

TURK MECHANICAL

By JEAN PAUL RACINES

A thesis submitted to the

Graduate School-Camden

Rutgers, The State University of New Jersey

In partial fulfillment of the requirements

For the degree of Master of Fine Arts

Graduate Program in Creative Writing

Written under the direction of

James J. Brown

And approved by

James J. Brown

Camden, New Jersey

May, 2021

THESIS ABSTRACT

Turk Mechanical

by JEAN PAUL RACINES

Thesis Director:
James J. Brown

Turk Mechanical is a collection of digital literary artifacts created through NEM-0X, a writing machine designed to entangle, render, and instantiate different types of media after enacting a series of algorithmic processes. The artifacts contained in this collection are primarily concerned with exploring multi-scalarity, distributed cognition, relationality, embodiment, affectability, material specificity, and environmental embeddedness.

To Andrew

Table of Contents

Foreword	1
Aggregations	5
Sample iteration	7
Body Plans for the New Millenium	32
Sample iteration	36
Galactic Loom	43
Sample iteration	46
Appendix I: Code Snippet	50
Appendix II: Aggregations, Full Transcript	51
Appendix III: Body Plans for the New Millenium, Full Transcript	61
Appendix IV: Galactic Loom, Full Transcript	86

Foreword

Originally, the idea was to build a simple writing machine, an algorithmic tool to assist me in rendering multiscalar narratives about e-waste. I would write self-contained fragments about both very small things and very large things and then feed them into the machine to have them entangled and displayed in specific ways. I intended to accomplish this by creating a rudimentary script using Twine, an open-source tool tailored to HTML-based interactive fiction. My hope was that, by presenting the reader with a succession of stories that consistently depicted phenomena at different scales, the often obscure relations between the microscopic and the massive would become apparent.

In theory, that was the extent of the machine's involvement: to lay out my writing in the way I needed it to be laid out. As I worked with the machine, however, the simplicity of its premise became complicated by an accumulation of small functions and procedural needs. The apparently straightforward operations that it was created to accomplish called for an increasingly intricate algorithmic design. Like clockwork, a simple movement required the precise interaction of an abundance of minute components.

By the time I finished my first piece, *Aggregations*, I had accomplished to the best of my ability the multiscalar composition that I had set out to build. Besides the piece itself, however, I was left with an algorithmic machine with a host of intricate internal movements that were almost undetectable to the reader of its textual output. I knew I wanted to keep working with this machine, and that I wanted to make its movement visible.

As I developed my second piece, *Body Plans for the New Millenium*, I became more attuned to the machine's capacities and structural temperament. It soon became evident that the machine could support more complexity, so rather than attempting to streamline its functionality, I began to add more: little scripts, tiny processes, modest operations. A couple lines of code could turn the core entanglement algorithm that was at the heart of the machine's first incarnation into a subroutine, allowing for the emergence of exponentially more complex arrangements, of much more intricate movement.

At this point, the machine called for content of a very specific nature in order to function properly. This was true for its first incarnation too, yes, but it was not until the machine's second version that its computational design became a distinct ecosystem of constraints that fundamentally shaped the way I wrote.

As a result, I learned that the machine was not merely code, but rather an assemblage of two structures: the first one being a compositional structure, human work, that produces units of content in a way that allows for them to be affected, transformed, and coordinated by the nature and proximity of other units of content; and the second one being an algorithmic structure, machine work, that allows for these relational dynamics to be digitally instantiated.

Following this expanded understanding of how the machine functions, I realized that the multiscalar narratives that it was originally built to deliver were, by no means, the only type of stories it could tell. In a world where objects, agents, and environments have the potential to interact with one another, the machine can animate those interactions to allow for relations to emerge. These dynamic assemblages create meaning and articulate affect

in ways that would be impossible in a fixed, unmoving story; as no matter how many times one engages with the machine's output, the relational configuration of the piece will always be unique. New relations will continue to emerge. Affect will never remain constant.

With this in mind, when writing *Body Plans for the New Millenium* I focused on character, emotion, and temporality as organizing principles, and attempted to make visible the machine's newfound complexity by presenting linear and non-linear stories simultaneously, allowing for units of content to transform one another, and using algorithmically generated graphics and soundscapes to render the machine's movement in non-textual ways.

In writing *Body Plans*, I was also pushed towards an uncanny way of engaging with narrative patterns and the act of writing itself. Despite the fact that there are linear elements to the piece, I could not conceive the story in a linear fashion. I had to account for emergent relations, for odd pairings, for shifting perspectives; struggling to cultivate a panoptic sense of story, it was like writing in spheres. The machine determined not only what I wrote, but how.

When composing the final piece of this collection, *Galactic Loom*, I found myself again leaning into the machine's tendency towards complexity. I multiplied structures, expanded subroutines, and saw the ecosystem of constraints grow robust and unchecked. This time, I chose poetry to attempt to render the machine's movement without the burden of plot, and tried to reduce the length of each unit of content to the greatest possible extent so that I could have many of them to rear more volatile relations. I went

back to using scale as the primary organizing principle, and then coupled it with emotion and character to compound the machine's structural intricacy. There's still a simple graphical display on each page, accounting for the scale that's being presented. The possible diversity of the soundscapes increased by an order of magnitude.

I believe that *Galactic Loom* is the most effective at rendering the machine's movement in a manner that is intelligible to the reader. It is, still, not at all perfect, but so far it would appear to be my most successful attempt. At this point, my concern with making this movement visible seems almost arbitrary, and it is definitely not what I set out to accomplish when I first designed the machine. However, as I've grown to learn, this movement is transformative. It transforms the content, it transforms the output, and it transforms the writing and the writer. This movement is the result of a multitude processes and structures affecting one another, and a testament to the unassailable agency the machine always had.

By enacting these processes, the machine plays a fundamental role in determining the flow, texture, and semiotic configuration of what the reader will perceive, and by enforcing structure, it determines what is written and how. As such, the artifacts presented in this collection are the result of an act of distributed authorship: the writing human provides data and outlines processes, and the writing machine acts upon that data to instantiate an specific assemblage of media before the reader. This meaning-making dynamic requires the writing human to create data that accounts for the processes that will be enacted upon it. As a result, the writing human does not write through the machine, but along with it.

Aggregations



<https://softpig.neocities.org/Aggregations%20v1.html>

Aggregations is a multimedia narrative artifact that seeks to reveal some of the commonly obscured relational logics between animals, humans, environment, and e-waste at a multiscale level, from the microbial to the planetary. The story attempts to do this by injecting a fantastical element into the phenomena of e-waste and then making magically-infused instances of e-waste interact with the aforementioned agents and objects.

Machine version: NEM-01

Compositional Structure:

The compositional structure presupposes a general theme, and then presents 3 objects/agents through which said theme will be rendered in each of the possible scales (microscale, mesoscale, macroscale). Additionally, there are a total of 6 events that connect the objects/agents both within the same scale and across different scales.

The output of this compositional structure would be 18 individual, mostly self-contained short pieces that portray different types and degrees of relationality between objects/agents both within and across scales.

Algorithmic Structure:

The algorithmic structure allows for the 18 pieces outputted by the narrative structure to be organized and presented to the reader in a dynamic manner. After a predetermined opening sequence, the code will semi-randomly present the reader with one of the 18 pieces. When the reader moves from one node to another, the algorithm is programmed to do the following:

- 1) Instantiate a node that the reader has not seen before.
- 2) Instantiate a node that corresponds to a scale different from the one the reader just visited (e.g. if the reader is reading a macroscale node, the next click will take them to either a microscale or a mesoscale node).
- 3) Take the reader through all of the 18 nodes
- 4) When all the nodes have been read, take the reader to the predetermined, closing sequence.

Sample iteration:

Aggregations

Imagine a world of electric things. Of abandoned things. Of things broken, breaking, and spent. Imagine one hundred thousand screens, and metallic silt, and copper, and silicon, and forgotten memory chips. Imagine metals, heavy and light, and lights sempiternally dim. Imagine a sea. Of transistors, and gadgets. Imagine a sea.

Does it move?

Does it breathe?

Imagine, now, a cosmic spark.

A soft electric simmer beneath synthetic skins, impregnating these things with movement, with heat. Breaking them down into their elemental components and arranging them into impossible kaleidoscopic machines. Machines that move. Machines that breathe.

And in that inexhaustible electric breath, they do a single, distinct deed. Perpetually. Recursively.

And so they inhabit the Earth, doing a single, distinct deed. Perpetually. Recursively.

recursive,

perpetual,

breathing,

kaleidoscopic,

moving machines.

After a well-dressed, well-behaved, tastefully plump pop-rock star was seen parading his satellite cotton ball in a televised gala, satellite cotton balls became all the rage. These machines are rare, but once found, one needs but to hold them in one's hand for minutes ten and they will, as the result of a cosmic, unbreakable tether, orbit one's body for the remainder of one's body's natural existence.

Sometimes, during the night, the machine will find its way to someone's hand, as if a gift.

Alternatively, one can buy oneself a spot in a satellite cotton ball hunting expedition for the price of a small electric car.

