

A THEORETICAL EXPLORATION OF CONSCIOUSNESS

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TABLE OF CONTENTS

ABSTRACT

PART ONE

1. Memoirs of a Dying Star
2. A Tiny Tendril
3. Metamorphi

PART TWO

4. Introduction: Death & Decoration
5. An Abridged Exploration of Wavelength and Particle Theory; a Lens of Physics
6. Occultism, Physics & Art
7. In Conversation With
8. Conclusion; A Sum of More Parts
9. Works Cited

WHAT IS CONSCIOUSNESS? (an abstract)

The following paper is a two-part document of research. I process information best through the use of metaphor and narrative, so in order to tackle the complicated, analytical research of unpacking consciousness and the nature of death in relation to my work, it felt necessary to open with the short story that is behind my visual thesis.

The heady concepts of physics and the winding history of different theories of consciousness, be they in art or science, informed the short story, which then informed my paintings and prints. All three—the visual works, the narrative, the research—are different iterations of the same exploration. It would feel disingenuous to not present each one as a sum and a part of the whole, as they are intrinsically linked and inform one another.

PART ONE

1. MEMOIRS OF A DYING STAR

I don't remember being born. Consciousness came to me like a waxing moon, slowly rounding out in a rotating sky. To this day I am not sure if or what I was before. Perhaps I was asleep, adrift in a cloud of cosmos.

As I came into being, I can only describe it like the ripple in a pond, moments after it had been disturbed; a quiet wave of pulsation as my smallest particles regrouped from an abrupt, recent supernova collision that I could neither see nor recall.

I do remember that I first noticed an intense warmth. I realized then that that warmth was me: that this body was a crackle in the surrounding blackness. I was aglow, white hot and swirling. In a blink, I then felt others. There was a pull inside me, somewhere at the center; now I know to call it gravity. Beyond me, matter was clumping together like wet sand between a child's hands, packed into little balls just beyond my grasp. Shaped as planets, these beings were familiar to me, but I couldn't say from where. I was excited to see them, to no longer feel alone in my little galaxy.

I suppose time passed. The only way to be sure was by measuring the changes in my body. Like anything, I had flares and swells, emotions that boiled in me like they rattled around in a kettle. I'm ashamed to say that there were many temper tantrums. The moments when I raged and ached and punished those around me. I worried afterwards that I was burning on empty; that I could somehow run out of fuel and my heart would hit a bottom. But I was still young, the center of my universe, quite literally, and felt infallible.

I was wrong. The inevitable stretching of time worked its way, and with dawning horror, I began to tire. Each rotation began to ache a little bit more. After much kicking and screaming, much denial and refusal, eventually I accepted that my energy was dwindling. It was as terrible a feeling as it was guilt-ridden. I knew my planets depended on me, and I dreaded when they turned up for morning. Only when they rolled away for sleep, could I catch a moment's respite, allow myself an exhale.

Horror and exhaustion were replaced by frustration and unbridled anger. I was resentful of the planets, fuming at the burden and dependency I realized they had placed upon me. I didn't ask to be born, and I certainly hadn't asked for *their*

responsibilities. Furiously, I wanted the clock to stop. Frustrated, I once again fought the logic, and looked for ways out. It didn't matter if I had five million or a billion years left—once I recognized mortality and looked it in the face, I couldn't take it back. There was no unseeing. I was a star, and I was dying.

But I still had time—something I was now acutely aware of, thinking mournfully of the days where pondering the passage of time had seemed a fun guessing game—and my anger abided. I did my best for the planets, and in my later years of growing warmth, was able to reach the ones that lived further out. For the most part, they all took care of themselves. None of them seemed to mind me much; none seemed wholly aware of their own dependencies. By the time they noticed what was happening, it would be too late.

Finally, I felt it coming. Not unlike the pull of gravity at the beginning of my being, again was a feeling in my center, followed by a cramp, and a sparkling pain. Later I would equate it to hunger, which I had felt for the first time. I had burnt up and consumed all that there was for me. Shakily, I rumbled. I felt feverish. I was at the end. There was a collapse like a dam burst.

Particles flying, I was blown from my body before I knew what was happening, hurtling past my planets as they cracked and crumbled under the weight of my remains. I cried out for them, but the power of the explosion was too strong, and I was already long gone as my corpse took them down with it.

I was still conscious, though no longer a star. I was nothing but a silver wavelength, rippling again, bobbing up and down like a lone sea serpent in the emptiness of space. I'm not even sure I was ever visible as more than a small ray of light as I whizzed through the universe. I wasn't sure of my destination; I assumed when I hit something, I would finally stop moving. I passed asteroids and other planets, other stars of all sizes and ages. I wondered if they knew what I knew, and if not, when they would realize it.

I could not say how long I wavered in the vastness of space. None seemed to notice me at all, a sensation that made me more mournful for my planets than ever. I missed them curving towards me like the open mouths of baby birds. I missed being needed.

