

EMERGENCE

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Abstract

Emergence is a feature-length coming-of-age and science-fiction screenplay set between 2044 and 2059 in Canada and a settlement on Mars. The story follows Nate Ein, a prodigy in computational neuroscience, who loses his mother at a young age. He embarks on a single-minded techno-mythological quest to save his mother from death, and grant immortality to all. His quest forces him into a world of political intrigue and manipulations that leads to him being given the burden of choice for the future of humanity. Nate must confront the trauma that has consumed him, as well as the ramifications of his choices.

Emergence deconstructs the tropes of the Hero's Journey, and explores the issues of unchecked corporate capitalism, technological development, and artificial intelligence, and themes such as grief, growth, trust, choice, power, and balance.

Emergence ends with an unlikely and imperfect Utopian vision of the future, and is meant to provoke collective decision-making on the future of our species.

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Introduction

Is Utopia possible in film or life? If Utopia is impossible, what do we build towards?

At the beginning of my master's, I set out with the intention to reject dystopian fiction; to show a truly Utopian world, a heaven on Earth. My first attempt at my thesis script was *A Conversation Through Time*, set in a future where humanity had used the tools of artificial intelligence to craft a non-hive group mind out of digital copies of all human beings; a god made in our collective image. This god granted humanity immortality and access to infinite simulated worlds, in exchange for their sterilization, inability to damage each other or nature, and confinement to Earth. However, my supervisor, Marie Rickard, identified that the script was lacking in stakes and conflict, and was not cinematic. In my attempt to show a perfect future, I had not given my protagonist emotional goals and stakes. I felt that revising this script was more difficult than simply starting a new script. My attempt at conveying a Utopia in film had failed.

The short answer to the question of whether Utopia is possible in the real world is also no. And the reason for that is the inherent contradictions in the elements of power, and variance in the human population's preferences in these elements. Attempting to find a balance between laws and freedoms, and between equality and competition, has revealed itself in the recent centuries of prolonged democracy to be an impossible task. The reality is that there is not a single shared and unified vision of the future that will be favored by all, but a multitude of competing ones.

So when it comes to our own personal preferences in this matter, we must contemplate whether we trust democracy, and what type of democracy we should have. Do we trust everyone to have a say, or do we set restrictions such as age? We must also analyze whether there has ever been a true democracy, or if it has always been an elite class that controls the party systems, feeding the populace with propaganda and misinformation. When it comes to maintaining a democracy, we must also analyze what

separates misinformation from opinion, and what separates opinion from facts. These are all issues I set out to explore in my script.

I do believe there exists a future that is worth fighting for, and that this future is indeed possible. But I do not dream of ever seeing it. And increasingly, I am convinced that it will never come to be. Still, I wish to put my vision for it out into the world, to encourage its reproduction and discussion in the collective consciousness.

It is my belief that, barring a true anti-capitalist revolution, the trend of imperial monopolies by companies such as Amazon, as well as the impending economic and technological revolution resulting from automation and artificial intelligence, will result in total corporate control and ownership of the economy. The possible private colonization of Mars by these companies will result in them gaining nation-like political power.

In *Emergence*, my second script, I show how the Utopia of my first script came to be, and attempt to tackle the more pressing and high stakes aforementioned issues. *Emergence* is a coming of age sci-fi that follows Dr. Nate Ein on his techno-mythological quest to bring his mother back from the dead. Initially avoidant of others and his own grief, and single-minded in his pursuit, he learns to accept the pain of loss, and trust and value other perspectives. In the end, he must make a decision that decides the fate of all humanity. He takes individual action to cede power to a hybrid AI-human group mind, a solution he believes balances the ethical contradictions of trust, choice, and power.

While a unified vision of Utopia may not be possible, a major theme of this story is that it is essential that we as a society think about what futures we will decide upon with the powerful tools we are about to create.

I believe that the most effective film analyses focus on three interconnected elements: the art itself, the creator(s), and the reality and context in which the art was conceived and created. What follows is an analysis based on these elements; beginning with the underlying nature of reality, and building along the outward path of emergence, through science, society, creator, and the ideas that went into the work itself.

Chapter One: Reality

Introduction

The plot, themes and characters in my story emerged from the philosophical, socio-political, scientific, and futuristic views that I have developed from my education and extensive research.

It's hard to grasp everything we know about our universe into a unified understanding. In *Emergence*, I want to provoke thought on some of the most difficult questions: How are we to reconcile the infinite and infinitesimal scales of the universe, with the phenomena of life, and our own conscious experience? As beings that formed over billions of years of evolution from chemical soup, what are we to do with our recently acquired abilities to harness and control matter and energy in ways unlike anything else in the known universe?

There are no clear or simple answers. This section glosses over the epistemological underpinnings of the themes and concepts of *Emergence*. My concept of Mosaicism is borne out of a fusion of Marx and Engels's concept of dialectical materialism, the science of quantum field theory, and the scientific phenomenon of emergence.

Mosaicism

My Mosaicist theory builds on mainstream concepts from Marxist thought, dialectical materialism, and emergence.

Here are its main principles:

- ✱ All subjects are interconnected.

- ✱ All measures, values, and traits exist on spectrums or contradictions in flux.

- ✿ All matter and energy is in motion through spacetime.
- ✿ There exist multiple probabilistic futures.
- ✿ All matter, beings, and societies emerge from a hierarchy of lesser parts.
- ✿ All truths, subjective and objective, exist on an evolving, hierarchical, social epistemology in constant flux.
- ✿ Consciousnesses have the ability to select or influence futures.
- ✿ The ability to select futures most often depends on a subject's degree of information, and power.
- ✿ The most effective organization of society will have a democratic and dialectical approach to collective decision-making drawn from the aforementioned principles.

Science

The scientific concepts that inspired and informed my story are quantum field theory, relativity, the concept of emergence, and the blurry lines of what constitutes life and consciousness.

In the climactic sequence of *Emergence*, the Mosaic attempts to understand itself and the universe through a unified and consistent logic. The core of the unified epistemology is the concept of emergence, which understands the universe from the formulas that describe the smallest physical interactions, to the patterns that describe the most complex. From quantum field theory and relativity, to a complete history of Earth and humanity, the Mosaic struggles to find a logical deterministic understanding.

I was inspired by the Many Worlds Interpretation established by Hugh Everett in his thesis *The Theory of the Universal Wave Function* (1956), which accepts

unpredictability by creating virtual universes for every possible future, and a single one that we move into through time, a concept shown somewhat literally by the Mosaic.

Free will and determinism are explored throughout the script. I have always been interested in this debate, even though I have always found the question rather invalid. There's no cruise control mode we could just put ourselves into if we found out the world was deterministic. The illusion of choice, if it is an illusion at all, is just as "real" as the phenomena of perception and consciousness.

In *Emergence*, the characters make choices that do not lead to the outcomes they envision. The only certainty, seen in the Mosaic scene, is that all choices and futures will end the same way; expansion of our universe and its ultimate destruction.

Emergence is a phenomenon that occurs when something has behaviour that its constituent parts do not have on their own. As shown in the Mosaic sequence, emergence describes the pattern of increasingly complex behaviour when quanta combine into atoms, atoms into chemicals, and chemicals into life. The boundary between a complex chemical and life is a blurry one, and it is not clear when life becomes sentient.

Consciousness remains one of the biggest mysteries in science, and is one of the few problems that appears at both the "base" (metaphysics) and the "top" (human psychology) of human understanding. Some believe that consciousness is an emergent property of multicellular life, created by incredibly complex interconnected structures of neurons. The creation of artificial intelligence, with sentience and consciousness in the absence of cellular life will have unforeseen consequences.

Evolution restores balance through trial and error, while human invention destroys it. Now, the biggest threats to humanity lie in our own over-empowerment, over-indulgence, and the consequences arising from this unchecked human development. When we look at the universe from quanta to galactic superclusters, from cellular life to complex society, we may be able to answer the "hows", but the "whys"

seem ever out of reach. We struggle as individuals and as a society to chart a course for the future, because ultimately, there is no objective answer.

Perhaps only what emerges from humanity itself will have a chance to answer our biggest questions, and ultimately decide the fate of our species.

Society and Story

Tribal Cooperation

Humans are inherently interconnected through communication, interaction, memory, culture, and shared social epistemologies. All individual achievement, in science, art, philosophy, etc, is built on previous thought and explorations into reality. In this way, humanity as we know it, is an emergent property of sentient multicellular life. Just as our cells cannot survive without our bodies, so too is our survival dependent on our societies.

Engels correctly posited that the early evolution of humanity was largely driven by tool use. In his 2011 book *Sapiens*, Harari posits that humanity succeeded where other species of the *Homo* genus failed, due to our superior cooperation skills. I believe these two aspects complement each other, as the ability to communicate on the use of tools allowed for the replication and advancement of them. This in turn allowed for greater unity through increased survival, trade, and housing.