The machine, no bigger than a housecat, injects a long, thin, metallic rod deep into the forest floor and hums. Unbeknownst to the surface dwellers, a persistent electric current emanates from the rod directly into the soil.

On the surface, the forest forests indifferently. The only organism privy to the machine's thunderous pulse is the mushroom, who secretly revels in the machine's generosity.

Over centuries, countless cerulean slugs have made a home for themselves in the mountainous piles of blue trinkets that surround the city. The piles, ripe with mold and microbial bounty, allow the slugs to thrive and grow to the size of loaves of bread. The slugs, as if in gratitude, anoint their acidic slime throughout the piles, welding the trinkets together and covering them with a thin, shimmering veil that makes their blueness even livelier.

To a slug born into the piles, the entire world feels blue.

Utterly horrified by the red rains that had besieged the town, locals have taken to the streets to protest the presence of 'people who challenge the will of God'. During the demonstration, which quickly turned violent after a bout of red rain ruined the protestors' white vestures, the halfway house for LGTB youth was burned to the ground.

The rain didn't stop. It smelled of strawberries.

Needle-wide tunnels run through the mountain as if a vascular system of thin, empty veins. Inside, a machine moves slowly in straight, erratic lines. The mineral density of the mountain's rocky innards is of no consequence to the machine's unwavering motion. Over the years, thousands of miles of vascular tunnels have been needled across the mountain's heart.

Other than being imperceptibly lighter, the mountain stands unfazed.

A common frog basks in the warm rain as it notices a paper-thin circular machine coming to rest upon a nearby rock. In mere minutes, thousands of insects throng on and around the rock until it is completely covered by an iridescent buzzing mat.

Presented with an unrestricted, nigh limitless source of luscious sustenance, the frog keeps eating until its bowels unstitch themselves.

Over the last few decades, animals and plants in the region have developed a distinct scarlet hue. Across the sea, a wealthy business person pays handsomely for ‘scarlet venison’, which is said to increase vigor and physical zest.

When cooked, meat from the red animals is indistinguishable from that of their more conventionally tinted brethren.

After dinner, the business person feels engorged.

The last pair of *Iberis lobata*, a rare flowering plant endemic to the northern regions, died on a warm, starry spring night without yielding any young. The fact that the two plants were only a couple of feet apart made their demise all the more tragic. A strong gust of wind or a hungry butterfly would have sufficed to secure the species' survival for another generation but, alas, the *lobata* had no such luck.

Close to the *lobata*'s lifeless stems, a paper-thin circular machine had attached itself to a tree, garnering the attention of most, if not every, nearby insect.

The increasing pervasiveness of crab-like, hand-like machines in the city has been deemed a matter of political urgency. Not only do the machines ransack public and private property, but their chromatic scavenging antics have robbed the people of their god-given right to freely use, fabricate, and store blue-colored things. As a result, in a spell of strong, decisive action (and after violence proved ineffective), the municipality ramped up the production of small blue trinkets and started piling them up in open areas. People are convinced that, by and large, the machines scavenge the municipal blue piles rather than looking for blue in other private, harder to reach places.

To aid the municipality's valiant efforts, patriotic citizens leave their own small piles of blue trinkets around the city.

In multiple lakes across the region, a minuscule, almost imperceptible machine continually releases tiny droplets of red pigment. Often eaten by fish, the machine passes through the creature's digestive tract unaltered. The pigment has a brilliant, scarlet hue, low molecular weight, and the distinct smell of strawberries.

A single machine can release over three hundred thousand droplets of red pigment in a 24-hour period. Hundreds of these machines may be resting in a fish's belly at any given time.

An aberrant number of insects flock around the kindergarten teacher's 11th-floor bedroom window. He had picked that modest, high-rise studio only partially because of the view, and primarily because he thought it would spare him dealings with most surface-bound vermin. "How high could flies fly?" he asked, rhetorically, to himself as he signed the 12-month lease.

Now, as his window darkens under a dense embroidery of indistinct insects, he lies on the floor, panic-stricken, heart half-stopped, thinking himself punished by a crime he must have certainly committed, if not in this life, in another.

The machine flutters around the young boy with the lightness of cotton, and the texture of cotton, and the temperament of an enchanted cotton ball. The boy smiles, and jumps, and dances, and the machine remains by his side, orbiting his body as a cotton satellite would. His little, fluffy friend, he thinks. Pure happiness. Pure play. Pure satellite, enchanted, cotton ball.

“How does it fly?” thinks the boy, to himself.

“Must be for me, must be for me,” he reckons, imagining an engine of love.

A multitude of crab-like machines scouts the city in search of blue things. When they, hand-like machines, encounter anything tinted blue, they grab it and take it to a pile of blue things just outside the city. The crab-like, hand-like machines do not discriminate their blues by hue nor shape, nor texture or smell. If a blue thing is too big for them to carry, they'll carve a piece out, take it to the pile, and then repeat the process until the blue thing has been fully relocated. If a thing is blue but not entirely, they will carve out the blue, and ignore the blue-not.

Each day, the pile grows a little bit bigger, and a little bit bluer.

The infant howls in the middle of the night with an urgency unlike that of his habitual tantrums. The father, startled, rushes into the child's room just to find the boy hurt, offended, and vexed. Upon closer inspection, the father notices unprofuse bleeding on both sides of the boy's right thigh. It was as if he had been shot with the tiniest of bullets.

Unbeknownst to the father and the child, the room was riddled with thin, needle-wide tunnels.

Multitudes of aggressive boars have been spotted in different forests across the region. The abundance of boars has displaced other wildlife, including deer and wolves, who have been forced into nearby towns. The deer, in particular, have become a nuisance. They ravage gardens and sow the streets with their droppings.

Throughout the forests, a mechanical hum can be heard amid other, less surprising, foresty sounds.

Compelled by the preternatural abundance of mushrooms, a sounder of boars takes permanent residence in a woodland clearing. Territorial as they are, the boars will attack anyone who dares get near.

In the middle of the clearing, a machine, no bigger than a housecat, stands undisturbed. A boar pup leans against it. The machine hums.

The first hundred cases of skin cancer seemed unconnected. When the number escalated to the mid-thousands, however, medical personnel identified a significant but otherwise imperceptible amount of UV radiation emanating from the machines colloquially known as ‘satellite cotton balls’.

The public was advised against engaging with these machines in any capacity.

Individuals who, at the time, had a ‘satellite cotton ball’ orbiting their bodies were instructed to wear protective equipment and avoid sustained contact with unprotected individuals.

To date, no ‘satellite cotton ball’ has been successfully untethered from its human companion.

The young worker bee sleeps politely in a cell near the center of its hive. A machine, no bigger than a needle, pierces through the wax walls and silently beheads the young worker bee before tunneling across the hive without taking any more lives.

The young worker bee was so tired, it didn't even notice the beheading.

And so they inhabit the Earth, doing a single, distinct deed. Perpetually. Recursively.

recursive,

perpetual,

breathing,

kaleidoscopic,

moving machines.

Body Plans for the New Millenium



<https://softpig.neocities.org/Body%20Plans%20for%20the%20New%20Millennium.html>

Body Plans for the New Millennium is a multimedia narrative artifact that presents an alternate timeline in which humans suddenly found themselves transformed into gigantic crabs. The story explores relationality, distributed cognition, affect, and the specificity of embodied experience.

Throughout any given iteration of the artifact, the reader will also be presented with minimalistic graphical displays that account for the emotional tenor of the current page as well as an algorithmically generated soundscape that responds to the nature of the units of content that are being instantiated.

Machine version: NEM-02

Compositional Structure:

The compositional structure includes two types of stories: mono-node stories, which act as self-contained events that present and resolve themselves in a single digital page; and multi-node stories, which account for a series of events and character arcs that take place across various digital pages.

Each of these stories has three distinct versions (each version could be understood as a singular unit of content): In the case of the mono-node stories, each version accounts for a different event, time scale, and starting emotional tenor, but maintains an overall theme and always arrives at the predetermined emotional tenor of that specific story. In the case of the multi-node stories, each version accounts for the perspective of one of the three main characters and articulates a different emotional tenor.

Each digital page contains an assemblage that includes one version of a multi-node story and one version of a mono-node story.

In sum, *Body Plans for the New Millennium* contains three multi-node stories and six mono-node stories, for a total of 27 units of content. In any given full iteration of the artifact, only 6 of these 27 units are instantiated.

Algorithmic Structure:

The algorithmic structure allows for the 27 pieces contained in the narrative structure to be organized and instantiated in a dynamic manner. After the predetermined opening sequence, the machine will present the reader with several digital pages, each of these

pages includes units of content from both a multi-node story and a mono-node story.