Another star grew into my periphery. It looked like I once did, warm and yellow and mid-sized. It grew closer, and I thought I might finally collide with something. My thoughts raced. A reckoning felt inevitable. Would I simply become another star? Wasn't that star already a being, as I was? How could I replace it, or would it just absorb me, and I cease to be?

However, I careened right past it. Instead, I was heading towards a planet, all blue and brown and swirling clouds. It looked like another planet back home, though I was already forgetting.

I pummeled through the air, and hit the ground.



Figure 1, Life Cycle 1, CNC cut frame, oil on canvas. 2020

2. A TINY TENDRIL

When I came to, I recognized none of my sensations, for I only knew what it was to be warm, large, and needed. Yet around me was an unfamiliar dampness, dark, soft, and slick. Best I could, I felt around. The tiniest of tendrils was all that I could move, and barely, but it was something. It was my first experience of having anything like an arm, I realized. I was under the earth, nestled inches beneath the soil.

I soured. Even hurtling through the recesses of space was more comfortable than this cramped hole. I wasn't exactly sure what I was, but felt diminutive in size, nothing little speck of something—nothing living in the dirt. Perhaps this new body was divined by my mood itself, and it was my bad attitude that had buried me underground.

Still somewhat groggy, I felt something like hunger, and stretched my tendril-arm out a bit further in search of something nourishing. I didn't know what this new body needed, but the rattling at my insides told me to try moving upwards. I am not sure how long it took—once again, I'd lost all my bearings of time; under the ground, I couldn't even watch the planets turn—but finally I felt air stirring above me. By then, I'd pushed out even more limbs—arms, legs, and all kinds of appendages I didn't know how to name—but only one made it out to the top. I took a breath, and finally recognized something.

I felt warm again.

I quickly realized that this body was much more fragile than what I was used to. The further out of the ground I rose, the more I half-wished to disappear right back into my earthen mother. Moles and worms unseen prowled at my roots, burrows brushing up against my legs. I watched fellow grasses get plucked out of the dirt by the monstrous, grazing mouths of cattle and deer and wondered if I was next.

I had felt vulnerable before, when I had looked mortality in the face as a star, but this was different. As a star I had been so petulant and proud, like an obstinate child. This new greenish body had humbled me by force. Although I did not know what to expect, it was plain I would not have the luxury of millions of years to ponder my death. I withered if it was too hot. I shivered if it was too cold. I was thin and bent easily, balefully at the whims of the wind. I knew, in this new body, I was small and forgettable.

The rains came, mollifying me a bit in my helplessness. I was stronger and more nourished, and dimly wondered if this is what my planets had felt like when I had shown upon them. Often I had pouted, thinking they weren't appreciative of my light, or had taken me for granted. That was foolish. I had only known what it was to be needed, grappling with the resentment and pride of it all. Now I was on the receiving end, and practically drunk on the comfort of good weather and sun when it came.

By this time, now inches out of the soil, I had already started forgetting what it was to be a star. Even my most recent memories of moving through space were slipping; I tried to hold onto them, but there was only so much room to store thoughts, and mine were increasingly preoccupied with finding sunlight. If time was not on my side, I could not look backwards.

I bloomed. I didn't see it coming, but there it was: a flower, crinkled and soft and gathering dew. As a stem, I had seen petals come and go on others, but still had been surprised when it happened to me. I was orange, a poppy maybe, and suddenly beautiful. Almost overnight hills were littered with others just like me; little orange flowers wrinkling and waving together against the wind. Whatever isolation I had felt at the beginning of this body, I now felt bigger than it. Not only seeing myself in others, but I felt a sense of belonging in this crowd of orange blooms.

Bumblebees greeted me good morning, and even a spare hummingbird to say hello. I had forgotten what it was to be needed, though I couldn't remember where I knew it from. I loved that the bugs needed my pollen, and gave what I had merrily. The bees littered me with praise, and I drank it in greedily.

The orange flower would not last long, however. The weather grew crisper at night, threatening the little petals. I sensed the inevitable, and was both inconsolable and insulted at feeling my energy wane. I wondered if it was vanity or pride or denial or age something-nothing all the same.

After a season of hiding the bloom away under a mild winter rain, however, I felt less fragile, or perhaps more resigned. The things I thought could shatter my existence no longer held any more sway than a light breeze. I still enjoyed the flowering days, still found no greater joy than sharing what I could give, but I'd found peace within my role. I didn't need the flattery anymore. I just needed the sun, the rain, and the occasional bumblebee.

I took, and then I gave back. It was a peaceful existence. The sun rolled around, but I felt sleepier every day.

I don't remember death.



