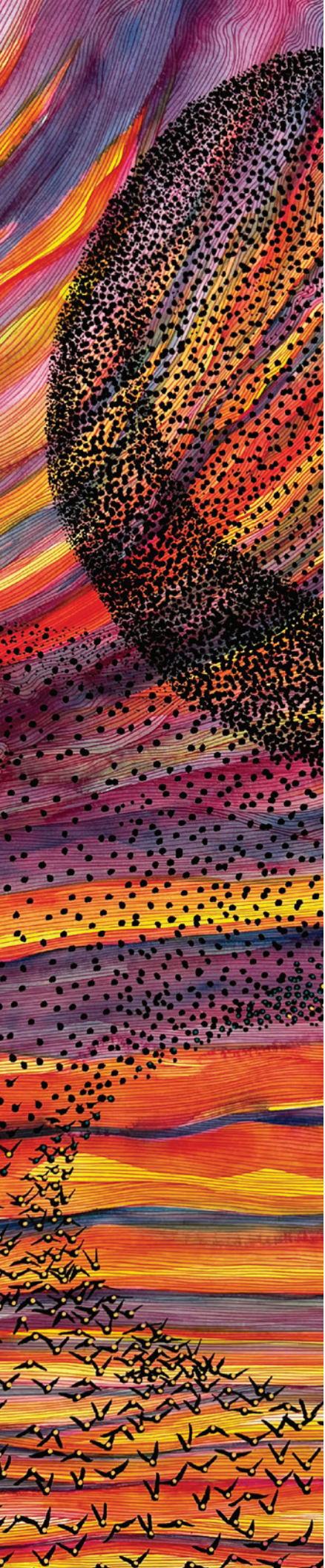
I prioritized symmetry in this composition with the intention of recognizing nature's proclivity toward order and the adaptation of functional systems even in the face of death and catastrophe. In contrast to the whimsical movement and dynamic textures of *Prairie Shore*, I chose to primarily use very thin marks for *Overflow* to tighten the visual effects into a dense vibration. The intention with this is to communicate an energetic stillness inspired by the monochromatic, leafless landscape of Appalachian winters and the minimal movement but palpable energy of hovering vultures.

The final pair of works I completed for this thesis is inspired by the complicated story of the notorious European Starling, *Sturnus vulgaris*. I was on a bicycle ride in northwest Washington, peddling past endless tilled fields, when I saw a flock of birds that stopped me in my tracks. I watched as the flock bulged and morphed, like a ball of liquid in space. I took a short video with my phone and sat down to research as soon as I got home. They must be starlings, I thought, based on the characteristic flying style artfully named murmuration (Starling Murmurations). I couldn't believe how beautiful these seemingly black birds looked in the photos up close. I was eager to see the chromatic iridescence in person next time I came across them. But as I learned more, I started to feel uncomfortable.

Starlings were introduced to North America in 1890 by Eugene Schiefflin, a literary enthusiast in New York City who wanted to bring every bird mentioned in the works of William Shakespeare to the United States (Cabe). An earnest but misguided quest for beauty and inspiration.

¹⁰ This piece is specifically in response to the flooding that happened as a result of Hurricane Helene in September 2024, but this is not an isolated incident, nor is it even the most recent.

Fig. 32: detail of *Overflow*, 2025



European starlings are invasive to North America. They are extremely social and form enormous flocks that dominate. They decimate lawns, crops and orchards, and their droppings create filth and odor where they congregate. They breed at an extremely rapid rate from a very young age and occupy valuable nesting zones that other native cavity nesters – like chickadees, bluebirds, and swallows – would otherwise have access to (Cusimano). Suddenly I had less interest in seeing the glittering, sleek bird up close. But I was still intrigued because of how otherworldly their murmuration was.

I tried to find actual data that confirmed this widespread perception that all starlings in North America should be scorned. There is not much quantitative data on starlings, but the one comprehensive study that was done in 2003¹¹ concluded in exasperation, “despite their aggressiveness and high abundance, and contrary to the fears of many North American ornithologists, European Starlings have yet to unambiguously and significantly threaten any species of North American cavity-nesting bird (Koenig, 1139).” Rachel Carson even wrote an essay titled *How About Citizenship Papers for the Starling?* She describes the behavior of starlings and their incredible efficiency in consuming pest insects, like the destructively invasive Japanese beetle. She illustrates their daily rhythms and favor of congregating in cities in the winter.

The birds liberated in Central Park [New York City] came of a migratory stock. With the coming of cold weather, the starlings of the old world go south: from the British Isles or northern continental Europe to the Mediterranean, the shores of the Indian Ocean, the foothills of the Himalayas. Apparently this racial memory... was modified by the fact that they were in a strange land — a land crossed by no ancestral air routes that they might follow to a warmer climate (Carson, 319).