For millennia, humans existed in tribal societies, bound together by stories of family, community, and myth. Evidence suggests that these were largely egalitarian societies who were invested in cooperation, as solitary exile was essentially a death sentence in the wild. It was also in the leader's interest to appease the tribe in order to maintain power. If appeasement was not possible with tribal leadership, dissenters, and perhaps their allies, could challenge them without a massive power imbalance.

The Evolution of Civilizations

At some point around the agricultural revolution, tribes were forced to merge in a rat race for security. The most successful leaders were not necessarily the ones whose interests you shared, but the ones who seemed most able to protect you, and provide you a lifestyle comparatively better than the others. As we have seen in sports, humans have a tendency to respect and align with the most successful, often in a bid to share in the spoils of their victory. Therefore, leaders have tended to arise from the most egotistical, narcissistic, and ruthless individuals; those who can best present an image of power and success, and an illusory blanket of protection and stability. Fairness and justness became secondary, and civilization was in many ways more dangerous, thanks to war, malnutrition, and disease.

The stories and myths of these civilizations evolved into more complex organized religions, to serve a similar unifying, peace-of-mind purpose under a hierarchy. Religion offered to give simple answers to explain the world and its political realities, and bind the inhabitants together. For almost all of recorded human history, this religious and political identity and power has been unified under a hereditary authoritarian monarchy, with short lived exceptions in representative democracy.

This political hierarchy was challenged by movements in philosophy, science, politics, art, and narrative, that arose from the Renaissance, Scientific Revolution, and Enlightenment, and has continued to this day. These developments in science, technology, and most importantly, the communicative tools to share these developments, have resulted in a number of political and technological upheavals. This has led to a continuing renegotiation of the social contract between ruling and working classes, as exemplified in the establishment of constitutional democracy.

Marx believed that the evolution of human civilization followed a pattern of increasing equality. However, as he predicted, the monarchist, nationalist, fascist, and capitalist forces across the world have fought back against this equality and unity,

through oppression and propaganda, in order to benefit and maintain their shared class interests. During the Cold War, corporate media entities provided national narratives to unite the people of Western nations under capitalism, even against their class interests.

The internet, with its decentralized nature, and the modern flood of entertainment and spectacle, has resulted in incredible changes to society. Now, one could go their entire lives without sharing any common stories, or histories, with their neighbours. This decentralization and choice has made people harder to control, but has also created division. This has led to the modern resurgence and mainstreaming of socialism, but also the creation and expansion of dangerous fringe groups.

These changes in society have led to the increased popularity of right wing authoritarianism due to the simpler narratives and epistemology of social conservatism and religion. Simplistic moralities and understandings of the world, handed down by a superior, benevolent being, is easier to agree upon than the uncertainties, complexities, and contradictions inherent to reality. Billionaire philanthropists seize on this in a similar way, by presenting a positive vision and false morality in an attempt to unify the people under the capitalist class. The shift to right wing politics since the 80s, that we see on the global stage, has led to an increasing inequality driven by the unscrupulous ruling and capitalist classes. Combined with the justified demands for the radical change to a more just society, this has led to extreme polarization.

Automation and Artificial Intelligence

It is unclear how the increase in class divisions, authoritarianism, and the monopolization of the economy coinciding with the emergence of artificial intelligence and automation of labour, will affect society. Many have voiced grave concerns that automation will make the working class obsolete. If elites don't need the lower classes anymore, it is unclear what will happen to them. The elites have never willingly shared their power and wealth, and never will. Those of us not in the elite must unite and seize

back power before it's too late. Artificial intelligence created under these current capitalist and nationalist conditions poses an existential risk to humanity.

Science Fiction

We need to storify the dangers of our present and future to unify the morality of our culture. The gambit with fictional storytelling is that it often seeks to address a topic through implication, without alluding to it directly. Our society has become less subtextual because of the nature of our media. Contemporary societal conditions make it almost impossible to address a specific challenge without it being immediately identified as pedantic. Ultimately, the most effective solution is to tell human stories that are as truthful and relatable as possible. *The Mosaic*, with its direct connection to each individual's entire experience, is meant to reflect this in an idealized sense.

To tell a realistic science fiction story is to try and unite an audience with visions of what should or should not be, including as critical a damnation/debate as possible. Some of my favorite science fiction stories have been either ineffective or counter-productive.

In the 1999 film *The Matrix*, directed by Lana and Lilly Wachowski, the function of the story is to create distrust towards machines, as they provide those in power with the means to control us. However, by replacing those in power with literal machines, *The Matrix* failed to explicitly address the cause of the inequality that allows for those in power to maintain and increase it. By alluding to, but not addressing corporate capitalism and the police state, *The Matrix* allows for wild thematic misinterpretation seen prominently in the alt-right/incel "Red Pill" movement, as well as right-wing conspiracies like QAnon, which now uses a similar "follow the white rabbit" motif.

Films such as Andrew Niccol's *Gattaca* (1997), which addresses gene manipulation and eugenics, have not stopped the rise of gene manipulation technologies such as CRISPR. It is possible that the film did in fact bring popular attention to the technologies and ethics of its subject. It is unclear how effective of a warning it was.

James Cameron's 1984 film *Terminator*, a film that explicitly shows the risks of artificial intelligence and robotic weapons of death, seems only to have inspired the computer scientists and roboticists to create weapons for the military like drones and the monstrosities waiting to emerge from the labs of DARPA and Boston Dynamics.

While writing my science fiction script, I worried that my own story would suffer a similar fate. I tried to address my fear by trying to find a balance between the extremes of producing trite propaganda on one hand, and producing a script that could be misinterpreted, or even inspire villainy on the other. I made it a goal of mine to not simply distract and entertain, but to present an issue to the masses, address potential solutions, and assist in a cause.

Chapter Two: Creator

Introduction

Just as I reject the notion that a single individual can be understood separately from their environment, so too do I disagree with the notion that a piece of art can be fully understood separately from the artist. I believe that an artist's life informs their work, and that studying the artist allows for a more complete understanding and critique of their work.

My own story is littered with pieces of myself. Consciously, I have inserted my philosophical and socio-political views, my paradoxical relationship with power, and my personal growth. There are also likely traces of me encoded throughout my story in ways that I am not yet aware of. I hope that in understanding my background and journey, my story can be better understood and contextualized.

I believe that the creation of a work not only reflects, but also affects its creator. The writing process of my script has led me on a journey of personal growth that reflects Nate's. I have had to grapple with my own grief, come to terms with my flaws, and become more trusting of, and receptive to, the perspective of others.

Childhood

Although I was born with numerous privileges (able-bodied, white, middle-class, and gifted) I am Jewish on my mother's side, and faced antisemitic teasing even from my friends. My mother's parents had both survived the Holocaust, and I was forced to understand the dark side of humanity, and the violent, oppressive nature of power.

Like Nate's father, Joe, my father worked a lot as an executive in a construction company. He was away often, at times living out of town. When I was young, my mother

and I would play with my toys, inventing stories together. When I started school, I had separation anxiety, something I imbued into Nate's character.

My fear of abandonment has continued to be central to my psyche for my entire life. It has shaped me and almost all of my relationships, and has even permeated my writing. In my first thesis screenplay, *A Conversation Through Time*, the immortal protagonist compromised and clung to his friends and love interest, desperate to "lock-in" affection and attention, exacerbated by the prospect of eternity. In *Emergence*, Nate is unwilling to accept mortality and the loss of his mother and dog.

Artistic Influences

As a young child I was drawn to stories of superheroes, or otherwise supernaturally gifted characters, engaged in violent conflict in the name of justice, such as the animated series *Spider-man* (1994) by John Semper and *X-Men* (1992) by Mark Edward Edens. I also watched a number of classical epics such as William Wyler's *Ben-Hur* (1959), Stanley Kubrick's *Spartacus* (1960), and Mel Gibson's *Braveheart* (1995); all fictitious historical depictions of righteous, anti-authoritarian rebellion. I also watched contemporary films such as *The Matrix*, which was the single most impactful influence on my interests in storytelling, philosophy, artificial intelligence, and politics.

In my adolescence I played a lot of video games. My favorites were the *Assassin's Creed* series, about a hero forced by a power-hungry corporation to live his ancestor's memories in a simulation, and the *Mass Effect* series, which featured some incredibly complex world-building and themes related to choice, ethics, morality, and artificial intelligence. In fact, the main villains of the series were the Reapers, an ancient AI hive mind that sought to wipe out advanced life in cycles to prevent them from developing AI that would destroy all life permanently. Interestingly, having not played the first game, I did not realize until after my creation of the Mosaic, that these AIs were in fact hive minds of the species they eradicated and preserved. This was my first encounter with collective consciousnesses.