Figure 2, *Life Cycle 2*, CNC cut frame, oil on canvas. 2020

3. METAMORPHI

I came to whipping through the sky, nothing but a sliver of a wavelength flying over a forest. My trajectory was out of my control, and I lost the sight of the hill where I was once rooted. I was hurtling through the trees as the thinnest ray of light, unseen by the bugs and birds that may have once visited me as a plant. The sensation was something like *déjà vu*—I had felt flight before, this lightness of air, this invisibility, though I couldn't be sure from where.

I shot downwards unexpectedly. I was heading for a forested ground littered with flora, and I became awash with relief. I would have to start over, sure, begin again as a seed, but at least I would know what to expect. As a wavelength I had no eyes to close, but I am guessing that is what I did.

However, when I awoke, I was not underground as I had expected to be. My surroundings were pearly with opalescence, fuzzy at the edges of my vision. I shifted in my new body, which was sticky and wriggling. Where I'd once had stems was now a lumpy little tube like quarters in a sock. I was inside something thin enough to let light in. I pushed again, and felt the air.

Around me were dozens of eggs, all in various stages of emergence. Looking upon my siblings, I recognized myself instantly from my time as a plant, and recoiled with horror. I was a larva of some horrible insect, and many of my fellows were already setting to work upon the leaves on which we were born, nibbling down until the stems were raw.

So that was it, then. I was to be forced to consume myself. It was a hollow feeling. Why was I put into this new body, this natural predator of my former self?

But survival won out. Once I noticed hunger, my appetite was nearly overwhelming. Mindlessly and with near robotic synchronicity, my caterpillar-larvae siblings snipped away the leaves around us like paper cutters. Some were already moving onto the next available foliage. I thought back to my time as a plant, when I had bloomed with flowers, and the joy I'd had in sharing what pollen I had to give.

I'd really thought it was a choice, as if I'd controlled whether or not the bumblebee came. Life would've taken from me regardless. Or—maybe I had been self-centered, thinking the cycles I partook in were more altruistic than they were symbiotic. Humbled, I took a bite of the leaf on which I sat.

My mind, half still a plant, wanted to lurch with disgust, but this mushy caterpillar body was ravenous. I knew hunger, but only in the abstract, in the sense of nourishment and light. This hunger was an empty cavern, dark and clawing, and I couldn't take back that sweet taste of the greenery.

I set to work. I lost track of my siblings and wandered through the forest floor from leaf to leaf. With each bite, I felt my skin stretching, rolling, growing. It was an altogether different sensation than the type of growth I'd experienced as a plant, though I was actively trying to expel those feelings by now. The more leaf I ate, the less I ever wanted to remember having one.

I shed skins and aged quickly. In my last memories of being a plant, I dimly reflected on the calm I had settled into. Time would pass, seasons would change, and I would rise and sleep. I was not worried for the future; I did not feel any sense of impending urgency. As long as the rain and sun came, so would I.

As a caterpillar-larva, however, I consumed and was consumed by time. My days were long and endlessly busy. I was tired, felt older than I knew I was, and preparing my body for something. I did not fret over it, but methodically kept at work, steadily approaching a metamorphosis.

I knew when the time came what to do. I built a house of myself, a second body to occupy, and closed the door. Inside, I curled up at the hearth of me. I can scantily describe the sensations—if anything, it reminded me of my own egg, pearly and mushy and soft to the touch. At times I felt like excess water in a bottle, sloshed

around and gathering bubbles. Other moments I felt decomposed and haggard, sluggish like the sap of a tree, holding onto life by a thin string.

I reformed within the chrysalis, and I could not tell you how. For a moment I had thought I had passed a point of no return, that I would be a sticky pile of my own goo for the rest of my eternity. But my body rebuilt itself as if it had lost the manual to its own biology. I felt cramped within my cocoon, with limbs I did not recall, my body misshapen and unrecognizable. I hatched again, too uncomfortable to stay any longer.

I had built my chrysalis on the underside of a branch, and thought I might plummet to the ground as I tried to pull myself out of it. Wings unfolded at my back, large and lush and unlike anything I had known myself capable of. I was big and blue and lit from within like a twilight.

Time pressed up against me at once, something internally setting the clock. In the same way I had come to terms with it as a caterpillar, the urgency felt logical, and inevitable. I did not panic, did not hunger, did not tire, but knew I had to methodologically get my affairs in order. Something told me that resisting the inevitable would only suffer those that would've come after me.

The next two weeks passed with equal parts levity and haste. I savored in flight, flittering aimlessly along blossoms and the starlight. I glowed under long shadows made by the tree line, happily drinking in the last nectar I would taste. I also had mated, and was now laden with eggs.

The moon was full and I was finally tired. I flickered down into the canopy, and found a bed within the curve of a leaf. I laid my eggs and breathed in staccato.

I felt a door opening in myself. I recognized this feeling, for briefly I knew the face of death. For a twinkle in a moment I saw myself in all my other lives—the star, the plant, the rest in between. I would continue to remember. I would continue to forget.