When the reader moves from one digital page to the next, the algorithm is programmed to do the following:

- 1) Determine a specific emotional tenor for the current page. The emotional tenor of any given page will always be different from that of the previous page.
- 2) Display a basic graphic that corresponds to the emotional tenor of the page.
- 3) Instantiate the first part of a multi-node narrative unit. The specific version that will be instantiated responds to the emotional tenor of the current digital page.
- 4) Instantiate a mono-node narrative unit. The overarching mono-node story will depend on the emotional tenor of the current page, and the specific version of said story will respond to the emotional tenor of the previous page. For example, if the current emotional tenor of a page is “joy”, and that of the previous page was “anger”, the mono-node narrative unit will start by articulating anger and then end by articulating joy.
- 5) Instantiate the second part of a multi-node narrative unit. This will always correspond to and continue the first part of the multi-node story that was instantiated at the top of the page.
- 6) Compose and play an algorithmically generated soundscape that responds to different aspects of the content that is being instantiated, namely: the emotional tenor of the page, the character that’s being discussed in the multi-node unit of

content, and the time scale that's being portrayed in the mono-node unit of content.

- 7) After the multi-node story has been instantiated in full across three different pages, the algorithm will take the reader to the ending sequence.

Sample iteration:

Body Plans for the New Millenium

Upon waking on the morning of January 1st, after welcoming the millennium with unrivaled zest, the Borgias found themselves transformed into gigantic crabs. The eldest son, still in disbelief, fixated on the improbable shapes of his crustacean body. He thought, quite hopefully, that it was a trick of the light, a half-dream, a stroke of madness. He thought, quite hopefully, that if he took a deep breath and closed his eyes, his fleshy bits would come back running, back to their rightful place upon him. He took a deep breath but, try as he might, his eyes wouldn't close. He brought his pincers to his hardened face in the hopes of triggering a blink, but his blinking bits were missing and his eyes were rough like nails, like cartilage. He attempted a sob. A gurgling came out.

Roughly 40,000 years after the Borgias' crustacean rebirth, a cataclysmic seastorm displaced thousands of giant crabs around the southeastern reaches of the Atlantic. After tumbling in angry waters for days, six crabs washed ashore on a small island inconceivably far from home. Starved and broken, the castaways crawled into the island and found it brimming with lush greenery. To their great surprise and relief, they also found it brimming with crabs: a community of gargantuan crustaceans, strong and thriving.

The locals looked distinct, unambiguously crablike, yes, but significantly bigger than the castaways and proudly displaying a bright green tint in their carapaces. When the locals took notice of the newcomers, they gurgled at them in both recognition and solidarity. They dragged the broken crabs back to their burrows and offered them a generous spread of green leaves and fibrous plants. The castaways, with voracious hunger, ate fast and greedily. Minutes later, however, the undigested greens came back rushing out of their mouths. The locals, confused, brought them chunks of shrub and pieces of fern and big

green leaves and juicy vines and all the small bits of jungle the island had to offer. The broken crabs would eat them, but every time their ungrateful mouths returned a sad pungent paste. The local green crabs were willing to share everything they had, but the one thing they couldn't share was the ecosystem within their bodies, the diminutive organisms that, for hundred of generations, had evolved alongside them to make food out of place.

The castaways, surrounded by lush sustenance, died of hunger.

In his room, the son couldn't stop looking at his carcinized self. He realized that this was no dream and wondered if he would ever dream again, eyes wide open and all.

Life at the Borgias' house quickly became untenable. Their rooms and corridors and doorways, made to deal with human-shaped dwellers, were laid bare by the deep scarring of arthropod transit. Their things, now a thick layer of wreckage upon the floor, instilled an uncomfortable urgency. In the dead of night, while the rest of the family gurgled loudly at each other for reasons he could not discern, the son quietly climbed down the window determined to find comfort in the arms of his beloved. The journey, which before would have taken no longer than fifteen minutes, went on for hours. The streets felt unfamiliar to him, and out in the open he struggled to steer his body with any semblance of elegance. His eyes, high up in their stems, simultaneously offered him all possible directions, and his legs, confused, stumbled upon each other, entangling themselves in painful arrangements. After his seventeenth fall, however, something clicked, and instead of trying to submit each of his limbs to conscious orchestration, he embraced the natural bent of his joints, his panoptic sense of space, and the eager strength of his inner musculature. By dawn, he had become a creature of motion, effortlessly weaving through the undarkened streets.

200,000 years after the Borgias found themselves transformed into gigantic arthropods, a massive wall of rock and sediment coiled around an archipelago in the south Pacific. Over millennia, the gargantuan crabs that inhabited the islands had built and cared for the wall, following a deep seated compulsion for adding small pieces of their world into the structure and welding them in with a mixture of saliva and sand.

Whatever lurked at the other side was a mystery to the living crabs, a long forgotten danger kept at bay by the material border they had instinctively erected.

There was a game played by the young, one that consisted of scavenging for the biggest piece of rock, or carapace, or coral and then fixing it into the wall as high as they possibly could. Oftentimes, the younglings would swim too high and fall flat on their backs, overencumbered by the weight of their contributions. Whenever this would happen, the other crabs gurgled playfully, helped the young up, and encouraged them to try again.

Once arrived at the house of his beloved, the son found a gigantic crab moistening himself in the middle of two automatic sprinklers. He approached cautiously, unsure if the crab before him was the crab he so desperately wanted to encounter. The moistened crab raised the stems of his eyes and gurgled softly, as if asking a question. The son gurgled back, as if to answer, and they both imagined with hopeful certainty that the other was the one they were expecting. The son lay under the sprinklers, next to his beloved, and felt at home.

A weariness had settled deep into the Borgias' souls, and their shells, and their soft, muscular innards. Far from his childhood house, the son had spent several nights frolicking under automatic sprinklers, feeling something he could only think of as love and yet, not the moisture nor the pleasant company relieved him of the aching that had come to besiege his body. He had grown weaker, felt heavier. It was as if his carcified self craved for a buoyancy that the air denied him. He felt a pull, a hunger for water that the waning sprinklers could not sate. One day, he woke up in the middle of the morning and gurgled at his beloved to try and convey this primal need, but there was no response. He tried to wake him up by gurgling louder, by poking the side of his shell, by hitting him between the eyes. He tried thrusting himself underneath him, tipping him over, but his beloved remained silent. Stiff. The sprinklers leaked, moistening the grass.

About a decade after the Borgias' encrabment, a host of gargantuan crustaceans had corralled their young in the shallow ponds that surrounded their mangroves. Tens of thousands of crablings, still no bigger than the pit of a peach, started emerging from their larval carapaces bearing the wide shells and elegant limbs of their foreparents. Driven by a deep, primal urge, they poured out of their ponds and ran desperately towards the water, weaving a tapestry of eager life between the earth and the sea.

Much aware of the momentousness of the occasion, the gargantuan crabs who sired the crablings had taken post around the shore to bear witness. As soon as they saw their young cascading towards them, they raised their pincers to the sky and erupted in joyous

gurgling. They tried to stay still to avoid accidental trampling, but they couldn't help themselves: there was a song in their limbs, and so they marched in place. A little dance.

As the living tapestry of crablings descended upon the shore, the denizens of the mangrove set out to feed. From above, a flock of white ibises took turns to poach the slow ones, which were often the biggest and the juiciest. From the ground, dirt-colored snakes took crablings by the mouthful and raccoons choked from biting more than they could chew. The gargantuan crabs, compelled by an incomprehensible fury, ran across the shore trying to drive away the attackers, flailing and gurgling desperately. For every predator they repelled, however, another would join the feeding. A group of laborious ants could consume a crabling, and so could, in the water, the maw of a lemon shark.

The son had managed to roll his beloved out of the damp lawn and into the street. It took him hours. He had not forgotten his own seafaring urges but thought, with certainty, that if he managed to submerge his partner in more generous waters, he would wake up, as one does, moist and lively. Each time he would thrust himself underneath him, however, his beloved grew more unwieldy, weightier, until he would not budge at all. When the son found himself incapable of moving him any further, he was overcome with rage. He tried hitting his own carapace with whatever strength he had left but noticed that the bent of his joints only allowed for a light tapping. And so he tapped away, tapping and tapping until his joints went sore. A light rain started to fall. When he finally surrendered to the beckoning of the shores, he made his pilgrimage alone.

Galactic Loom



<https://softpig.neocities.org/Galactic%20Loom.html>

Galactic Loom is a multimedia poetic artifact that explores emergent relations between living and non-living agents across different scales, environments, and emotional tenors. The events and behaviours rendered throughout the piece are built upon a combination of material reality and surreal interactions.

Additionally, the reader will be presented with minimalistic graphical displays that correspond to the scalar perspective of the current page as well as algorithmically generated soundscapes that respond to the nature of the verses that are being instantiated. Boldface is used to indicate meter.

Machine version: NEM-03

Compositional Structure:

The compositional structure is built upon a series of verse clusters. There are two types of verse clusters: mono-node clusters, which introduce a particular environment rendered in a specific scale and some form of interaction involving said environment; and multi-node clusters, which introduce a particular agent exercising some form of agency at a given scale, and, throughout various digital pages, follow that agent as it engages with activities that roughly correspond to its life/existence cycle (emergence, growth, and destruction).