When I was in grade school, I read my father's high school and university history and mythology textbooks. I became so accustomed and desensitized to Roman violence, war, and oppression, that I began to idolize "great" historical figures such as Augustus Caesar and Napoleon, not seeing the dark side to them, or the dangers of this hero worship. In high school, I read Alan Moore's graphic novel *Watchmen* (1987), an incredible deconstruction of the superhero genre. In university, I attended Professor Joseph Keeping's lectures on the topic. Keeping explained how *Watchmen* exposed the superhero as a glorification of hyper-masculinity, violence, and the ethics of uber-mensch vigilante justice. It showed me how one could turn a story, or a genre, upside down; to reveal, critique, and challenge the attitudes of the societies these stories were created in and for. For years, this desire to challenge common narratives, to present an antithesis to them, has been a driving force in my writing.

Intellectual Influences

My worldview, and therefore the world of *Emergence*, has been influenced by many intellectuals. In grades 11 and 12, I learned about corporate imperialism. Starting with Naomi Klein and Noam Chomsky, I wound up becoming a revolutionary Communist, and idolized more radical historical figures such as Karl Marx, Giuseppe Garibaldi, Vladimir Lenin, Leon Trotsky, Che Guevara, and Fidel Castro. In university, I took a number of courses that referenced Marx, and often sided with the Marxist perspective/analysis. However, in my universal rejection of outdated theories that I studied in psychology and philosophy courses, I threw the Marxist baby out with the bathwater.

For a time, I turned to the scientists I learned about in my astronomy and astrobiology courses: Einstein, Von Neumann, Feynman, Sagan, and Brian Greene. I became fascinated with futurism, and a fervent believer in Ray Kurzweil's predicted "Singularity". I viewed figures such as Elon Musk as an Iron Man figure; a benevolent billionaire who would save the world through ecologically responsible capitalism.

My self-education in quantum physics and relativity over the last few years has led to a fundamental shift in my view of reality. In conjunction with my undergraduate courses in psychology, philosophy, linguistics, and critical thinking, I believed I had come up with a unified epistemological framework that could easily classify and organize all of my understanding in a hierarchical structure, with basic logic at the core, and math, physics, chemistry, biology, psychology, and sociology branching out with increasing complexity. Only recently did I attempt to return to studying Marxism, due largely to my self-education in economics and the political movement spurred by Bernie Sanders. I was fascinated to discover that so many of the theories I had discovered or “invented” were actually embedded in dialectical materialism. From there, I synthesized all of what I had learned into a unified framework and developed it further into my Mosaic theory.

Personal Journey for Thesis: Emergence of *Emergence*

I have structured this section of my personal journey for my thesis using major plot points as subtitles. The reasons for this will be explained below.

Introduction

After I graduated from my BFA in Screenwriting, I took a year off to travel in Europe, staying in Lyon, France, with my girlfriend at the time, who was doing a year abroad. This was my first time living away from home and with a partner, without the familiar support systems of my family and friends. I applied to the screenwriting stream of the Master of Fine Arts in Film program during this time.

Inciting Incident

Within the span of a few months, while I was polishing my old scripts and coming up with a thesis project, I suffered a number of personal setbacks and losses. I got food poisoning that left me rail thin, and only able to eat an incredibly limited number of foods. I grew frustrated and then angry with my physical body, feeling betrayed and detached

by its new limitations. More seriously, an aunt, an uncle, and the young son of one of my cousins passed away.

I also lost two prominent figures in my life, who were ailing before I left; my childhood pet dog, and my Zayda (Jewish grandfather). My Zayda was a Soviet war hero, sniper, and spy in WWII, and helped Jews escape to British Palestine during and following the war. He was a real-life hero to me. In his final years, I was a caregiver to him. Despite the pain of watching him deteriorate, it was difficult to accept letting him go. He and my dog died a month apart.

Refusal of the Call and Turning Point

Despite the pain I felt during this period, I resisted truly grieving. This denial leaked into my attitudes and beliefs. Rather than accepting illness and death, I felt passionate that humanity's purpose was to progress past them.

I became interested in the religious beliefs that comforted some of my family. I pondered what each of their ideas of heaven looked like to them. The idea I pitched in my thesis application was based on my reality at that time. My rejection of mortality, and my interest in futurism, led me to focus my independent studies on technologies related to immortality and simulations. During this time, I became fascinated with an understanding of personal and collective epistemologies, the seeds of the Mosaic.

My relationship ended shortly after returning from France. After this, the grief I had felt from all of the losses hit me all at once, and I was emotionally devastated from the losses and sense of abandonment. When I began to work on my story at York, I was committed to telling a story that focused on rejecting death, unresolved grief, abandonment, and unhealthy attachment.

Rising Action

My first attempt at my thesis script was initially called *StIMULATION* and later, *A Conversation Through Time*, which I will abbreviate as *ACTT*.

I set out with the goal of showing a truly idyllic world marred only by human nature. The story revolved around a relationship between two immortals in a seemingly perfect world. Mirroring my own relationship, the protagonist's dependence on a woman led to the demise of their relationship.

I intended to subvert the classical hero's journey. I rebelled against certain story orthodoxies such as a clear and defined singular goal. Although I added an antagonist and world stakes, I decided to keep the focus of this plotline on the real world psychological ramifications of being inundated with individualistic or tribalistic competition, and its effect on one's worldview and self-image. As a result, the focus of the story itself remained on the relationship, and in a relatively uncritical and idyllic view of this world I had created. My supervisor, Marie Rickard, pointed out that in a world where aging, disease, and death had all been conquered, I had left no room for real stakes, which made it hard to relate to the aimless protagonist. Marie and Professor Howard Wiseman recommended finding the "fly in the ointment" of this "perfect world" or to increase the stakes. I stubbornly felt these suggestions were antithetical to the work, and continued to ignore them, building a story on a flawed foundation.

Midpoint/False Victory and Dark Night of the Soul

At the end of 2018, after 3 years of working on my thesis, I attempted to reinstate for the winter semester independently, with a completed script. The graduate program director at the time voiced his approval without consulting my supervisor, Marie, giving me false hope. Marie told me that she didn't feel this script would succeed at a defence, because I had failed to address the critical flaws that plagued that script. I fell into a depression, and strongly considered withdrawing from the program altogether.

However, I reminded myself of what I teach my students: that story structure is a model for resilience and perseverance. I decided to structure my personal journey for this thesis into the form of story structure, as this is how I framed my struggle for myself, in order to carry on. I realized I was in the dark night of the soul of my own story and needed to fight back with the lessons I had learned.

Climax

I identified my flaws as a writer, combatted and silenced my ego, and accepted that like myself, my characters had lacked goals. The degree of change to this 140 page script seemed too daunting, and I decided to start from scratch. I considered a number of alternative stories, but I finally came up with the idea of telling a prequel, which Marie enthusiastically endorsed. I could keep elements of the world I had built, but with the goals and stakes much clearer. I began work on *Emergence*.

Marie liked the direction of the story, but pointed out that the protagonist did not have a clear emotional goal with personal stakes. At this point I came up with the idea for a radical change to the story. The character of Miri, who originally died in the accident, would survive in this draft. Nate, instead of being haunted by flashbacks of her death, would embark on a quest to save her, and later retrieve her from the dead. This gave the protagonist a clear goal with emotional stakes, while keeping the majority of the story intact, and fitting the queasy, deluded, techno-mythological atmosphere I wanted for the story. When I relayed this to Marie, I was encouraged by her enthusiasm for this change.

Final battle

When I submitted a revised first act, I felt I was finally on the path to completion, but Marie felt the script needed to be more cinematic and emotional. I lost confidence in my ability to ever write a dramatic narrative. I reminded myself that I was truly in the final battle. In a final battle, the protagonist's plan doesn't work as intended, and they must

use what they've learned on the journey to display their growth. I spoke to Marie on the phone, and together we made changes to the first act.

After years of having only one supervisor, under new department leadership, Marie was finally able to obtain a reader to be brought onto my committee, something Marie and I had felt would be beneficial all along. I was overjoyed that Maureen Dorey, a professor I had in my fourth year of undergraduate studies, and one of my favorite professors, would be my reader. When Maureen read my script, her feedback also contained recommendations for major changes. In fact, along with familiar critiques on stakes and drama, she also recommended cutting a large chunk of the first act that I had laboured over for almost a year. I doubted my position in story structure. I felt I was back in the dark night of the soul, or had simply failed in my final battle.