I fell to the forest floor.

I don't remember being born. Consciousness came to me like a waxing moon, slowly rounding out in a rotating sky. To this day I am not sure if or what I was before. Perhaps I was asleep, adrift in a cloud of cosmos.



Figure 3, Life Cycle 3, CNC cut frame, oil on canvas. 2020



PART TWO

4.

INTRODUCTION: DEATH & DECORATION

This is not the thesis I had planned on making.

In my first year of the MFA program, I had been heavily exploring the history of decoration, and the functional straddling paintings do within domestic spaces vs. the white walls of a museum/gallery. In the second year and leading into the thesis, I thought I would be researching the role of decoration as an extension of identity. Then Covid-19 happened.

Shortly before the world had ground to a halt, my research into decoration had been leading me down a rabbit hole of archeology and cave paintings. For instance, the Caves of Lascaux, some of the oldest known Paleolithic art in the world at approximately 20,000 years old, were not just sophisticated depictions of ancient beasts, but arguably domestic decoration as well. At a time when anatomically modern humans were still thousands of years away from any known civilizations, the cave was a dwelling space for our ancestors.

By painting on the wall, they were not only projecting their identity into their home space, but also marking their existence. And 20,000 years later, though we know little of who made these works, we have proof of life. They stamped their reality into space. They made themselves known to us, whether intending a lasting imprint or not. After discussing permanence and decoration in a critique, a peer asked me if I considered death in decoration; this anecdote about the caves was the answer I gave. Although I was researching decoration, death was always the undercurrent running through my work. (See fig 4.)

Entering the program fresh off a year of difficult medical appointments, lump biopsies, and chasing diagnoses to solve my problems of chronic pain and fatigue, the body, its fragility, and my own mortality were always in my periphery of thought even as I tried to move past it. Death is a dark topic, but I do not wish to depict it as such. I want to recontextualize death not as a fear, but as a cycle, and focus on what we give back to the world when we leave it, and perhaps the ways we live on in spite of our physical bodies. I am attracted not just to explorations of the physical body in its relationship to death, but consciousness itself, and whether or not it transcends our material form.

This question has manifested partially in a series of paintings that often push against their expected rectangular shape, and rather are portrayed as a fluctuating series of iterations of the same story, much like the research itself. If consciousness is possibly transmittable across different forms and natural shapes, it should be treated as a mutable, ever-changing force in its visual representations.



Fig 4. Sarah Green, *Death 1*, 2019

After recuperating from a technically-unknown-but-suspiciously-timed viral infection in late March, I was jarred by the cocoon I found myself in. I had recovered, but somehow felt worse. After a year away from medical institutions, I faced a summer of infusions, blood draws, and mounting exhaustion when no test conclusively said one thing or the next. MS, ME¹—all the abbreviations thrown at me like a horrifying alphabet of options. It was settled on fibromyalgia², an answer I still know little about. Frankly, most of what I know is that it is chronic. In *Sick Woman Theory*, artist and writer, Johanna Hedva sums it up as such: “I have chronic illness. For those who don’t know what chronic illness means, let me help: the word “chronic” comes from the Latin *chronos*, which means “of time” (think of “chronology”), and it specifically means “a lifetime.” So, a chronic illness is an illness that lasts a lifetime. In other words, it does not get better. There is no cure.”

Wanting to calm and re-contextualize my anxiety and fears on this problem of *chronos* and my new relationship to time from a more empirical, scientifically objective approach, I turned to physics. Reading about the theoretical and almost poetic aspect the study of physics takes to unpacking the universe, I also came to realize that I am built out of things beyond my genes and family history. Just as I am the result of generations of people, I am also the stuff of stars.

The Law of Conservation of Matter states that matter can neither be created nor destroyed. It is comforting to think that, even in the massive death of a star, matter isn’t gone, it simply moves on to another form, distributed widely. All organic creatures are from the same atoms: all flora, and all fauna. I am the work of my ancestors, yes, but I’ve also got particles in me that come from pansies and sea anemones and elemental minerals. In turn, these organic shapes of flowers and creatures, however vague and nebulous, began manifesting in my drawings, and later my paintings.

This was the narrative of death and consciousness I wanted to pursue. I studied illustration at RISD for my undergraduate degree, and work primarily with books outside of my personal practice. Even when I am painting or making prints, I am still an illustrator. Although it has many applications, commercial or personal, illustration is just a narrative-based practice. Thus, after spending the spring and summer researching complicated aspects of quantum mechanics and theoretical physics, I chose to approach this thesis through a narrative lens. It was primarily through the use of analogy and metaphor that I understood the heady and dense

¹ MS is a potentially disabling disease of the brain and spinal cord/ central nervous system. ME is myalgic encephalomyelitis/chronic fatigue syndrome.