Each multi-node cluster has 3 versions (accounting for different scales and agents), and each mono-node cluster has 9 versions (featuring different agents in some capacity and articulating different emotional tenors). Each version consists of a rhyming couplet.

Each digital page contains an assemblage that includes one version of a multi-node cluster and one version of a mono-node cluster.

In sum, *Galactic Loom* contains three multi-node clusters and three mono-node clusters, for a total of 54 couplets. In any given full iteration of the artifact, only 6 of these 54 couplets are instantiated.

Algorithmic Structure:

The algorithmic structure allows for the 54 couplets contained in the poetic structure to be organized and instantiated in a dynamic manner. After the predetermined opening sequence, the machine will present the reader with several digital pages. When the reader

moves from one digital page to the next, the algorithm is programmed to do the following:

- 1) Determine a random scale for the current page. The scale of any given page will always be different from that of the previous page.
- 2) Display a simple graphic that corresponds to the scale of the page.
- 3) Instantiate the first verse of a multi-node couplet. The specific version that will be instantiated corresponds to the scale of the current digital page, and the multi-node cluster from which the couplet will be drawn is determined at random.
- 4) Instantiate the first verse of a mono-node couplet of the corresponding scale. The specific version that will be instantiated is determined by the agent that was featured in the multi-node couplet of the previous digital page.
- 5) Instantiate the second verse of the multi-node couplet that was instantiated above.
- 6) Instantiate the second verse of the mono-node couplet that was instantiated above.
- 7) Compose and play an algorithmically generated soundscape that responds to different aspects of the content that is being instantiated, namely: the scale of the page, the agent that's being featured in the multi-node couplet, the emotional tenor that's being portrayed in the mono-node couplet, and the agent that was featured in the previous multi-node couplet.
- 8) After three versions of multi-node clusters have been instantiated across three different pages, the algorithm will take the reader to the ending sequence.

Sample iteration:

Galactic Loom

Far **deep** within the **earth** a **vein**

aloft a **floating** **earthen** **sphere**

becomes a **lake**, an **ocean**, **rain**

as **movement** **makes** the **globe** **cohere**

A **patch** of **abounding** **animated** **grass**

in a **sudden** **swirl** of **furious** **cold**

grows **yellow, yellow, dandelions** **amass**

until the **glacial** **lure** takes **hold**

A **singular fur-bound african bee**

inside a floating dandelion sea

renounces her entrails rather than flee

and **nurtures hungry dandelion seed**

Appendix I: Code Snippet

Across the various versions of NEM-0X, the machine contains over a thousand lines of code to execute a variety of functions and processes. However, all these processes are built around and interact with one or multiple versions of the following entanglement algorithm:

```
(if: $counter is 3)[(link-goto: "..o..", "Ending")] (else:)[(set: $counter to
$counter+1)(set: $multi to (either: "A", "B", "C"))(set: $previousAxis1 to
"Axis1B")(set: $sendingKeyOne to "no")(set: $sendingKeyTwo to "no")(set:
$stillNew to (passages: _passage where not (_passage's name is in
(history:))))(set: $notCurrent to (passages: _passage where not (_passage's name
is (passage:)'s name))){(set: $axis1BSelection to (a:))(set: $axis1BSelection to
(find: _item where _item's tags contains "Axis1A" or _item's tags contains
"Axis1C" and _item is in $stillNew, ...(passages:))} (if: $axis1BSelection's
length > 0)[(set: _random to (random: 1, $axis1BSelection's length)) (set: _target
to $axis1BSelection's (_random)'s name) (link-goto: "..o..", _target)] (else: ) [(set:
$axis1BSelection to "")](set: $sendingKeyOne to "yes")](if: $axis1BSelection is "")
[ {(set: $axis1BSelection to (a:))(set: $axis1BSelection to (find: _item where
_item's tags contains "Axis1B" and _item is in $stillNew and _item is in
$notCurrent, ...(passages:))} (if: $axis1BSelection's length > 0)[(set: _random to
(random: 1, $axis1BSelection's length)) (set: _target to $axis1BSelection's
(_random)'s name) (link-goto: "..o..", _target)](else: ) [(set: $sendingKeyTwo to
"yes")]](else: ) [(set: $sendingKeyTwo to "yes")] (if: $sendingKeyOne is
$sendingKeyTwo) [(link-goto: "..o..", "Ending")]]
```

This algorithm is the engine that compels the machine to move. When activated, it determines the semiotic cadence of the piece by instantiating units of content in a way that creates or heightens specific relational dynamics. Every other process is bound by or responds to this movement, making this algorithm the core upon which the entire machine is built.

The entirety of the code, including comments further explaining its contents, can be accessed by downloading the project's HTML files and opening them in Twine or any other markdown editor.

Appendix II: Aggregations, Full Transcript

Aggregations

Opening Sequence

Imagine a world of electric things. Of abandoned things. Of things broken, breaking, and spent. Imagine one hundred thousand screens, and metallic silt, and copper, and silicon, and forgotten memory chips. Imagine metals, heavy and light, and lights sempiternally dim. Imagine a sea. Of transistors, and gadgets. Imagine a sea.

-

Does it move?

Does it breathe?

-

Imagine, now, a cosmic spark.

A soft electric simmer beneath synthetic skins, impregnating these things with movement, with heat. Breaking them down into their elemental components and arranging them into impossible kaleidoscopic machines. Machines that move. Machines that breathe.

And in that inexhaustible electric breath, they do a single, distinct deed. Perpetually.

Recursively.

And so they inhabit the Earth, doing a single, distinct deed. Perpetually. Recursively.

-

recursive,

perpetual,

breathing,

kaleidoscopic,

moving machines.

Multi-Scalar, Mono-Object Events

Humans

Microscale:

The machine flutters around the young boy with the lightness of cotton, and the texture of cotton, and the temperament of an enchanted cotton ball. The boy smiles, and jumps, and dances, and the machine remains by his side, orbiting his body as a cotton satellite would. His little, fluffy friend, he thinks. Pure happiness. Pure play. Pure satellite, enchanted, cotton ball.

“How does it fly?” thinks the boy, to himself.

“Must be for me, must be for me,” he reckons, imagining an engine of love.

Mesoscale:

After a well-dressed, well-behaved, tastefully plump pop-rock star was seen parading his satellite cotton ball in a televised gala, satellite cotton balls became all the rage. These machines are rare, but once found, one needs but to hold them in one's hand for minutes ten and they will, as the result of a cosmic, unbreakable tether, orbit one's body for the remainder of one's body's natural existence.

Sometimes, during the night, the machine will find its way to someone's hand, as if a gift.

Alternatively, one can buy oneself a spot in a satellite cotton ball hunting expedition for the price of a small electric car.

Macroscale:

The first hundred cases of skin cancer seemed unconnected. When the number escalated to the mid-thousands, however, medical personnel identified a significant but otherwise imperceptible amount of UV radiation emanating from the machines colloquially known as 'satellite cotton balls'.

The public was advised against engaging with these machines in any capacity.

Individuals who, at the time, had a 'satellite cotton ball' orbiting their bodies were instructed to wear protective equipment and avoid sustained contact with unprotected individuals.

To date, no 'satellite cotton ball' has been successfully untethered from its human companion.

Animals

Microscale:

The machine, no bigger than a housecat, injects a long, thin, metallic rod deep into the forest floor and hums. Unbeknownst to the surface dwellers, a persistent electric current emanates from the rod directly into the soil.

On the surface, the forest forests indifferently. The only organism privy to the machine's thunderous pulse is the mushroom, who secretly revels in the machine's generosity.

Mesoscale:

Compelled by the preternatural abundance of mushrooms, a sounder of boars takes permanent residence in a woodland clearing. Territorial as they are, the boars will attack anyone who dares get near.

In the middle of the clearing, a machine, no bigger than a housecat, stands undisturbed. A boar pup leans against it. The machine hums.

Macroscale:

Multitudes of aggressive boars have been spotted in different forests across the region. The abundance of boars has displaced other wildlife, including deer and wolves, who have been forced into nearby towns. The deer, in particular, have become a nuisance. They ravage gardens and sow the streets with their droppings.

Throughout the forests, a mechanical hum can be heard amid other, less surprising, foresty sounds.

Environment

Microscale:

In multiple lakes across the region, a minuscule, almost imperceptible machine continually releases tiny droplets of red pigment. Often eaten by fish, the machine passes through the creature's digestive tract unaltered. The pigment has a brilliant, scarlet hue, low molecular weight, and the distinct smell of strawberries.

A single machine can release over three hundred thousand droplets of red pigment in a 24-hour period. Hundreds of these machines may be resting in a fish's belly at any given time.

Mesoscale:

Utterly horrified by the red rains that had besieged the town, locals have taken to the streets to protest the presence of 'people who challenge the will of God'. During the demonstration, which quickly turned violent after a bout of red rain ruined the protestors' white vestures, the halfway house for LGTB youth was burned to the ground.

The rain didn't stop. It smelled of strawberries.

Macroscale:

Over the last few decades, animals and plants in the region have developed a distinct scarlet hue. Across the sea, a wealthy business person pays handsomely for ‘scarlet venison’, which is said to increase vigor and physical zest.