¹¹ While this study is over 20 years old, there is no evidence that the findings have changed in that time. In fact, European starling population is in rapid decline all over the world. While still relatively abundant, in North America the number of these birds is half what it was 50 years ago (Leonard).

Fig. 33: detail of *In Numbers*, 2025

Fig. 34: *Mimics*, 2025, gesso, acrylic ink, and plywood





She points out that even at the time of publication in 1939, starlings had already begun to establish new north/south migration patterns thus reducing their dependence on unpleasant (to humans) city congregation.

But still to this day, starlings are passionately hated by much of the American public, ornithologists, and conservationists alike. It is publicly acceptable in the U.S. and even encouraged in some areas to kill starlings without limitation (Cusimano).

Unpacking the dramatic story of the forced immigration and subsequent vilification of the European starling brought up obvious parallels with the United States' own complicated relationship with human immigration and made me consider my own position even more.¹² Starlings are not the only birds to thrive after introduction to the US. The rock pigeon, which can be seen picking at garbage on city streets across the continent, is not native to North America either (Sibley, 255). Sure, they may also be considered pest birds, but they are endearingly featured in pop culture¹³ and are not nearly as vilified as the boisterous starling despite their similar abundance. Is it perhaps because starlings impact industrial agriculture and pigeons were domesticated and trained to run errands? Starlings have been living and participating in balanced ecosystems on this continent for nearly 150 years. At what point, really, do we give citizenship papers to the starling, regardless of how much they may irritate us? We can't put the genie back in the bottle, so what do we do from here? How can we blame the starling for just doing its best to adapt to a new and unexpected context; to find balance within the ecosystem it was introduced to, a human-created urban ecosystem where adaptation is rewarded?

For *Mimics*, I researched how starlings behave as individual social members of their enormous flocks as well as how they behave in isolation. Starlings are

¹² I have a lot of conflicting thoughts about starlings, my own background, and invasive species in general. I feel like I could make several different opposing arguments about what to do about invasive species depending on the point of view I start with: conservation, immigration, colonization, evolution... And then what happens if I try to transpose any of those arguments to reference my own context on this planet? I will put a pin in this thread of thought here for the purposes of this paper.

¹³ I am specifically thinking of the 1992 movie *Home Alone 2: Lost in New York* which featured a massive flock of rock pigeons in a significant positive plot point.

incredibly intelligent and have an impressive vocal range and a gift for mimicry. Domesticated starlings even imitate human voices like parrots (Cusimano). I chose to create three birds together instead of one individual because starlings are intensely social creatures. I also wanted to explore the shifts in appearance and iridescence due to their coordinated movements.

While creating *In Numbers* I thought about my own experience of seeing these birds fly together; the flow and chaos of their constant motion. Philip Ball eloquently describes the nature of a starling murmuration in his book *Pattern in Nature*.

Twisting and turning, shifting from near transparent to opaque as the angles of the birds bodies change in our line of sight, the flock becomes a so-called “murmuration” in which these creatures seem to have acquired a group mind as they maneuver in unison (114).

I prioritized flowing, asymmetrical marks to build the composition and intentionally elevated the organic pooling of pigment and moisture to emphasize the role of feedback in starling murmurations. I considered the incredible group organization of these flocks and the significance of cooperative adaptation in the European starling’s success in North America. Additionally, I chose to feature dramatic fiery clouds as the backdrop for these stunningly controversial birds.



Fig. 36: *In Numbers*, 2025, watercolor, gouache, and ink on paper, 30" x 55"

And what are clouds but a perfect pattern of chaos: a collection of droplets, suspended in the atmosphere in constant evolution. They are the weather. (Graham, 46).

The theme of *In Numbers* is flow and chaos. Complicated, fast moving, overlapping patterns that produce one of the most spectacular sights in nature. Starlings were brought to North America for no other reason than artistic inspiration (Cabe). Think back to the earnest valor that Muir and Moran had for the wild Earth. Murmurations and cloud formations feel special because they are. They are singular occurrences, an inexplicable convergence of light, movement, and moisture that will never repeat in quite the same way. It is romantic and artistic, euphoric to behold and impossible to precisely recreate on a page. There is little time to think about the science behind the spectacle while its happening, because in an instant it is gone. The cloud has shifted, the sun has set, the flock has perched.

Sometimes I feel overwhelmed by the chaos and pace of my personal daily tasks, the seeming urgency of every moment. But if I zoom out from an instant of chaos and try to think about it in the context of geological time and its larger overlapping rhythms, suddenly the chaos is small and the way toward order is apparent. Connect with myself, connect with the Earth in reciprocity, and dance with her rhythms, chaos and all.