² Fibromyalgia is a condition that causes widespread pain, as well as sleep problems, chronic fatigue, and overall pain sensitivity.

scientific concepts, and so I felt it was important to recycle that method into a story within the thesis.

All in all, I have sought approximately five perspectives in my research, attempting to not only understand the nature of consciousness itself, but also to distill different schools of thought on the nature of death. One of a physicist, one of an art theorist, and one of a fiction writer,—and fourthly, a movement in art history. Finally I tried to tell my own perspective of a cycle of consciousness itself, told through a narrative of paintings, prints, and short story.

5.

AN ABRIDGED EXPLANATION OF PARTICLE & WAVELENGTH THEORY, EXPLORATIONS OF ENTROPY, AND NARRATIVE

Quantum physics is the fundamental theory that explains how the universe breaks down into atomic and subatomic particle levels. Although most known as a modern science dating to the end of the 19th century, its roots are both ancient and classical. Historically known as atomism, this was a philosophical belief that stipulated the universe was composed of imperceptible but physical apparatuses.

Dating back to the 6th century BC, both the ancient Greeks and Indian Jains—still one of the oldest surviving religions—have religious and philosophical theories of invisible matter, separate from the soul (or consciousness), that created the universe. The word atom itself comes from the Greek word *atomos*, meaning uncuttable, referencing the eventual minuscule state a particle would reach when it broke down. In short, human beings have been attempting to explain and understand consciousness as long as we've had it; physics is just another iteration in a long line of approaches.

In his first book, *Multidimensional Time: The Physics of Multidimensional Time and Human Consciousness*, physicist Robert Kersten explains the roles of matter and energy in their relationship to the human mind. Through a collection of pictorially graphed experiments and metaphors, Kersten explores several key concepts in the study of theoretical physics and quantum mechanics correlating to consciousness and time.

He stipulates that, in quantum theory, all matter is either in particle or wave format. (19) Particle energy denotes the physical; it is referred to as an “object” in the study of physics. All forms, bodies, houses, birds, etc, are made up of millions of tiny object particles. Particle energy requires constraint of, and contact with, time. This gives us life and death.

Conversely, wave energy is also made up of particles—light photons are particles, for instance—but it does *not* require contact with time. There is theoretically no end point. Physicists believe wave particles exist outside of the structure of time. As it relates to biology and consciousness, he elucidates this through an example regarding a car and its driver (131); our physical body represented by the car, aka *particle* energy, and our consciousness being the driver, aka *wave* energy. In other words, Kersten is arguing that theoretical physics shows human (and perhaps all) consciousness is part of a broader, unseen wavelength, one that is unconstrained by the time of our particle body.

As this relates to my research on life cycles, it is foundational. My work and thesis are a narrative exploration of not just life and decay in their particle forms, but their wave forms as well. It is about the transition of atoms from one shape to the next, as well as the interconnectedness of consciousness.

In my thesis work, this is something I express through the connected color palettes and repeated organic shapes of stars, butterfly-moths, and flowers. These particle bodies all hold the same consciousness, simply transferring itself among lifetimes. And though unknown to one another, unwittingly these past-future-and-present lives all compress on top of one another, appearing in each scene of the triptych in one sense or another, be it through the form of the canvas itself or within the painting.



In “Entropy and Art” art theorist Rudolf Arnheim argues, “order is a necessary condition for anything the human mind is to understand.” (1) Throughout the essay, Arnheim approaches examples of art history and post-modern art, from Baroque painter Nicolas Poussin to abstract sculptor Hans Arp, through the theories of physics, and most specifically the laws of thermodynamics. The first law is probably the most well known; it states that matter can neither be created nor destroyed. The second law, building off of that, addresses *why* energy can still be transferred or transformed if it is not destroyed.

The Second Law of Thermodynamics says that entropy is the causation, and that the transformation must be a non-reversible process. (For instance, a glass of water that has been drunk cannot refill itself; the particles of the water have not been destroyed, just moved). Entropy is defined as disorder—in other words, change. As Kersten outlined: in quantum mechanics, this is the exchange of particle energy; entropy is the *measurement* of change—and change is measurement of time.

Arnheim uses the Second Law of Thermodynamics as his research methodology. The second law means that the universe is in a constant state of order and disorder; it is constantly collapsing and rebuilding, or else we would have no manifestation of time. Referring to them as “cosmic tendencies” (34) Arnheim argues that our desire to *create* art is the parallel process of the energy that is constantly being changed around us. It is reclaiming order from the necessary disorder. In short: “Man’s striving for order, of which art is but one manifestation, derives from a similar universal tendency throughout the organic world.” (48)

In researching entropy, I applied it directly to my material practice when I began making monoprints. The painting is carefully done on a piece of plexiglass, using developed techniques with wiping excess medium to create soft spaces and fluid movements. There is a certain amount of control depending on how much medium or paint is applied, what brush strokes, etc. However, after the painting is completed, I then put it through a printing press, at which point I turn over my work to the role of disorder through collaboration with the press.