When cooked, meat from the red animals is indistinguishable from that of their more conventionally tinted brethren.

After dinner, the business person feels engorged.

Mono-Scalar, Multi-Object Events

Microscale*Humans:*

The infant howls in the middle of the night with an urgency unlike that of his habitual tantrums. The father, startled, rushes into the child’s room just to find the boy hurt, offended, and vexed. Upon closer inspection, the father notices unprofuse bleeding on both sides of the boy’s right thigh. It was as if he had been shot with the tiniest of bullets.

Unbeknownst to the father and the child, the room was riddled with thin, needle-wide tunnels.

Animals:

The young worker bee sleeps politely in a cell near the center of its hive. A machine, no bigger than a needle, pierces through the wax walls and silently beheads the young worker bee before tunneling across the hive without taking any more lives.

The young worker bee was so tired, it didn't even notice the beheading.

Environment:

Needle-wide tunnels run through the mountain as if a vascular system of thin, empty veins. Inside, a machine moves slowly in straight, erratic lines. The mineral density of the mountain's rocky innards is of no consequence to the machine's unwavering motion. Over the years, thousands of miles of vascular tunnels have been needled across the mountain's heart.

Other than being imperceptibly lighter, the mountain stands unfazed.

Mesoscale*Humans:*

An aberrant number of insects flock around the kindergarten teacher's 11th-floor bedroom window. He had picked that modest, high-rise studio only partially because of the view, and primarily because he thought it would spare him dealings with most surface-bound vermin. "How high could flies fly?" he asked, rhetorically, to himself as he signed the 12-month lease.

Now, as his window darkens under a dense embroidery of indistinct insects, he lies on the floor, panic-stricken, heart half-stopped, thinking himself punished by a crime he must have certainly committed, if not in this life, in another.

Animals:

A common frog basks in the warm rain as it notices a paper-thin circular machine coming to rest upon a nearby rock. In mere minutes, thousands of insects throng on and around the rock until it is completely covered by an iridescent buzzing mat.

Presented with an unrestricted, nigh limitless source of luscious sustenance, the frog keeps eating until its bowels unstitch themselves.

Environment:

The last pair of *iberis lobata*, a rare flowering plant endemic to the northern regions, died on a warm, starry spring night without yielding any young. The fact that the two plants were only a couple of feet apart made their demise all the more tragic. A strong gust of wind or a hungry butterfly would have sufficed to secure the species' survival for another generation but, alas, the *lobata* had no such luck.

Close to the *lobata*'s lifeless stems, a paper-thin circular machine had attached itself to a tree, garnering the attention of most, if not every, nearby insect.

Macroscale

Humans:

The increasing pervasiveness of crab-like, hand-like machines in the city has been deemed a matter of political urgency. Not only do the machines ransack public and private property, but their chromatic scavenging antics have robbed the people of their god-given right to freely use, fabricate, and store blue-colored things. As a result, in a spell of strong, decisive action (and after violence proved ineffective), the municipality ramped up the production of small blue trinkets and started piling them up in open areas. People are convinced that, by and large, the machines scavenge the municipal blue piles rather than looking for blue in other private, harder to reach places.

To aid the municipality's valiant efforts, patriotic citizens leave their own small piles of blue trinkets around the city.

Animals:

Over centuries, countless cerulean slugs have made a home for themselves in the mountainous piles of blue trinkets that surround the city. The piles, ripe with mold and microbial bounty, allow the slugs to thrive and grow to the size of loaves of bread. The slugs, as if in gratitude, anoint their acidic slime throughout the piles, welding the trinkets together and covering them with a thin, shimmering veil that makes their blueness even livelier.

To a slug born into the piles, the entire world feels blue.

Environment:

A multitude of crab-like machines scouts the city in search of blue things. When they, hand-like machines, encounter anything tinted blue, they grab it and take it to a pile of blue things just outside the city. The crab-like, hand-like machines do not discriminate their blues by hue nor shape, nor texture or smell. If a blue thing is too big for them to carry, they'll carve a piece out, take it to the pile, and then repeat the process until the blue thing has been fully relocated. If a thing is blue but not entirely, they will carve out the blue, and ignore the blue-not.

Each day, the pile grows a little bit bigger, and a little bit bluer.

Closing Sequence

And so they inhabit the Earth, doing a single, distinct deed. Perpetually. Recursively.

-

recursive,

perpetual,

breathing,

kaleidoscopic,

moving machines.

Appendix III: Body Plans for the New Millenium, Full Transcript

Body Plans for the New Millennium

- **Multi-node Story, Part 1**
 - **V1: (Anger/Fear) (Daughter)**

Upon waking on the morning of January 1st, after welcoming the millennium with unrivaled zest, the Borgias found themselves transformed into gigantic crabs. The young daughter, unable to fully determine if she was awake or dreaming, softly passed her left pincer over her hardened torso. As she felt the cartilaginous quality of her being, she moved her insides in a way that, the night before, would have engendered a scream. Now, however, the only thing that came out of her mouth was a moist, almost tender gurgling.

In her room, incapable of articulating words, the young daughter raged. Her wrath, enhanced by her arthropod physiology, descended upon her furnitures with biblical indifference. The disembodied neck of Mr. Sourdough, her stuffed giraffe, flew across the air.

- **V2: (Joy) (Parents)**

Upon waking on the morning of January 1st, after welcoming the millennium with unrivaled zest, the Borgias found themselves transformed into gigantic crabs. Still lying in bed and after taking stock of the situation, the mother tenderly moved her pincers to meet her husband's carcinized body. His deep black eyes, barely protruding from his shell, conveyed an impossibly urgent terror. His limbs, all ten of them, jerked as if unwillingly. "It'll be alright, love. We'll be alright," she tried to say, but her crustacean throat betrayed her. Instead, a light gurgling came out.

Back at the Borgias' state, the father had found solace in his wife's temperance. They rose from bed together, claw in claw, and set out to face the world.

- **V3: (Sadness) (Son)**

Upon waking on the morning of January 1st, after welcoming the millennium with unrivaled zest, the Borgias found themselves transformed into gigantic crabs. The eldest son, still in disbelief, fixated on the improbable shapes of his crustacean body. He thought, quite hopefully,

that it was a trick of the light, a half-dream, a stroke of madness. He thought, quite hopefully, that if he took a deep breath and closed his eyes, his fleshy bits would come back running, back to their rightful place upon him. He took a deep breath but, try as he might, his eyes wouldn't close. He brought his pincers to his hardened face in the hopes of triggering a blink, but his blinking bits were missing and his eyes were rough like nails, like cartilage. He attempted a sob. A gurgling came out.

In his room, the son couldn't stop looking at his carcinized self. He realized that this was no dream and wondered if he would ever dream again, eyes wide open and all.

- **Multi-node Story, Part 2**
 - **V1: (Anger/Fear) (Parents)**

Life at the Borgias' house quickly became untenable. Their rooms and corridors and doorways, made to deal with human-shaped dwellers, were laid bare by the deep scarring of arthropod transit. Their things, now a thick layer of wreckage upon the floor, instilled an uncomfortable urgency. The mother had been waging war with vermin for days. The mice and cockroaches that she once thought the burden of lesser households had made a home in the now unreachable crevices of her surroundings.

Whenever she caught one of the critters scampering away from safe cover, she would crush it under her massive pincer. She felt intoxicated by her own strength, knowing full well that she could just as easily crush a raccoon, or a fox, or a small child. Not that she would ever, she reassured herself. Still, she raveled in the possibility.

Back in his room, the father, starved for normalcy, rummaged the remains of his wardrobe for clothes to cover his nakedness. He tried putting on shirts and pants on his multiple limbs, but he lacked the shape and range of motion that those garments so intransigently demanded. After tearing apart the last of his dress shirts, he settled for a baseball cap, which he balanced precariously on top of his shell, between the stems of his eyes. He slowly walked to the window and rejoiced in seeing the civilized reflection of a clothed being. A moment passed, and the cap promptly fell to the floor. He gurgled loudly and, irate, flung himself through the glass, seeking permanent relief in the sidewalk two floors below. The concrete cracked, but his carapace remained unscathed.

- **V2: (Joy) (Son)**

Life at the Borgias' house quickly became untenable. Their rooms and corridors and doorways, made to deal with human-shaped dwellers, were

laid bare by the deep scarring of arthropod transit. Their things, now a thick layer of wreckage upon the floor, instilled an uncomfortable urgency. In the dead of night, while the rest of the family gurgled loudly at each other for reasons he could not discern, the son quietly climbed down the window determined to find comfort in the arms of his beloved. The journey, which before would have taken no longer than fifteen minutes, went on for hours. The streets felt unfamiliar to him, and out in the open he struggled to steer his body with any semblance of elegance. His eyes, high up in their stems, simultaneously offered him all possible directions, and his legs, confused, stumbled upon each other, entangling themselves in painful arrangements. After his seventeenth fall, however, something clicked, and instead of trying to submit each of his limbs to conscious orchestration, he embraced the natural bent of his joints, his panoptic sense of space, and the eager strength of his inner musculature. By dawn, he had become a creature of motion, effortlessly weaving through the undarkened streets.