Despite this downturn, I reflected, and decided that I needed to apply what I had learned in my personal life, as well as through the journey of my protagonist. I fought through the pain of loss and cast aside the two extremes I had operated with previously. I did not refuse feedback, nor bend to it entirely, and instead found balance. Marie, Maureen, and I agreed to meet together, so that like the Mosaic, we could attain a consensus through a dialectic. Through this process, and with synthesized notes from Marie and Maureen, I was able to rework the story in a heavily revised outline, removing scenes that did not advance the story, minimizing my reliance on dialogue for exposition, and making sure there were stakes and turns in each scene.

I made clear to Marie and Maureen that I was determined to reinstate for a Fall 2020 defence. On August 11th, I was told by Marie and Maureen that I needed to have a new draft of my script by August 18th, that reflected my revised outline, with some additional changes, such as cutting the script from 128 pages to 120. I worked relentlessly and rewrote almost 100 pages. On August 16th, I submitted a draft that was just over 118 pages; two days early, and two pages under the requested page limit.

Conclusion

Marie and Maureen agreed that I was ready to reinstate. They identified that there were still some issues, particularly with the lack of emotion in the climactic and concluding scenes in the third act. Since the reinstatement, I sent in two additional edits, each an unambiguous improvement. On September 9th, 2020, almost exactly five years since I began my journey, I submitted a final draft, further cut to just over 115 pages, and with a greater emphasis on an emotional ending between Nate and Joe that Marie and Maureen were seeking.

I can safely say that despite the extended length of this journey, I am extremely grateful for it. I have grown immensely as both a writer and a person. When I started my master's, I focused solely on the intellectual and psychological aspects of story, and ignored the emotional core that a story is built on. Thanks to Marie's patient persistence and guiding hand, I have learned to prioritize that emotional core of a story, and learned how to background important thematic elements within that.

Chapter Three: The Art

Characters

Emergence intentionally distributes various classically “good” moralities amongst the characters. Each has a valid, subjectively moral argument for their vision of the future. Mirroring the real world, each of these visions has a catch.

Nathaniel “Nate” Ein

The Ein family is named using a word that means “one” in German, and “none” in Hebrew, languages that represent their Ashkenazi Jewish heritage. The name is meant to evoke the concept of “The One”, and its messianic connotations embedded in many stories, most prominently to me in *The Matrix*. The name is also a reference to Albert Einstein.

In Hebrew, Nathaniel means “god has given”, implying his princely birth, while Nathan means “to give”. Nate’s full name thus contains multiple potential interpretations of the symbolism of his name, reflecting the moral ambiguity that both the character and the audience must struggle with.

Nate is meant to fit the tropes of the hero’s journey; young, privileged, almost supernaturally gifted, and traumatized by a loss.

In Gus Van Sant’s 1997 film *Good Will Hunting*, the protagonist, Will, is presented with two father figures, the genius, ambitious, and careerist mathematician, Gerry, and the compassionate, loving, and healing psychologist, Sean. Gerry tries to raise Will to meet the full extent of his genius potential, while Sean tries to address and heal the boy’s fear of intimacy and self-destructive behavior stemming from his history of severe abuse. I set out to accomplish a similar dynamic for Nate.

At the core of the character of Nate is a deep wound stemming from his childhood, where both of his parents were taken from him, in their own ways. This instilled in him a deep fear of abandonment, and crippling attachment issues. The loss of his mother proved too much for Nate to bear, and rather than accepting this loss, he remained stuck in the denial and negotiation phases of grief. This unchecked flaw manifests itself in Nate's single-minded devotion to his scientific research, at the cost of all else.

In *Emergence*, Nate and his gifts are constantly in a tug of war. The first struggle for Nate's future is contested by his transhumanist, careerist mother Miri and his more naturalist, moralistic, and nihilistic father Joe. Following Miri's accident, Nate grows to reject Joe and the abstention from action he represents.

In the first act, Nate commits to a single-minded quest to revive his mother, disregarding the rules. When he leaves for Mars, he does so knowing that he will let himself be used and manipulated in pursuit of his quest and his own personal vision for the future.

In the second act, the war for Nate's soul is inherited by Elias and Gali, who represent an almost Nietzschean individualism, and collective decision-making respectively. Nate has his guard up when he goes to Sanctum, and while naive at times, knows he cannot trust anyone. Elias and Gali both attempt to break down his barriers in their own ways.

Elias, ever the manipulator, tries to portray himself as a loving father figure to Nate, like a balance between Gerry and Sean from *Good Will Hunting*. While encouraging Nate's careerist goals, he uses a line modelled from Sean, telling Nate, "I'm with you Nate. I'm all in." The use of this line in *Good Will Hunting* was meant by Sean to create trust with Will, to help him face and conquer his fear of intimacy. Instead Elias uses the line in an attempt to isolate Nate into trusting only him, and generate suspicion of others, furthering Nate's fears and flaws.

Gali attempts to appeal to Nate's morality, hoping to connect with him on a personal level despite their differences. She succeeds in disarming Nate, and gaining his trust, but the AI hack on Earth derails her intentions, fostering a fear and sense of urgency that serves to further drive Nate into the hands of Elias. When Gali finds out about Miri, revealing Nate's dark and depraved secret, Nate blackmails her into silence, shattering their frail bond. Gali attempts to defend democracy and collective decision-making, but she cannot overcome the paranoia instilled in Nate by Elias of the specter of AI destruction. However, in the end, Nate embraces Gali's moral and democratic values.

Nate's relationship with Janos also damages his ability to trust others. At first, Janos seems to be Nate's first chance at a true friendship with an individual on equal footing to him. After succeeding in reviving his mother, Nate opens up with Janos, enjoying what is actually his first real night out with a friend. The night ends ambiguously, with Janos discovering Neo's illegal autonomy, and the sharing of a one-sided secret.

Later, when Janos appeals to Nate not to let a human corrupt his machine, he sows distrust between Nate and Elias, suggesting Elias has manipulated some of the most important events in Nate's life. Nate heeds Janos's warning, only to be betrayed by Janos, who steals Nate's technology to achieve his own individual goal of installing an omniscient, omnipotent, and "logical" AI.

This final betrayal is what forces Nate's hand into taking direct individual action. In the end, Nate acknowledges his flaws, and accepts the painful loss of his mother. He accepts that each of the other characters was right in some ways, and wrong in others. He attempts to synthesize the lessons he has learned into his own solution; he acknowledges the need for both a logical and incorruptible power structure, and an empathetic, dialectic, collective decision-making process. Still, like most idealistic designs for governance, there are potential flaws and dangers to this system. I want the audience to question if Nate made the correct decision, and whether he is the hero or hidden villain of the story.

Elias Boer

Elias, the antagonist of the film, is clearly meant to emulate Elon Musk and Jeff Bezos, with a last name to denote his White South African heritage, reminiscent of Musk. He is a “best case” trillionaire, envisioned to have the eco-friendly and saviour/star appeal of Elon Musk, the expansive monopolizing empire of Jeff Bezos, the philanthropic shield of Bill Gates, and the charisma of Steve Jobs. With this in mind, I created Elias as a culmination of these capitalist celebrity figures.

The closest fictional character to Elias is Ozymandias/Adrian Viedt from *Watchmen*, a sociopathic genius and titan of industry who devises a disaster to unite the world.

One of the unfortunate underpinnings of capitalism today is to idolize billionaires with a cult of celebrity. Elias uses this to manipulate others and position himself as a saviour figure. I set out to create Elias Boer as a fundamentally flawed individual, but it was important for me to have an audience view him as “the Good Trillionaire”, someone different from, and better than, the contemporary billionaires. I imbued him with progressive language and an ideology that actually carries a sound radical logic; just as it is moral for a Communist revolution to seek power through means it otherwise denounces (violence), Elias is painted as believing that the only way to save the planet is to achieve power through the means most likely to lead to change; eschewing violence for the accumulation of capital.

Elias is meant to demonstrate the dangers of unchecked power itself. Elias’s flaws are his saviour complex, and his need for control, mirroring some of Nate’s own flaws. This makes Elias a shadow and dark father figure; a warning for Nate of who he could become.

Esther Gali

Esther Gali is named after the Biblical figure of Esther, who used her femininity to advocate for the salvation of the Jews in the Persian Empire. Her last name is a variation on the Hebrew word for wave “Gal” or waves “Galit”. Through her connection with the concept of waves, she is connected to the concepts of balance, opposition, and motion/progress, as well as quantum field theory and the more complex non-linear and non-circular thinking related to spirals (progressing variation).

Gali is patterned after democratic socialists like Alexandria Ocasio-Cortez and Bernie Sanders, who also both lost their fathers. She is competent, professional, and uncompromising in her beliefs. She is perceptive, and her vision of the future is clear in terms of ideology. But like most Democrats, her attempted means to achieve it may be naive. This combination of traits seems to go hand in hand, as those with clear morals are often unwilling to commit the often immoral or hypocritical actions to achieve and maintain their values in a world shared by psychopaths and narcissists. This informed Gali’s perspectives and actions.