Fig. 5. Sarah Green, *Life Cycle Print 1*, 2020



Fig 6. Sarah Green, *Life Cycle Prints 1-4*, 2020

As a printer, I am impulsive, and frankly not a particularly careful worker. But rather than acclimatize to the press, I am choosing to deliberately embrace my own entropic side, as it allows a sense of freedom that is harder for me to find in my canvas-based paintings, where I tend to over-think and sometimes over-work as a result. The research of entropy itself is within the process, repurposed as a skill set rather than a technical obstacle.

The relevance of Arnheim's theories are not just because I am developing a fine arts thesis and using theoretical physics as the background knowledge for a narrative on life cycles, but also because it offers a holistic approach to understanding time, death and decay.

The Cosmicomics first appeared in 1964 in Italy as a series of periodical short stories. Writer Italo Calvino built a fictional narrative around a scientific principle, nearly always from the perspective of an omniscient and extant narrator named "Qfwfq." In Calvino's literature, Qfwfq is older than, or parallel to, the universe, and has taken many forms throughout its existence. In some of the short stories, they appear as a mollusk, sometimes as a man, or sometimes recall their experience as a

dinosaur. Sometimes, Qfwfq appears as a being that has no form at all; just a consciousness.

Such is the case in the story “All At One Point”, which centers on the beginning of time and space. In this story, Qfwfq speaks about how they and all other beings existed before The Big Bang, “Naturally, we were all there—old Qfwfq said—where else could we have been? Nobody knew then that there could be space. Or time either: what use did we have for time, packed in there like sardines?” (43) Despite all existing together, cramped up and indiscriminate, Qfwfq is still a solitary consciousness, often discerning himself from the other named characters in the story.

Calvino’s short stories relate to my thesis not just because they offer a narrative approach to breaking down scientific facts and theories, but also for their overall connectivity via a central figure, one who passes through multiple forms and whose consciousness supersedes time, just as Kersten and quantum mechanics suggest is possible.

My short story utilized a similar approach to the one that Calvino used: a story of a life cycle, the same consciousness transferring from star, to plant, finally to a moth, where it ends and begins the cycle all over again. Although humans are absent from the story, the consciousness in its three forms represent the three stages of a human life and scale. The background research—particle and wave theory, specifically—provide context for my research, but the plotted story itself, like Calvino’s and the analogies Kersten supplies, utilizes creative fiction and metaphor to bridge and illustrate the concepts.

6. OCCULTISM, PHYSICS & ART

Just before the turn of the 20th century, physicist J.J. Thomson discovered the first subatomic particle. The proven existence of this particle, an electron, sent shockwaves not just through the scientific communities of the time, but the creative and artistic ones as well.

Not long after the discovery of this electron particle came rays and waves, electromagnetism, X-rays, the understanding of radioactive decay, and more, all coinciding at the birth of artistic modernism and philosophical intersections with occultism and clairvoyance. Spiritualists argued that hypotheses on electromagnetic waves proved a connection to the beyond, and solidified further occultist theories that explored death via the séance.

In “Hilma af Klint: Paintings for the Future,” essayist Tessel M. Bauduin points out that this rise of Western science not only lended “legitimacy” to concepts like the séance, or “proved” clairvoyance was the same concept of the X-ray, it simultaneously attempted to eradicate them. “Mainstream science’s increasing claim to a monopoly on delineating reality—that is, to being the only proper route to knowledge and a correct worldview—invited disputing, even subverting responses from occult groups, which investigated and put more faith in alternative routes to and forms of knowledge construction and production.”

Paralleled with a rise in materialism following the industrial revolution, many artists of the time were drawn to occultism, theosophy³, and spiritualism as a way of making work that challenged the romantic movement of the Impressionists not long before. Artists like the modernist Russian painter Wassily Kandinsky, in particular, were attracted to the esoteric explorations of the inner soul.

(Please google for image)
Fig 5. Wassily Kandinsky, Composition 8. 1923

In author Gary Lachman’s article, *“Kandinsky’s Thought Forms and the Occult Roots of Modern Art”*, he writes Kandinsky “believed that by the beginning of the twentieth century, whatever artistic and spiritual meaning the external world had possessed had been hollowed out and emptied.” Kandinsky believed that paintings were like thought forms, vibrating in a viewer’s mind akin to someone listening to classical music.

Contemporaneously to Kandinsky and other early modernist artists, the Swedish painter Hilma af Klint was partaking in séances to communicate with her deceased “Old Masters”, who would give instructions on inner/external worlds, consciousness, and spirituality. In order to distill her learned and believed cosmology, af Klint would explore these teachings in a series of visual paintings.