--

Once arrived at the house of his beloved, the son found a gigantic crab moistening himself in the middle of two automatic sprinklers. He approached cautiously, unsure if the crab before him was the crab he so desperately wanted to encounter. The moistened crab raised the stems of his eyes and gurgled softly, as if asking a question. The son gurgled back, as if to answer, and they both imagined with hopeful certainty that the

other was the one they were expecting. The son lay under the sprinklers, next to his beloved, and felt at home.

- **V3: (Sadness) (Daughter)**

Life at the Borgias' house quickly became untenable. Their rooms and corridors and doorways, made to deal with human-shaped dwellers, were laid bare by the deep scarring of arthropod transit. Their things, now a thick layer of wreckage upon the floor, instilled an uncomfortable urgency. By then, the daughter had become obsessed with the putrid smell that permeated the house: the humid trash, the rotting carcasses, the mold. She would hold her pincers against the front of her carapace, where she assumed her nose would be, just to realize that she could still feel the stench being absorbed into her body, through her shell, through her limbs. Her entire self had become privy to the minuscule fragments that inhabited the air. She could feel the smell. Taste it. She had tried to run away from it but soon learned that the world was full of fragrance, and that there was no escaping the omnipresent flavor of things. She stretched her limbs and hugged her bed's metallic frame. It felt bitter, somewhat salty, and not absent zest.

Still embracing her bent bed frame, the daughter was overcome with an intense sadness, a sense of hopelessness and loss. It was not that she could not escape the putrid odors of the world, nor that she was forced to feel their taste deep inside her being. It was that she knew that taste was mold, and trash, and carcass, and yet she couldn't help but enjoy it.

- **Multi-node Story, Part 3**

- **V1: (Anger/Fear) (Son)**

A weariness had settled deep into the Borgias' souls, and their shells, and their soft, muscular innards. Far from his childhood house, the son had spent several nights frolicking under automatic sprinklers, feeling something he could only think of as love and yet, not the moisture nor the pleasant company relieved him of the aching that had come to besiege his body. He had grown weaker, felt heavier. It was as if his carcified self craved for a buoyancy that the air denied him. He felt a pull, a hunger for water that the waning sprinklers could not sate. One day, he woke up in the middle of the morning and gurgled at his beloved to try and convey this primal need, but there was no response. He tried to wake him up by gurgling louder, by poking the side of his shell, by hitting him between the eyes. He tried thrusting himself underneath him, tipping him over, but his beloved remained silent. Stiff. The sprinklers leaked, moistening the grass.

The son had managed to roll his beloved out of the damp lawn and into the street. It took him hours. He had not forgotten his own seafaring urges but thought, with certainty, that if he managed to submerge his partner in more generous waters, he would wake up, as one does, moist and lively. Each time he would thrust himself underneath him, however, his beloved grew more unwieldy, weightier, until he would not budge at all. When the son found himself incapable of moving him any further, he was overcome with rage. He tried hitting his own carapace with whatever strength he had left but noticed that the bent of his joints only allowed for a light tapping. And so he tapped away, tapping and tapping until his joints went sore. A light rain started to fall. When he finally surrendered to the beckoning of the shores, he made his pilgrimage alone.

- **V2: (Joy) (Daughter)**

A weariness had settled deep into the Borgias' souls, and their shells, and their soft, muscular innards. The daughter looked at her half-collapsed room and felt trapped, incarcerated by the remains of her bipedal past. Not knowing what to do, she paused for a minute to inhale, to take in the world. Out of all the flavors in the air, mild and strong, one caught her attention: a faint trail of salt, a mineral moisture. To her, it felt like an invitation. And so she climbed out her window and surrendered to the beckoning of the shores, treading the streets with arthropod elegance.

On her way to the sea, the daughter meandered, letting herself be governed by the curiosity of her limbs. She climbed on top of things, hid beneath others. She tore open the door of an abandoned car just to lay inside for the briefest of moments and clung to the side of a stranger's house just because she could. There was a playfulness coded deep into her constant gurgling; her movement compelled by an engine of joy. As she neared the shore, a light rain fell upon her. The air was pregnant with salt.

- **V3: (Sadness) (Parents)**

A weariness had settled deep into the Borgias' souls, and their shells, and their soft, muscular innards. The father woke up in the middle of the day gasping for something. There was plenty of air but it felt rough, as if breathing minuscule blades, pulverized glass. His body was aching for moisture, and he felt not unlike drowning. The mother, much aware of her watery needs, had barricaded herself in the bathroom and broken every pipe within reach of her pincers. For a while, vital wetness rained upon her, but soon the leaking grew milder, until there was no leaking at all. The father, desperate, had rummaged the remains of the fridge and crushed every container that housed any form of moisture. Jugs of spoiled milk, cans of warm beer, a jar of alfredo sauce. He created a wetness on the floor and wallowed in it. It helped, but he knew full well that it wouldn't

last for long. There was a pull in his body, a hunger for water that hummed inside every crevice of his being.

When the mother emerged from the bathroom, she found her husband gasping on the floor covered in rotten milk and pungent pastes. They gurgled at one another with a tired sadness, recognizing a shared, primal need. And so they both surrendered to the beckoning of the shores, making their pilgrimage together. Behind them, the house they had inhabited for decades disappeared into the horizon, inhospitable, hostile. As they made their way to the ocean, a light rain soothed their barren gills.

- **Mono-node Story #1: Anger/Fear - Confrontation**
 - **V1: (From Anger/Fear) (Short Time)**

A couple of days after the Borgias' encrabment, a coastal town near the Argentinean pampas was besieged by a battalion of gargantuan crustaceans. The invading force came in at noon, clattering into market square as their hard limbs rained upon the cobbled streets. The turmoil echoed across town and woke the local gargantuan crustaceans that were peacefully dreaming of romaine lettuce and sea salt.

Vexed by the intrusion, the residents poured out of their windows and flung themselves against the unfamiliar arthropods. There was a hammering of claws, a breaking of shells, a snapping of limbs. There was an impossibly loud belligerent gurgling that grew louder and louder until it didn't. The streets were painted blue.

- **V2: (From Joy) (Mid Time)**

About a decade after the Borgias' encrabment, a host of gargantuan crustaceans had corralled their young in the shallow ponds that surrounded their mangroves. Tens of thousands of crablings, still no bigger than the pit of a peach, started emerging from their larval carapaces bearing the wide shells and elegant limbs of their foreparents. Driven by a deep, primal urge, they poured out of their ponds and ran desperately towards the water, weaving a tapestry of eager life between the earth and the sea.

Much aware of the momentousness of the occasion, the gargantuan crabs who sired the crablings had taken post around the shore to bear witness. As soon as they saw their young cascading towards them, they raised their pincers to the sky and erupted in joyous gurgling. They tried to stay still to avoid accidental trampling, but they couldn't help themselves: there was a song in their limbs, and so they marched in place. A little dance.

As the living tapestry of crablings descended upon the shore, the denizens of the mangrove set out to feed. From above, a flock of white ibises took turns to poach the slow ones, which were often the biggest and the juiciest. From the ground, dirt-colored snakes took crablings by the mouthful and raccoons choked from biting more than they could chew. The gargantuan crabs, compelled by an incomprehensible fury, ran across the shore trying to drive away the attackers, flailing and gurgling desperately. For every predator they repelled, however, another would join the feeding. A group of laborious ants could consume a crabling, and so could, in the water, the maw of a lemon shark.

○ **V3: (From Sadness) (Long Time)**

Tens of thousands of years after the Borgias' encrabment, almost a hundred crustaceans emerged from their mangroves carrying shiny rocks and pretty sticks. Enduring the pains of gravity and dry air, they climbed a nearby hill and placed their bounty upon the summit. Once the pile had grown taller than even the tallest of crabs and wider than even the most bloated of carapaces, they all made a circle around it and sang, claw in claw, a sad gurgling of remembrance. As if a surrogate weep, it started to rain.

Hidden amid the surrounding trees and bushes, a battalion of hostile crustaceans waited patiently for the mourners to be completely absorbed in

song. As a deep sadness settled into the chanters' cephalothoraxes, the attackers flung themselves against the chanters with reckless disregard. There was a hammering of claws, a breaking of shells, a snapping of limbs. There was an impossibly loud belligerent gurgling that grew louder and louder until it didn't. The hill was painted blue.

- **Mono-node Story #2: Joy - Community**

- **V1: (From Anger/Fear) (Mid Time)**

A couple of years after the carcinization of the Borgias, a large group of young crustaceans wandering in deep waters was being preyed upon by a gigantic, unnamable shark. They could not swim nimbly enough to escape its maw, nor fast enough to seek refuge in the ocean floor. The shark, content with ramming against the haphazard cluster of crabs with an eager jaw, devoured them by the mouthful. Some younglings jerked around in terror, swimming in circles until the shark got around to poach them.