On Sanctum, a place almost solely populated by elite and establishment figures, Gali is ostracized the way AOC and Bernie are. In Nate, she sees an incredible threat, but also someone she believes can be reached, and perhaps even become an ally.

Though there is tension and attraction between Nate and Gali, I resisted any explicitly romantic relationship between them; the main reason being that it simply did not seem realistic for these characters. Neither feels they can fully trust the other, especially given their professional conflicts. Still, their attraction to each other leads to Nate trying to win Gali’s approval for personal, rather than professional reasons. Gali lets down her guard, and compromises her principles, when she enters the simulation with Nate at the midpoint, a very intimate and vulnerable scene. This ends up backfiring; both jeopardize their agendas, and the relationship is irreparably damaged by the fallout.

Janos Von Emanuel

Janos is named after Janos Von Neumann, famed Jewish Hungarian-American mathematician and physicist. Von Neumann's lengthy achievements include Von Neumann machines, a proposed self-replicating space probe that would launch to one place, make copies of itself to launch elsewhere, and spread exponentially across the universe. He once scolded Richard Feynmann for the latter's concern over the use of nuclear arms, saying "you are not responsible for the world". Janos's last name, Emanuel was chosen primarily because of an apparent prediction that the Messiah would be named Immanuel. The name translates in Hebrew to "god is with us". I considered giving this name to Nate, but was happy with his name, and so I gave it to his "shadow".

I created Janos with an idea in mind: there's never just one Ozymandias. Janos is an equal to Nate, a mythical shadow and a trickster. He is the epitome of human self-loathing and nihilism, while his cynicism and quiriness are meant to both alarm and disarm in equal measure.

Janos views humans as an early stage of intelligent life, confined by the animalistic shackles of competitive evolution, and doomed to disaster without intervention. He views AI as "our more perfect children," and the inheritors of life. Janos creates an incredibly powerful AI, and gives it no guidance other than to learn as much as it can, and behave logically (by whatever measure of logic it deems fit). His passivity when Nate interfaces with his creation shows his trust in his own work, and perhaps in Nate as well, after Nate entraps Elias. He believes that if Nate influences the AI in any way, it would only be positive.

While at the end of the story Janos and Nate end on an antagonistic note, I would be interested, in a subsequent story, to explore the likelihood that they reconcile and find companionship in each other that they could not find from others. Following their actions in *Emergence*, I believe that they are each the only friend either of them could ever have.

Joseph Ein

Joe and Miri are named after the Hebrew versions of the Biblical Joseph and Mary. This was meant to evoke the Biblical and messianic connotations challenged in the script, and if noticed at all, to be more amusing than symbolic.

Initially, Joe, along with Miri and Elias, formulated and sought to bring about a vision of the future where humans were freed from alienating labour and given access to the wealth that automation and other technologies promise. This vision shares much with the one outlined in Aaron Bastani's 2019 book *Fully Automated Luxury Communism*. Elias's corruption of this vision from communist Utopia to "woke capitalism" is the cause of Joe's disillusioned nihilism.

Joe is a moral absolutist who despises power and corruption. He has a respect for nature; an appreciation of the beauty, and an acceptance of the brutality of the natural world. He views humans as inextricably connected to this world, and believes that the evils of humanity are therefore insurmountable on a societal level.

That said, he is conflicted about the advancement of technology. While fervently opposed to working with Elias in any way, he acknowledges on some level that Elias is the lesser of evils compared to more corrupt dictators. In this way, he wants no part of Elias's continued path to power, but limits his resistance to a personal withdrawal from actively assisting it. His involvement in the creation of the Sanctum Convention was his last attempt at stopping the dangerous race for sentient AI, and when it was used by Elias to monopolize the research, he retreated further into a nihilism.

Like Nate, Joe had trouble letting go of Miri, and suffers from survivor's guilt. That said, when Miri develops cancer, Joe's nihilism and distaste for suffering primes him to accept her fate.

Nate's desire to work for Elias enrages Joe, because it challenges the worldview that Joe has committed to and refused to challenge. Despite this, Joe does acknowledge

that Miri may have wanted to be revived and does not act to stop Nate. His admission that he did in fact hold onto a hope that Nate could bring Miri back reveals that, despite his personal withdrawal and nihilism, Joe seems to have had certain hopes for the future that contradict his outwardly expressed worldview. In the end, Joe is infuriated by Nate's decision, but once again acknowledges on some level that it is the best solution, poorly executed or not. More than that, seeing Nate experience the same guilt and grief he did following his trip to Mars and Miri's accident, forces Joe to confront his own survivor's guilt, as well as his regrets over his role (or absence) in Nate's life. By beginning to forgive Nate, he is also beginning to forgive himself. The story ends on the rehabilitation of both of these characters, as well as their relationship.

Miriam Ein

Joe and Miri are two halves of a whole. Cynical Joe, optimistic Miri. Joe sees too much negative to feel like change is possible, whereas Miri ignores and justifies the negative for the sake of change.

My Bubbi (Jewish grandmother) died of cancer when I was young. I remember seeing her from outside her hospital room, sick and jaundiced, and I refused to go in. That was the last time I saw her, and this memory, and the associated guilt, has always haunted me. This informed the scene of Nate refusing to go inside his mother's hospital room, as well as Miri's later terminal cancer.

When Miri is brought back from the dead, she returns as a shade of her former self. Her memories are there, but the reconstruction of her brain has left her feeling foreign to herself. When Nate catches Miri up on the family, she finds the memories Nate has curated for her bittersweet. She is shocked to learn that she is dead, and that Nate has reconstructed her damaged brain. Nate leaves Miri in the Interface to process this.

Miri comes to terms with her situation. She realizes that she is not the same Miri that Nate was trying to resurrect, and sees, through Nate's curated memories, how his inability to let go, and his quest to revive her, has consumed him. As she is incapable of

taking her own life, she requests that Nate destroy this copy, let go of her, and move on, clear headed.

Naomi Ein

It was my intention to develop Naomi into a far more complex character, beyond her limited role in this script. She is the one of the most reasonable and human of all of the characters, with a balance between practicality and morality. Behind the scenes, she is the one working against Nate's revival of their mother, revealed in her final scenes.

Naomi's role in this story was progressively reduced to better focus on the other characters. I even questioned whether she needed to remain in the story at all. While no longer expressed in the latest draft, Naomi is in fact the only character to explicitly approve of Nate's decision, and will continue to be Nate's closest confidant and support in the future.

Pseudoscience of *Emergence*

I did not "invent" any of the concepts explored in the film. All of them are plausible and are actively being researched. The timelines and order of these developments will most likely prove inaccurate.

Flora

Automatons

The first main product of Flora, the automatons are grey humanoid or golden robots devoid of consciousness, but capable of performing almost all labour, from manufacturing to service. Elias used his family's wealth to fund this project, while the majority of the technological development was Joe's. Its success gave Flora and Elias immense power, while eliminating many dangerous and menial jobs, for better or worse.

Space Elevator

My first encounter with the concept of a space elevator is the one featured in the novel *Red Mars* (1992) written by Kim Stanley Robinson. I read this book when I was applying to the master's program, and while my original script was explicitly anti-interplanetary colonist, the structure fit perfectly into my prequel.

The concept is considered feasible by many, and could start being produced as soon as a material like graphene can be mass produced at low cost.

In *Emergence*, Earth's space elevator was constructed during the political dark ages of the 2030s, where authoritarians competed with growing corporate power. Flora, the conglomerate led by Elias and Joe, constructed the elevator soon after monopolizing labour with their automatons.

Blossom Entertainment System

The Blossom is a soft Virtual Reality friendly entertainment system. Unlike the later Interface, Blossom uses either a 3d display or VR goggles (though this is never actually shown in the script for cinematic reasons). All forms of digital media can be viewed or played through Blossom.

Nectar Printer

Miri's invention, the Nectar printer, is the most unrealistic device in the story, despite modern precedents. The reason for this is not necessarily the possibility of this technology working, but its cost efficacy. To print a piece of food to be nearly identical to the real thing seems much more difficult than to simply grow produce. Additionally, the materials required for printing foods would still need sources.

My solution to this problem is not mentioned in the story, because it's unnecessary and only raises more questions. That said, the idea is that the production of food is done by Miri's artificial life forms, which are genetically modified to produce the

edible and spoilage resistant cartridges of artificial (and simplified) cells that can very easily be printed. The idea here is that the cartridges have an eternal shelf life, and can be produced in immense quantities. This would allow for Flora to produce immense amounts of the material, without concern for demand. This would allow them to price it as cheaper than conventional food, which would become like a delicacy.