Af Klint developed a geometric language that she largely leaned on, defiantly abstract. However, she also utilized symbolism in her work, such as the helix spiral, which represented evolution. Af Klint believed, like the theosophist Annie Besant, that “studying the atom was not an end in itself, but a path to acquiring cosmic knowledge.” Af Klint made a series of atomic studies of plants and flowers, which she often broke down into reoccurring cubist forms, as well as sharing them as representational flowers throughout her work. Though abstract, her paintings were built upon the symbols and teachings of early physics, much like my own.

³ Theosophy: the teachings of a modern movement originating in the U.S. in 1875 and following chiefly Buddhist and Brahmanic theories especially of pantheistic evolution and reincarnation

Fig. 7, Hilma af Klint. *Group IV, The Ten Largest, Adulthood*. 1907
(please google for image)

Fig. 8. Hilma af Klint. *Altarpiece Group X, No. 2*. 1915
(please google for image)



Fig 9. Sarah Green, *Life Cycle 4*, 2020

Though af Klint and I are exploring many of the same themes, particularly on the role of consciousness, in a painting and printing practice, I prefer a more directly narrative-based approach. My symbolism is a combination of abstracted voids and shapes, as well as references to the characters themselves within the story. The physical, canvas form of the story's Part One (the moth creature) is referential to Part Three (an atomic amoeba shape); Part Two manifests as itself, the shape of a flower. Af Klint created an inner geometry contained within the canvas, whereas I attempted to use the material shape of the pieces as external symbolic geometry.

My color palette is also part of the specific symbolism of the narrative; the hues are taken from dawn and dusk, and the use of color blocking is referential to crepuscular rays, which are the waves of sunbeams that are only noticeable at the rise or set of the sun. This is not just because it could represent the "sunset on a person's life," but because the twilight hours are often when most hunting occurs in the natural world. It is a time of death and life.

Occultism, spiritualism, and the beginning of quantum physics all intersected in af Klint's work; although my work doesn't directly address clairvoyance, séance, or any of the occultist techniques of the early 20th century, the foundation laid by modernist artists like Kandinsky and af Klint is part of the dialogue with which I am engaging. However, our explorations of death at an atomic level, coupled with a layer of symbolism even when abstracted, connect the works thematically.

7.

Further In Conversation with: Explorations of Transformation as a Reiterative Practice

To drive the point home: it is important the work we make not exist in a vacuum. It is my belief that art is the visual language of communication, and thus a form of conversation. But a conversation is an exchange, requiring both input and output. When I analyze my own paintings and prints, it cannot be isolated from the artistic influences with whom I seek to engage in dialogue, particularly from the perspective of a research-based program. Just as I have sought to study elements of quantum mechanics and theoretical physics as the foundational baseline for the narrative thesis I am developing, I also have researched bodies of work with those I feel there can be a conversation.

Upon reflecting on the artists I find myself referencing, a clear correlation is shape: I am most drawn to those whose work physically manipulates form and work

with concepts of change. For instance, two of my main influences, painters Monique Mouton, who often works on CNC-cut wood panels, and Jack Shadbolt, who repeatedly painted metamorphoses with near obsession, both deal with transformation.

Figure 11, Monique Mouton, *Rose*, 2015
(please google for image)

I first saw Mouton's panels back in 2016, not long out of my undergraduate degree. Although her shaped work is cut on the jigsaw and mine on the CNC (technology that was never considered in my highly traditional undergraduate education), her work was something a shock to me because it seemed like such a confident reclamation of a painting, and what it could be.

Writing of her work in 2015, art critic Blake Gopnik described it as: "I don't believe that painting is dead. [...] [Monique Mouton's "Rose"] [is] a classic, Greenbergian shaped canvas, ultimate symbol of painting-for-painting's-sake, becomes the bearer of clutching, bloody hand prints, as though the medium has been shot and is trying to keep from bleeding out."

While I don't necessarily subscribe to the idea that painting as a medium can ever be "dead" as Gopnik is implying it is or was, I do appreciate the notion that a painting is in conversation with its contextual past and present. Mouton, with her wonky and oddly fashioned pieces, handily rejects the anatomy of a rectangle as her platform. I was inspired by her approach of fighting against the rectangular canvas and fashioned my own CNC-cut pieces. Mouton's works literally feel like mutable, shifting shapes—constantly in flux with their own existence, much like the wavelength theory I have been exploring in my own shaped canvases and narratives.



Figure 12, Sarah Green, "*The Body Tells the Story [Chapter 1]*", 2021, oil & acrylic on canvas and CNC-cut frames, approx 5x5

These pieces are not wood panel, like Mouton's, but canvases stretched over laser-cut wooden frames, with cross bracing and interior ridges for strength (see fig 13.) This subversion of the classic rectangular painting was not just because I wanted to push the boundary of the structure like Mouton, but because the shapes themselves are the characters in the narrative of my thesis. Each shape holds its own story, the singular consciousness reflected in its physical forms. They are also linked to one another in their symbolism; *CNC Life Cycle 1* (Fig. 1) is shaped like the moth-butterfly creature of the third part of the narrative; in turn, *CNC Life Cycle 3* (Fig. 3) is shaped like the atom the sun is born of.