Others, however, allowed themselves to be taken by a kinship of movement. The chaotic cluster of crabs started to assume form: a sphere, a wave, a meander. They would no longer rely on their own bodies but in a shared sense of space. Not two eyes, but many. Not ten limbs, but hundreds. And so they danced. The protean cluster warped around the shark, caressing its gills, evading its maw.

The shark, exhausted, swam away.

- **V2: (From Joy) (Short Time)**

Merely hours after the carcinization of the Borgias, the gargantuan crabs that now inhabited a Japanese fishing village took to the ocean for the first time. As soon as they submerged themselves in the salty water, they were overcome by the comforts of buoyancy, the gravity of a different world. Some walked, cautiously, as if not to trip. Some tripped and tumbled gently onto their backs, struggling to stand straight until a fellow crab tipped them over. There were some, however, who immediately abandoned the safety of the ocean floor and, with little regard for earthly constraints, swam away.

To the bottom dwelling crabs, the swimmers seemed like birds, like dandelions, like clouds, and so they extended their pincers towards the sky, as if asking to be untethered. The swimmers, eager to share the joys of vertical motion, grabbed their sand-bound kin by the claws and moved upwards, as high as they could, and then let go. The uninitiated crabs would tumble back down, desperately jerking their limbs to no avail before hitting the ocean floor. The swimmers would pick them up again, and again, until in the midst of falling a primal engine would start revving, until their limbs remembered how to swim. By the crack of dawn, not a single crab remained bound to the sand.

- **V3: (From Sadness) (Long Time)**

Several millennia after the carcinization of the Borgias, a dozen gargantuan crustaceans found themselves treading barren grounds deep in the Pacific Ocean. Far away from hospitable waters, the crabs began to starve, finding around them only sand, and rocks, and the carcasses of animals way bigger than themselves.

Unable to find direction in that lightless desert, the crabs accepted their fate. As they sought comfort in the rocks beneath them, however, they felt a multitude of carvings, familiar marks that couldn't possibly have occurred by whims of the ocean alone. Other crabs had been there before, and the stone was scarred with a record of their itinerary. Emboldened by hope, the lost crabs followed the markings, unwittingly hammering rocks with their pincers and bruising the stone with the tips of their limbs. As they kept moving, the water became a bit lighter, a bit warmer and, slowly, started to brim with life.

- **Mono-node Story #3: Sadness - Scarcity**

- **V1: (From Anger/Fear) (Long Time)**

Roughly 40,000 years after the Borgias' crustacean rebirth, a cataclysmic seastorm displaced thousands of giant crabs around the southeastern reaches of the Atlantic. After tumbling in angry waters for days, six crabs

washed ashore on a small island inconceivably far from home. Starved and broken, the castaways crawled into the island and found it brimming with lush greenery. To their great surprise and relief, they also found it brimming with crabs: a community of gargantuan crustaceans, strong and thriving.

The locals looked distinct, unambiguously crablike, yes, but significantly bigger than the castaways and proudly displaying a bright green tint in their carapaces. When the locals took notice of the newcomers, they gurgled at them in both recognition and solidarity. They dragged the broken crabs back to their burrows and offered them a generous spread of green leaves and fibrous plants. The castaways, with voracious hunger, ate fast and greedily. Minutes later, however, the undigested greens came back rushing out of their mouths. The locals, confused, brought them chunks of shrub and pieces of fern and big green leaves and juicy vines and all the small bits of jungle the island had to offer. The broken crabs would eat them, but every time their ungrateful mouths returned a sad pungent paste. The local green crabs were willing to share everything they had, but the one thing they couldn't share was the ecosystem within their bodies, the diminutive organisms that, for hundreds of generations, had evolved alongside them to make food out of place.

The castaways, surrounded by lush sustenance, died of hunger.

- **V2: (From Joy) (Short Time)**

As the Borgias experienced their crustacean rebirth, a group of newly transformed gigantic crabs arose in the middle of the Sahara. The night before, they'd been lost humans, marooned in barren lands waiting for death to take them. When they became aware of their arthropod physiology, however, they were overtaken by hope. Their bodies, now strong and sturdy, could tread the sand with ease, and their hard carapaces were impervious to the hostility of scorpion and snake alike. As if by providence, a burst of rain moistened their gills.

Without losing another minute, the crabs strode forwards, rushing towards the horizon they thought most hospitable. In a matter of hours, they became proficient at inhabiting their new bodies, knowing full well when to consciously steer and when to follow the primal intelligence coded deep within their limbs. Amid their eager strides, there was a constant, joyous gurgling.

Three days later, the desert seemed as incomprehensibly vast as it was when their limbs were still soft and fleshy. Not a single drop of rain had fallen since the morning of their transformation, and the scorpions and snakes offered only sparse and unsating sustenance. Their movement, once flush with zeal, had grown sluggish and miserable. By the dawn of the fourth day, the crabs didn't move at all. Behind them, their hopeful trail was devoured by the wind.

- **V3: (From Sadness) (Mid Time)**

Not a decade after the Borgias' crustacean rebirth, a rocky shore in Greenland saw an isolated group of eight gigantic crabs enduring the pains of molting. Soft and naked, the crabs found themselves incapable of using their claws to pluck prey out of hard crevices, and their exposed musculature would tear when forced to move across the stony thorns sown throughout the coast.

In gentler times, other crabs with strong carapaces would've taken care of their molting kin, bringing them food and protecting them from the hard edges of the world. These eight naked crabs, however, were alone.

Before their limbs could harden, their stomachs grew terminally void.

- **Mono-node Story #4: Anger/Fear - Menace**

- **V1: (From Anger/Fear) (Short Time)**

Barely a fortnight after the Borgias' transition into crustaceans, a colony of gigantic crabs became privy to the nearness of a gargantuan octopus. Overtaken by a violent fear, the crabs scattered and hid amid deep clusters of limestone, hoping for the hardness of the rock to offer them protection. It did not work. Indifferent to the constraints of geometry, the octopus

poured itself into the rocky crevices and, like a beast made of liquid, drowned the crabs in its musculature, crushing their carapaces and feasting on their juicy innards.

Many crabs fell to the octopus' muscular embrace. Those who didn't, however, carried within them a fright that no grammar could properly articulate. Generations later, a young crab saw, in the distance, a shadow resembling eight nimble limbs. Without understanding why, a knowledge coded deep within his flesh compelled him to run away.

- **V2: (From Joy) (Mid Time)**

Short of a century after the Borgias' transition into crustaceans, a handful of gargantuan crabs started to molt in the heart of the Amazonian rainforest. Fully aware of the dangers of softness, their kin banded together to bring them fished fish and the occasional broken-neck capybara, and despite the lack of familial bonds, a couple of sturdy crabs stood guard to discourage the pumas.

On the third morning of their softness, the molters were presented with an excess of acais and mangos. They gorged themselves, inadvertently covering their bodies with sweet juices and seeds. Elated, they gurgled loudly, as if in gratitude, as if in a promise of reciprocity.

As the molters enjoyed their fruity feast, a multitude of bullet ants started to gather in the vicinity. Eager to share in the crabs' bounty, the ants crawled over the molters, taking bites of fruit out of their mouths and pincers. By the time the sentinel crabs noticed the encroachment, the molters were overrun by ants, their shape almost indistinguishable under the breathing drapery of eager jaws. The ants preferred the sweetness of fruit, but were no strangers to the taste of flesh.

- **V3: (From Sadness) (Long Time)**

A couple million years after the Borgias' transition into crustaceans, a colony of gargantuan land crabs withered away in the Andean highland. Surrounded by mountain and stone, they themselves had grown to become a bit like mountain and a bit like stone: grey, huge, slow. For reasons that escaped them, over the last couple of days much of the local fauna had left their volcano-side dwellings en masse, leaving the crabs hungry and alone. They, too, had felt an unnamable compulsion to run away, but their enrockened limbs had long renounced nimble movement.

On the eve of the fourth day of their abandonment, the earth started a furious heartbeat; a relentless sequence of tremors that brought down mountain and crab alike. From the volcano's summit, a bright maw poured liquid sun onto the valleys. The crabs, in abject terror, walked their fastest

walk away from the angry mountain. They plunged themselves into a nearby lake, hoping to awaken some aquatic memory in their lungs.

Submerged deep in cold water, the stony crabs drowned.

- **Mono-node Story #5: Joy - Playfulness**

- **V1: (From Anger/Fear) (Mid Time)**

25 years after the Borgias found themselves transformed into gigantic arthropods, a massive earthquake ascended from the tectonic entrails of the Qatari heartland. The violent reshaping of the soil displaced the already sparse inhabitants of the region, and whomever remained that was not crushed or uprooted found themselves surrounded by the countless rocky pits left in the earthquake's wake.

The shaking had aroused the vascular hydraulics that lay dormant in the Qatari bedrock, and in a matter of weeks, the earth had bled into nigh every pit, filling it to the brim with water.

It didn't take long before the industrious crabs that had been relegated to the shores took notice of the ecosystem of moist that had emerged from the collapsed desert. They, along with a multitude of other thirsty creatures, took to the heartland en masse.