... you watch and you try
but you simply can't imagine

how they do it
with no articulation instruction, no pause,
only the silent confirmation
that they are this notable thing,

this wheel of many parts, that can rise and spin
over and over again,
full of gorgeous life.
Ah, world, what a lesson you prepare for us...

— Mary Oliver, *Starlings in Winter* (Oliver, 56-57)



Left

Fig. 37: detail of *Buzzard*

Above

Fig. 38: detail of *Big Bill eats a fish*

Below

Fig. 39: detail of *Mimics*



CONCLUSION AND REFLECTION

I am completing this theses in the midst of a tumultuous political era in the United States. There is a sense of impending catastrophe surrounding humanitarian crises and the future ecological health of the United States (and the world). It is hard to know what to think much of the time. We are over-saturated with information, but the place that never fails to hold answers is the Earth, as long as we keep speaking her language. I am still working on how to make sense of Now, but I believe that prioritizing connection with the ancient rhythms of our celestial host is necessary for everyone's future: the rocks and rivers, the forests and birds, and the humans.

Simply by framing my perspective on ecology through the lens of these three different birds, I have been able to glimpse small snapshots of the infinite patterns that overlap to create a unique moment in space and time. I then used these moments to consider the larger context as it relates to my own experience.

I intend to continue to hone the techniques I have developed during this program and create work that uses pattern to communicate dynamic narratives about my interpretation of Earth's language of animacy and the role humans play in this ecological dance. In my experience, most people prefer to see things as good or bad, black or white, but in reality the world is a multitude of everything mixed together, a big gray area; infinite layers of opposing forces searching for balance, equilibrium, order. It is how each of us individually perceives things that brings a picture in to focus. Considering offset printing, even with the same source data, all the prints are unique. Everyone's view of the world is unique. "It is human perception that makes the world a gift (Kimmerer, 30)."

This brings up the role of poetics in my work. This consideration was posed during my defense conversation. Just like nature, poetry as a literary art follows an established structure, a non-semantic, repeatable structure. The precision of language allows room for emotional response and individual interpretation. That is precisely the space that I am aiming to hone with my work. The space for inexplicable and individual response that I can direct through the use of pattern, optical illusion, and scale — inspired by the poetics of nature.

From early on in this program, I felt strongly that I wanted to create a sensory experience for the viewer. In order to do this, I decided that creating optical vibration to simulate movement and energy, and engaging the peripheral vision was the best method for my work. This meant significantly scaling up from what I had been doing. Previously I had almost exclusively created small scale works optimized for print and publication. However, I have a background in technical

theatre where I learned with nuance how to paint a variety of naturalistic textures at life-size scale that would read from a distance under harsh light.

The influence of my theatre background — both acting and scenic design — did not present itself until late into this program, but has proven incredibly valuable when conceptualizing an energetic and specific space to view my work. Stage performance and design was my dominant public artistic expression for nearly a decade. It hasn't been a significant presence in my life since I chose to focus on developing my drawing practice; that is, until I put the paintbrush to the wall during the installation of this work at Emily Carr. All of a sudden, the spacial awareness, effect of light, dynamics of color and scale that I learned studying and designing sets for the stage rushed from my subconscious into full view..

In the context of a stage play, the invisible barrier at the edge of the stage between the performers and audience is called the "fourth wall". The fourth wall separates the audience from the world of the play, allowing for suspension of disbelief. Some productions include an intentional breaking of the fourth wall, wherein set pieces are placed outside of the established barrier of the stage, or the characters engage directly with the audience. As I was putting together the arrangement of my works I thought a lot about the role of the fourth wall in my installation; how I was inviting my audience to both view my work and step inside the story I created. Because the theme of my thesis is the infinite scale of pattern in nature, I wanted to approach the installation from a more immersive point of view, which is what led me to include the mural and integrate decorated plinths to enforce a specific space and to link each pair of works together.

Working with pattern helps to break down the layers of perception and perhaps clarify or even adjust perspective. Art and entertainment — visual communication — has a unique ability to break people out of entrenched thinking. My goal with my practice moving forward is to engage directly with the community to try to bridge some of the chasms that get established with the current educational and societal systems — like the divide between science and art, art and Earth, Earth and daily life. I think that many of these abstract themes can be understood on a visceral level sooner and with more impact than on a verbal or academic level. That is the role of visual communication in my opinion, and that is how I see myself and my practice: as a visual communicator.



Fig. 40: *Pattern: Science Spirit and Earth's Poetic Force*, 2025, installation view

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 Fig. 41 — 43: detail of *Pattern: Science Spirit and Earth's Poetic Force*, 2025, installation view



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