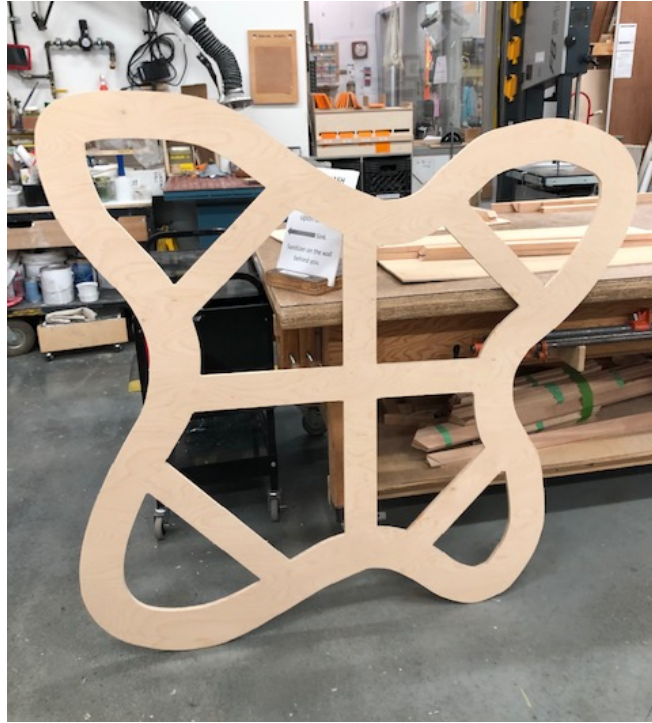


Figure 13, Sarah Green, "The Body Tells the Story [Chapter 1]" CNC Frame, 2021



Figure 14, Sarah Green, "The Body Tells the Story [Chapter 2]", 2021, oil & acrylic on canvas and CNC-cut frames, approx 5x5

As a narrative artist, symbolism is key in all of my work. Over the past few years, I began obsessively, repeatedly working in the shapes of butterflies and moths—frankly I was never sure which if it was fully one or the other. Sometimes it felt more like a butterfly, other times more like a moth, and so I rotated describing them as such, but truthfully each iteration was a blended iteration of a symbol of metamorphosis and death.

In this respect, there is no clearer an influence than Canadian painter Jack Shadbolt. Best known for his work with butterflies, he plays with the same overt symbolism of the metamorphosed creature to an equally abject and sanguine effect. This is due to his use of mostly desaturated colors and derelict, seemingly post-apocalyptic, landscape backgrounds. His paintings read like they're about to collapse in on themselves and burst out of the painting simultaneously.

Fig. 15, Jack Shadbolt, *Mountain Summer*, 1974.
(please google for image)



Figure 16, Sarah Green, *Pathway (Life Cycle)*, 2020

Curator Scott Watson wrote of Shadbolt's work with a thought I shall end on. "Shadbolt's monsters, beasts and bugs often crawl across a blasted landscape, survivors of some awful apocalypse. They are creatures of nightmares and the unconscious. They thrive on repression and destruction. But some of them are symbols of life's renewal, like the butterfly, or of the wisdom of living in harmony with nature, like the owl. Above all, they are to be encountered as forces within ourselves."

8. CONCLUSION; A SUM OF MORE PARTS

It is difficult to put a conclusive end on what is ultimately a limitless field of study, particularly because much of theoretical physics is still just that: theoretical. There will be decades upon decades more research, testing of hypotheses, and practical applications to come. However, when it comes to the currently developed artwork itself, I do feel my approach has been fairly contained in just one aspect of particle and wavelength theory. As I learn more, and as the scientists researching discover more, I hope my practice will continue to respond to any new information I gather, perhaps in new shapes and manifestations.

Overall, the merging of narrative, sciences, and pictorial symbolisms has felt like the correct path for my time in the Masters program at Emily Carr. It's been an organic progression from the start, and much like the theories of physics I have researched, has been continuously adapting and shifting. The very title of this thesis was "A Theoretical Exploration of Consciousness," implying at the outset that this was only one approach in a long line of theories and research into our consciousness and the interconnectedness of all matter. We have been asking this question as long as we know how to, and I do not expect that to change despite any entropy at play.

Perhaps the answers we seek remain sleeping, adrift in a cloud of cosmos.



Sarah Green, "*The Body Tells the Story [Chapter 3]*", 2021, oil & acrylic on canvas and CNC-cut frames, approx 5x5

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