Floem Store

Named for the veins of trees that carry the nutrients from the roots to the branches, the Floem store was much like a unified Amazon. Floem has access to physical products and foods that can be printed through the Nectar printer. Like Amazon Prime and Twitch (the gaming streaming platform owned by Amazon), it also has access to a vast library of media and creator content. Floem monopolized much of the world's consumer economy.

Samara Solar Sail

Named for the winged seeds of some trees, the Samara craft is a rotating solar sail ship. Like the space elevator, the concept is mainstream and likely to be used in the future, once the materials are available.

Interface Technology

Mesh Scanner

Like a digital camera, the scanner has the ability to observe and encode an aspect of reality, but lacks any ability to influence it. In the case of a camera, this means encoding lightwaves into data that can be reproduced by pixels to replicate an image for humans to see outside of the environment from which it was taken. For the mesh scanner, this means being able to scan the brain without altering it. This scan can then be digitized to create a model of a human brain. There are versions of this type of scanner today. There are even versions complex enough to scan a sleeping person's brain to

detect the images they're dreaming. Nate uses this mesh to scan his comatose and dying mother's brain, preserving it for future restoration independent of her body.

Helmet Interface

First used successfully on mice, this helmet has the ability to "override" the brain's perception systems. Its nearest analogue would be a disk drive in a computer, capable of processing information without necessarily altering the original data fundamentally. In this example, the brain would be a CD. The version developed by Nate in his PhD was capable of overriding the physical senses of mice, to induce a lucid dream-like state. This is arguably the most unrealistic of the devices Nate creates, because it requires a non-intrusive way to interact with the brain in a very delicate, precise, and rapid way. That said, there are technologies that can interact and trigger specific parts of the brain, so it does actually seem possible theoretically.

Interface Device

Like the disk drive analogy, the Device is the computer processor, capable of interacting with the data retrieved from the helmet. It contains the hardware that allows for programming how to interact with the brain in various ways. In the script, it appears as a large puck-like cylinder.

The Device Nate uses with Miri's orb was created to have a manual switch to turn it on and off; something he developed after the disaster with her initial resurrection.

Interface Display

This display attaches to the Interface Device, like a computer monitor to a computer. It has the ability to interpret data from the Interface Device, and display the contents of a human's perception. Together with a brain, helmet, and interface device, the monitor can convert the raw input of a brain's patterns into a visual format. Its spherical shape reflects the illusory 3d, but truly 2d perception, with the centre of the sphere being the observer.

The display is shaped like a sphere for two reasons. The first is to give a full visual field of perception. The second is that when stacked on the puck, it evokes the image of a crystal ball, furthering the delusional and techno-mythological imagery.

Interface Programming

This aspect of the interface is equivalent to software, such as apps, programs, movies, and games. They are pre-made, locked-in simulations that someone inside an interface would experience as they would the real world. Rather than the blank slate that can be accessed with the helmet interface, these programs could create a structured simulation that can be acted upon in accordance with the programming. It has the potential to connect a person using an interface helmet to other devices with the right programming. For example, someone could write a program that would allow someone to link their helmet interface to a robot body and control it.

Simulated Physics and Worlds

Once you have an ability to interact with a person's consciousness, you can begin to set rules and boundaries. Like Unreal Engine, a program used to create video games, the simulated physics is the first step in establishing ground rules for more complex simulations. The simulated worlds of *The Matrix*, and *Black Mirror's "San Junipero"* episode, are accurate examples of the potential of this technology.

Interactive Programs

The interface, like a computer, has the potential for programming that would allow it to interact with other technology/devices. For example, think of computers that can be used to control cars, planes, and public systems etc. Nate hopes to develop programming that would allow for humans to upload their consciousness into invulnerable robot bodies, ideally with digital copies of their brains replacing the need for fragile organic ones.

Secret Lab Simulation

This is a specific program used by Nate that has a built-in physics, as well as the ability to work on a program for the interface to control the Global Command.

Global Command

This is an incredibly complex quantum computer capable of accessing and controlling a hypothetically infinite number of systems in synchronization. It is designed with the capability to forcibly connect to any contemporary technology, and defend it from hacking. Like Skynet in the *Terminator* films, it was meant to serve a utilitarian function, and was not intended to be autonomous or conscious.

For the Global Command to work, it must be the most advanced and powerful computer in the world, as it will act as the safeguard to all networked computers working in synchronization. In this way, the Global Command is difficult for imitators to emulate and control successfully.

Mosaic

The Mosaic is the union of the Interface, Global Command, AI, and the sentient emergence of the collective consciousness of humanity. The Mosaic makes constant copies of the minds of the living humans that comprise it, to serve as a conscience to its logical mind. This ties the Mosaic more closely to the humanity that composes it, as well as to the hierarchical links of emergence.

While not shown in *Emergence*, the Mosaic was prominent in *A Conversation Through Time*, where it played the role of a benevolent but restrictive god.

Architecture and Design

I have always been fascinated by architecture, and find within it the preservation of a society's ability and values. As such, I dedicate a significant amount of time in my script to describing the architecture as it reflects the characters and narrative themes.

Ein Family Home

The Ein Family Home is shaped like a shell, half submerged in the centre of a lake. The external surface is entirely one-way mirrored, giving privacy from within, but allowing for a large atrium inside. Inside the shell, the home is inspired by a futuristic Art Nouveau; organic, naturalistic, asymmetric but mathematically sound. Structurally, the home is mostly a ring of rooms beneath the dome, with a large atrium in its centre. In the centre of the atrium is a lush garden, and at the centre of the garden is a vine-covered maple tree. The centrality of the tree is meant to immediately reinforce the importance of the tree's symbolism to this story.

Space Elevator

The station has features largely inspired by Gothic Cathedrals; ethereal white stone, with spires beset with giant emeralds, meant to additionally evoke the Emerald City. This cathedral inspiration is meant to evoke the quasi-religious nature of Elias's public persona and power, and meant to evoke the Church's moral, scientific, and political leadership in the dark ages between the fall of the Roman Empire and the Enlightenment. The tower that pierces the sky is also meant to evoke the Biblical Tower of Babel, with its heretical connotations, a fitting contradictory symbol.

Sanctum

Sanctum is a helix-shaped spiral that wraps and spins around the space elevator to generate artificial gravity. The main street of Sanctum is meant as a balance of the Ein and Flora styles (though we no longer see Elias's Brutalist/Art Deco old headquarters on

Earth). The streets are filled with lush foliage as seen in the Ein family home, while the buildings are in the Art Deco and Neoclassical styles, but metallic, and richly coloured in lustrous reds, purples, pinks, and greens.

This design is meant to be unique and beautiful, but evoke the architecture of two eras. The first is the Art Deco style of the roaring 20s, with its capitalist extravagance and Futurism that preceded the rise of fascism. The other is the colourful design popular in the 80s and 90s, meant to evoke the political realities of that era; the rise of Reagan and the disastrous results of his administration's policies; the collapse of the Soviet Union and preeminence of corporate power; the rise and glorification of flashy corporate consumerism. Still, Sanctum is a beautiful place, marred only by its rule by Elias.

Colours and Metals

While largely removed from the final script, there was a lot of colour symbolism in the earlier drafts.

Joe is represented by “natural” greens, while Elias by “unnatural” greens such as emerald and seafoam, as well as the metals gold and brass. Miri is represented by purple, meant to symbolize artificiality and a rejection of nature as it is. Nate alternates between greens and purples throughout the story, designating which parent he aligns with at a given time. I imagine Nate wearing purple for the majority of the second act, until Gali rehabilitates his attitude towards Joe. Gold symbolizes Elias, while silver and grey metals represent machines and robots.

Electrum, a blend of gold and silver, with green hues, was featured in the Ein family home, and is the material Nate uses to create the Interface Helmet he intended to give to Gali to control the Global Command. It symbolizes a balance of nature, power, and artificiality/automation.

I intentionally limited the use of blue, as it is associated with conservatism and Western colonialism. The world of *Emergence* has progressed beyond this.

Symbols/Allegories

Line, Circle, Sphere, Spiral

These shapes are meant to evoke the evolution of human thought on time.

The straight roads, tunnels, and space elevator represent the most basic and one-dimensional view of time and the future.

The next form of thought on time in human cultures to arise was cyclical theories, that time repeats itself in some ways through cycles of birth and death.

The sphere is a three-dimensional circle, showing a growing complexity, but remaining in cyclical thought. On a more positive note, the sphere symbolizes interconnectivity. Prominent spheres appear in the technology being developed on Sanctum.

As described in Jennifer Gidley's 2017 *The Future: A Very Short Introduction*, the most advanced (yet) theory of time and the future is represented by spirals, that show the fluctuations inherent in the universe, while accepting the ever-changing nature of reality. The best example of a spiral versus a circle would be in our thoughts of the orbit of the planets, which are not in fact circular, or even oblong. The planets rotate around a moving sun, thus spiraling through an ever changing universe.

Trees

Trees feature prominently throughout the script. Trees are considered one of the most common elements in mythology and religion; the tree of life, the tree of knowledge (of good and evil), and the world-trees that feature in many prominent cultures around the world.

The structure of trees has elements that evoke the branching structure of various important elements in the story, such as the brain.

In the scene with the Mosaic, I wanted to visualize the history of the universe to appear tree-like in flattened spacetime. If one could see the history of the universe all at once in a three-dimensional image, with the three spatial dimensions flattened into two, and one axis representing time, the universe would indeed appear tree-like. From its singular origin point, the universe expands as a single mass and then “branches” off into clusters, galaxies, and solar systems, each of them a spiraling branch through spacetime.

Additionally, the evolutionary concept of the tree of life is represented as its name already suggests, branching out from a single ancestor, but with intertwining lines of descent for sexual reproducers.

It is my position that when thinking of time, we should think of it like this spiraling tree, where multiple futures exist on branches we can choose to pursue, with a single past behind us.

Treeconomics: Oligarchy, and “Woke” Corporate Capitalism

“Treeconomics” is Elias Boer’s economic strategy. Pitched as a green, revolutionary, “socially responsible” economic model, Treeconomics represents a critique of the future of “woke capitalism”; companies and brands trying to seem human, relatable, and socially conscious. Despite these superficially positive aspects, “woke capitalist” companies are still profit-driven, and perpetuate the social and economic realities that lead to many of the problems they claim to care about solving.

Treeconomics is a satire of the trend of this woke corporate capitalism, which should be understood through the lens of corporate survivability amidst growing inequality. It is useful to remember that corporations are given many of the legal statuses of human beings, and indeed, operate as eusocial living entities. Their inherent self-interest and survival instincts have led to companies adopting culturally progressive stances to survive. They believe that siding with cultural movements will shield them from what remains of the ability for the supposed invisible hand of the market to select for ethical companies.

Additionally, corporations and the corporate wings of centrist parties have long ceded ground in the cultural wars between the socially liberal and socially conservative, as a distraction from addressing the root causes that are directly tied to the connections between capitalism, imperialism, and racism.

Wizard of Oz

The symbolism from *The Wizard of Oz* is much heavier than initially intended, having grown out of a few casual similarities and humorous references. Elias's association with emerald was initially meant to evoke an unnatural green, to show the veneer of his ecological branding. I made the connection that Elias's promises were as empty as the great wizard and his Emerald City.

Nate's decision to use three heel taps reminiscent of the ruby slippers was actually just a practical one; it would actually be far easier for a brain to detect an attempt to click one's heels three times than to recognize a thought, or a word. This is especially true for use on different people; the brain patterns between specific words for different people would have a much higher variance due to subjective associations than something as universal as movement.

In early drafts of the script, the book Joe was reading to Nate was actually Frank Herbert's *Dune*, whose often misunderstood manipulation of the hero's journey was meant to condemn the hero of the story as a villain. The set-up of a magically gifted young lord moving from a lush green world to a harsh desert under the promise of power also mirrored the setting of my own script. However, when prompted by Marie, I agreed that a more commonly known (and fair use) book may serve better. *The Wonderful Wizard of Oz*, the source material for the film, came to mind, and since then, the associations blossomed.

Near the end of my journey, but prior to Maureen's involvement, Marie recommended that I add an early scene where Joe gives Nate a robotic toy. I ended up making this toy a Tin Man robot, which carries symbolism related to Joe, cyborgs, and the

importance he placed on decisions derived from emotions rather than cold logic. Later, I had to remove this scene for brevity, but featured the Tin Man robot in the scene where Nate develops his Interface programming to operate on real-world objects.

This all led me to realize that the three wishes asked of the wizard by Dorothy's comrades could be interpreted within the story through Nate; attempting to create a brain, learning to understand the value of emotions in decision-making, and finding the courage to confront his pain and make decisions.

Mutt and Neo [Mutt]

Perhaps the most prominent influence from the Wizard of Oz comes in the form of Mutt and Neo-Mutt, a Toto-like companion to Nate. Mutt is modelled after my current dog Rocky. Nate's bond with Mutt, and his inability to let go of him, was inspired by the loss of Piccolo, my childhood dog.

Mutt represents Nate's bond to the family. Mutt dies of natural causes after Nate moves away to university, and before he can copy his brain as he intended. However, Nate has Naomi record as many videos of Mutt as possible. Nate uses these recordings to create an autonomous AI based on a dog's brain to mimic Mutt.

Neo, originally called Neo-Mutt, is created by Nate for a high school science competition. It is heavily implied that this is the first manifestation of Nate's rejection of mortality and death. Even before he copies his mother's brain, he has already inserted the AI he based on Mutt into a modified and more advanced Neo, and uses the artificial skin and fur Miri printed for Neo before her death. Neo represents Nate's quest for immortality, and represents his inability to let go of Miri or Mutt.

Sanctum Convention

The United Nations Sanctum Convention mimics the UN's real world conventions, such as the ones on biological and chemical warfare. While not shown in the story, Joe

was involved in advocating for the UN to adopt rules that would utterly ban all research into autonomous, humanoid, and hyper-intelligent AIs, as they all pose an existential risk to humanity.

Elias manipulated this Convention, and convinced world leaders that a Global Command was necessary to enforce its rules. He stated that Mars was the only safe and neutral place for the UN to work on it. Elias created a public-private partnership with the UN for this and other dangerous research, monopolizing the field of AI research, and accruing even more power than he had before. This final betrayal and defeat for Joe devastates him, and he retreats further into his nihilism and isolation.

Themes

In *A Conversation Through Time*, I explored the questions of what a perfect world would look like, how different this world would be for each person, and whether they would tire of this perfect world, and long for what seems just out of reach.

In *Emergence*, I explore the themes through a focused lens:

Contradictions, Spectrums, and Balances

True to the latent Marxism embedded in the film from its inception, is the notion of contradictions, spectrums, and balances. Many of the themes mentioned below can be viewed as contradictions along a spectrum. Nate, the protagonist, has his arcs take him from one position on the spectrum to another, finding a new subjective balance.

Inheritance Spectrums

The primary spectrum of contradiction here is that of nature vs nurture. Secondary to nature is the spectrum of our genetic traits between each parent. Secondary to nurture is the multifaceted spectrum of the influences in our lives i.e. the degree and proportion of how each of our social and environmental interactions shapes us.

Nate inherits a high degree of his personhood from his parents, as a result of his homeschooling and alienation at university due to his age. In this way, his nurture leans heavily to parental influence. Between his parents, Nate lands very much in the middle between his parents. This can perhaps be most clearly seen by how his father was an AI roboticist, and his mother a bio-engineer; Nate lands in the middle, as a computational neuroscientist.

After relating her own parental influences, Gali tells Nate that it is beneficial to personal growth for one to understand the positives and negatives of their parents. She says that a child can identify the traits that they inherited, and use this understanding to figure out ways to improve upon the traits they've inherited by finding balance.

In a separate but similar understanding of the concept, Janos alludes to AI [humanoid or hyper intelligent] as “our more perfect children”. This description is apt, apropos of human beings being the “children of god”. We cannot escape AI being made in our image, because they emerge from human society and technology. In this way, Janos’s AI, intended to inherit as little from humanity as possible, is still his child, as that intention reflects Janos’s own values and moralities.

Growth Through Pain

Central to Nate’s personal journey is his inability to accept loss. This avoidance of pain shatters his development as a person. He tries to control his pain by attempting to defy and conquer death. To overcome this crippling flaw, Nate must endure and accept the pain of loss, of betraying and betrayal, and of hurting those he loves. He has to accept grief and loss as an inevitable part of life.

Likewise, my own personal journey was one of accepting the criticisms and setbacks, and choosing to frame them as learning and growing experiences.

Trust

Trust exists not as a singular spectrum, but as an average of multiple spectrums, or perhaps one's predisposition to trust. Each individual has unique and subjective assessments of trust towards others, be they groups or people, as well as towards themselves. In this sense, confidence in your decisions is simply a manifestation of trusting yourself. In the interpersonal sense, each person creates the criteria for who and what they will trust.

In *Emergence*, Elias trusts only himself to make critical decisions, though he trusts the expertise of others within their fields. Joe is the opposite, believing no one, not even himself, worthy of trust in matters of authority or AI. Miri trusts herself in her work, but defers to the authority of Elias. Janos trusts himself in his work, but no human, not even himself, as an authority, deferring to AI and logic. Gali trusts no one in their work, but trusts collective decision-making for authority.

Nate tries to find a balance between those around him. Nate starts the story as a child, but because of Miri's positivity towards his intelligence, gains a strong sense of trust towards his own work. However, Joe's politics and moralities make Nate distrustful of others and himself in terms of morality and authority. In this way, Nate mirrors Janos most closely when he arrives at Sanctum. Nate's relationships with Gali and Elias continuously reinforce his doubts about his ability to make decisions as an authority. Gali tries to encourage Nate to trust in collective decision-making, while Elias tries to manipulate Nate into only trusting him as an authority.

In the end, Nate rejects trusting Elias, and acknowledges that he is not a moral authority either. He trusts Gali, and attempts to defer to her, but is forced by a betrayal by Janos to make a decision. While filled with mistrust towards himself and most individuals, he chooses to place his trust in what he views is a balance between collective decision-making and AI logic: a collective dialectic.

The Burdens and Contradictions of Choice: Collective and Individual Free Will

Central to the themes of the story is the nature of choice. While I learned in the process of writing to avoid delving directly into philosophy, I still embedded my philosophical dilemmas within the narrative. Story, specifically drama, revolves around choice. Entire sections of stories are devoted to key actions stemming from major choices. Themes are extracted from the lessons learned from the choices characters make in a given situation.

Every action has its reactions, and every reaction contains subjective positives and negatives. Central to the story is the acknowledgement that in an ever-changing universe in motion, doing nothing is not an escape from choice, but a choice itself. In this way, the spectrum between inaction and action is always understood to be a choice regardless. Joe's attempts to avoid making a choice is directly opposed to Elias's insistence on being the one to make the choice. On Sanctum, everyone accepts the importance and imperative of choice.

Gali understands that choices must be made, but believes in deliberate and well thought out collective decisions, bringing a new spectrum into play that opposes the other characters' individual choices and actions.

In the end, Nate's decision to create the Mosaic is filled with contradiction, and to some audiences, with balance; he has made an immensely consequential individual decision that will guide the future of humanity, albeit with the intention of protecting collective decision-making.

Contradictions of Power, and the Moral Paradox of Maintaining Equality

No great civilization came to be from moral means. They have always been defined by hierarchical power structures. Hierarchies allow the ruling class to maintain their power and their order. Without the power to enforce rules governing equality,

society collapses under the weight of individuals seeking to monopolize that power. From Classical Athens and Rome, to Renaissance Italy and Enlightenment France, to the failing of contemporary democracies; every single flawed attempt at democratic rule has been co-opted by a ruthless power-hungry ruling class.

The contradiction of democracy arises from the need for a powerful order devoted to maintaining equality. Most attempts at democracy fail because of limited suffrage and the use of a representative model. Limited suffrage is inherently undemocratic. The problem with representative democracy is that it selects for leaders who seek power, rather than those best suited to the task. And when a limited number of representatives are beholden to the financial burdens of running for office, the ruling classes penetrate and control the party system. Once in control, they manipulate the democratic process to select candidates whose policies are within what they deem an acceptable range in the spectrums of politics, with very few exceptions.

In *Emergence*, this corruption is what spurred Joe and Elias into action. They gave up hope in both democratic and revolutionary reform. Instead, they decided to attain power through economic monopolization. Like Amazon, Flora outcompetes and monopolizes power in as many areas of the economy as possible. By the time Nate arrives at Sanctum, Elias is not only the richest man in the world, but undoubtedly the most powerful and influential too.

However, the world is still full of conflict, and national governments across the political spectrum have opposed Elias's power grab, and banned his products. Despite his power, Elias is still beholden to what remains of international law and UN power, as he relies on them to retain his power.

Elias convinces Nate throughout the story of the need for them to seize power, much as he did to Joe. Elias teaches Nate that there needs to be someone in power to maintain order in society. Elias truly believes that his dominion over the Global Command is necessary to stave off human extinction. He also feels his conquests and relatively

successful management and maintenance of his vast empire make him the only person worthy of such power.

Gali believes that while deeply flawed, the UN is worth maintaining as a global power. She believes that slow and steady reform of the existing democratic models is the safest path forward.

In the end, Nate disagrees with both of them, and gives direct power to the people, managed by Janos's hyper-intelligent and logical AI.

AI: The Intersection of Technology, Inheritance, Morality, and Power

Regina Rini, in her 2017 article *Raising Good Robots*, explores the concepts of objective and organic morality, and makes the case that the morality of machines should be instilled in them organically, the way we do with our offspring. This leads to a moral conundrum of itself: If robots should be raised by human parents, who should raise them? Silicon Valley and the Pentagon, and their international equivalents, have proven themselves incapable of morality, let alone applying it to the technology they produce. The algorithms of YouTube and Facebook have both been used to promote conspiracy and fascism, whether through purpose or willful malfeasance. Perhaps those algorithms serve the individualistic interests of the platforms themselves, reflecting the individualistic goals of their creators. It also stands to reason that the geniuses of technology likely to develop AI, while surely intelligent and well read, could not simultaneously be as informed about the intricacies of morality as, say, a professor of ethics. But if morality is organic, situational and somewhat relative, what makes any human more morally qualified than the next?

Morality lies at the intersection of individual action and collective reaction. Our morality is shaped more by our social environment than by our individual choices, and extends beyond the environment of the nuclear family (in modern Western civilization at least). Technology, AI included, cannot be said to emerge from an individual, or even group of individuals. It emerges from the collective labour of every worker, spanning

every continent, that supports those researchers. From the exploited miners in Africa and the Americas, to the food delivery driver dropping off dinner to the lab; we are all parts of the community that AI will emerge from and into, and inevitably, we will all be impacted by it. We all deserve a say in its morality.

The Mosaic: Balance and Emergence, Final Scenes Explained

The Mosaic is introduced when Nate interfaces with Janos's hyperintelligent AI. During this communication, Nate is presented with a unified epistemology of the entirety of history. The Mosaic drives much of the visuals, which can be interpreted as follows:

Human Insignificance

In the two crucial measurements of the universe, space and time, humans are a momentary and microscopic flash. The scale of the universe renders the entire history of our species so insignificant that if we were to be entirely wiped out right now, it would have absolutely no impact on the fate of the universe. All we would leave behind would be artifacts on a tiny planet orbiting an insignificant star, and a few probes wandering through space, unlikely to ever come into contact with anything but the immense vacuum of space. On these scales, we are reminded of the inconsequentiality of our entire lives, which can devalue human life.

Human Significance

On another scale, humans are the culmination of an incredible growth in the phenomenon of life. We are vast islands of conjoined complexity, unique in the known universe. We are incomprehensibly large titans on the scale of cells, and galaxies of particles. All a result of billions of years of reproduction.

The Structure of Society

Janos's AI presents its understanding of civilization. It emphasizes the hierarchical organization of advanced civilizations, as well as the need for philosophical unity through

story (Harari). It shows the evolution of this throughout history and across all civilizations of the world.

Future Paths

The AI agrees that it is descended from humanity, and decides to listen to Nate. It offers him a number of options through a number of branching portals. Nate rejects many of the options that he feels have too many negative consequences or ethical quandaries, and instead proposes to make the AI the result of emergence from humanity. The result is the Mosaic.

Emergence of the Mosaic

The Mosaic agrees to compose itself out of scanned digital copies of active human brains. Nate offers Miri a chance to serve on the Mosaic, but this destabilizes it, as Miri is not truly human or alive.

In the end, Nate attempts to find balance between the viewpoints of the characters, and the contradictions inherent to the situation. He accepts the pain of the past, and attempts to find a new balance in his trust, his decision-making, and his relationship with power.

Conclusion

Through my studies of philosophy, science, psychology, history, sociopolitics, and technology, I became enraptured by the unifying concepts of emergence and dialectical materialism. I devised the fictional Mosaic before discovering either of these concepts, and view it as an ideal vision of the future.

However, my personal journey on this thesis has been one of accepting that a Utopia for all is not possible, that any Utopian vision is filled with flaws and immense dangers, and that an audience will likely reject a portrayal of a Utopian world.

The dangers presented in the script, of monopolization of the economy and political power, and the threat of unchecked scientific and technological development, are very real. With this in mind, the purpose of this script and paper is to begin a dialectical approach to the future; to brainstorm what type of future we want to create with the immense powers we are about to attain, especially in regards to AI.

The Utopian solution I propose in this story is shown in such a way as to highlight its flaws so that they can be addressed. Even the Mosaic could have drastic unforeseen consequences, as pointed out at the end of the script. Therefore, I am not so much advocating for the creation of a Mosaic, but rather for collective decision-making and a form of dialectical direct democracy.

The main conclusion of *Emergence*, and of this support paper, is that we must diligently chart out our course for the future together, lest we end up on a branch of the future that we do not desire, or worse, reach the end of our collective journey.

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