In the middle of the Qatari desert, a young crab frolicked in wet sand.

- **V2: (From Joy) (Short Time)**

The day after the Borgias found themselves transformed into gigantic arthropods, a group of young crabs gathered near a Peruvian seashore and playfully threw rocks at one another. Their pincers lacked the minute precision of their former limbs, but the added challenge made the game all the more compelling. Whenever someone would land a hit, all the others would erupt in joyous gurgling.

Earlier that week, the same children played tag and soccer and, when no adults were looking, walked in all fours and pretended to be panthers.

- **V3: (From Sadness) (Long Time)**

200,000 years after the Borgias found themselves transformed into gigantic arthropods, a massive wall of rock and sediment coiled around an archipelago in the south Pacific. Over millennia, the gargantuan crabs that inhabited the islands had built and cared for the wall, following a deep seated compulsion for adding small pieces of their world into the structure and welding them in with a mixture of saliva and sand.

Whatever lurked at the other side was a mystery to the living crabs, a long forgotten danger kept at bay by the material border they had instinctively erected.

There was a game played by the young, one that consisted of scavenging for the biggest piece of rock, or carapace, or coral and then fixing it into the wall as high as they possibly could. Oftentimes, the younglings would swim too high and fall flat on their backs, overencumbered by the weight of their contributions. Whenever this would happen, the other crabs gurgled playfully, helped the young up, and encouraged them to try again.

- **Mono-node Story #6: Sadness - Sickness**

- **V1: (From Anger/Fear) (Long Time)**

Thirteen million years after the Borgias were become crabs, a band of migrating arthropods was overrun by parasitic mold. When they stopped to wallow in a shallow pond, the mold entered their bodies, growing silently in the space between their gills. The mold, armed with countless generations of biological wisdom, knew to stay coy and harmless until the crabs had traveled far from the tiny pond in which they were boarded.

After weeks of treading the world, the crabs started to breed a struggle in their breathing, and a violent fear of the other crabs that traveled alongside

them. As if by a primal compulsion, they abandoned one another, and their seafaring thoughts were usurped by a sudden craving for humid soil.

In the days that followed, the scattered crabs sought thickets and forests, and once they found an inviting spot, they buried their limbs into the earth. Indifferent to the need for sustenance or movement, the crabs became mold themselves.

- **V2: (From Joy) (Mid Time)**

Seven winters after the Borgias were become crabs, former human cities were overrun by an abundance of life. The new citizens thrived, making dens and nests out of the concrete derelict and populating the streets with growth. There were some, however, who fared poorly in the absence of their human companions. Small dogs were poached by bigger dogs and housebound pets starved. The internal ecosystem of domesticated animals was promptly besieged by the microbial bounty of their feral counterparts, and even the sturdiest of houseplants withered when denied rain.

Seven winters after the Borgias were become crabs, the last indoor cactus died of thirst.

- **V3: (From Sadness) (Short Time)**

Ten minutes after the Borgias were become crabs, a small Bavarian town erupted in a sad, desperate gurgling. The townsfolk, faced with the reality of their arthropod physiology, were overcome by grief. Many flung themselves out their windows immediately, and others attacked the perceived monsters with whom they shared a home. There were some, however, that simply stood still, a madness creeping deep into their limbic selves.

Unable to make sense of the new world, the catatonic crabs shriveled in a prolonged silence.

Appendix IV: Galactic Loom, Full Transcript

Galactic Loom

- **Multi Node A, Part 1 (Animal, Birth/Emergence)**

- **V1 (Macro, Bee):**

The **hungry pupae** of **uncountable bees**

grow **wings**, take **flight**, inhabit the **breeze**

- **V2 (Meso, Human):**

A **human child** well covered in **womb**

spins and **pulls** a **galactic loom**

- **V3 (Micro, Coral):**

The **youthful motes** of **coral fat**

latch **onto the world** by **sight** and **tact**

- **Multi Node A, Part 2 (Animal, Growth/Permanence)**

- **V1 (Macro, Coral):**

As **reefs** of **coral reach** for **sun**

they **shape** the **Earth** by **rock spun**

- **V2 (Meso, Bee):**

Ten **thousand bees** rebuilding a **hive**

collect, **amass**, **design**, and **thrive**
- **V3 (Micro, Human):**

The **sly** bacteria that **maketh** man **whole**

enshroud his **gut** and **chisel** his **soul**
- **Multi Node A, Part 3 (Animal, Death/Destruction)**
 - **V1 (Macro, Human):**

A **nation's** **worth** of **human** **flesh**

returns to **earth** to **start** **afresh**
 - **V2 (Meso, Coral):**

A **stony** reef **coral** too **sickened** to **breathe**

does **orphan** the **urchin**, does **poison** the **shrimp**
 - **V3 (Micro, Bee):**

A **singular** **fur-bound** **african** **bee**

renounces her **entrails** **rather** than **flee**

- **Multi Node B, Part 1 (Plant, Birth/Emergence)**

- **V1 (Macro, Dandelion):**

A **hundred one million dandelion seeds**

doth **take** to the **skies**, doth **furnish** the **fields**

- **V2 (Meso, Fig):**

A **young** fig **high** determined to **moil**

sprouts keen **roots** that **reach** for the **soil**

- **V3 (Micro, Moss):**

A **trifling** mass of **lively** moss

erupts in **countless** **tiny** spores

- **Multi Node B, Part 2 (Plant, Growth/Permanence)**

- **V1 (Macro, Moss):**

Stretches of **moss** kilometers **wide**

enmoist the **world**, **protect** and **provide**

- **V2 (Meso, Dandelion):**

A **patch** of **abounding** **animated** grass

grows **yellow, yellow, dandelions** **amass**

- **V3 (Micro, Fig):**

A **fig** with **wasp** encoiled in **heart**

secures its **life** when **torn apart**

- **Multi Node B, Part 3 (Plant, Death/Destruction)**
 - **V1 (Macro, Fig):**

A **thousand fig** trees of **rotten root**

produce a **winter devoid** of **fruit**
 - **V2 (Meso, Moss):**

A **bed** of **moss** that is **old** and **thin**

does **not** survive the **winter lean**
 - **V3 (Micro, Dandelion):**

A **fungus** devouring a **dandelion mound**

distributes **dandelion far** and **abound**

- **Multi Node C, Part 1 (Object, Birth/Emergence)**
 - **V1 (Macro, Water):**

Far **deep** within the **earth** a **vein**

becomes a **lake**, an **ocean**, **rain**

- **V2 (Meso, Rock):**

An eon's **worth** of **sediment rock**

becomes a **path** for **deer** to **walk**

- **V3 (Micro, Wind):**

A **hotness moves** where **coldness lays**

tempting air to **surge** and **sway**

- **Multi Node C, Part 2 (Object, Growth/Permanence)**

- **V1 (Macro, Wind):**

The **patterned wind** that **covers Earth whole**

goes **around the world** to **reach** for the **poles**

- **V2 (Meso, Water):**

A **shallow pond** where **tadpoles** are **born**

is **shelter** at **night**, is **grave** in the **morn**

- **V3 (Micro, Rock):**

A **million specks** of **rock** made **dust**

inhabit grime, **enshelter rust**

- **Multi Node C, Part 3 (Object, Death/Destruction)**

- **V1 (Macro, Rock):**

A **mountain range** with **molten cores**

reshapes the **world**, designs new **shores**

- **V2 (Meso, Wind):**

A **gust of wind** that **lifts** and **sinks**

is **made** the **breath** of a **pouncing lynx**

- **V3 (Micro, Water):**

A **drop** of **watery musk** of a **boar**

boils **hot**, **steams**, an **inaudible roar**

- **Mono Node # 1: Macro**

- **V1 (From Bee, Liveliness):**

in **chasms gorged** with **lives** that **hum**

as **swarms** of **bees erupt** like **foam**

- **V2 (From Human, Calm):**

in **planets bound** by **human skin**

and **dwells** the vesseled **blood** within

○ **V3 (From Coral, Fury):**

inside a coral of **planetary breadth**

and replicates with violent **fractal depth**

○ **V4 (From Dandelion, Calm):**

in **cities** covered in **dandelion buds**

serene amid a **dandelion flood**

○ **V5 (From Fig, Fury):**

beneath the **fig** that **strangles** it **all**

entangled in **roots** both **big** and **small**

○ **V6 (From Moss, Liveliness):**

inside a **cosmic span** of **moss**

and distribute **moisture** **far** and **across**

○ **V7 (From Water, Liveliness):**

beneath a **shroud** of **eternal mist**

sprouting **myriad** **fogfilled** **cyst**

○ **V8 (From Rock, Calm):**

aloft a **floating** **earthen** **sphere**

as **movement makes the globe cohere**

- **V9 (From Wind, Fury):**

amid perpetual tempestuous gales

ignoring debris and shattered sails

- **Mono Node # 2: Meso**

- **V1 (From Bee, Fury):**

inside a hive the size of a room

and drowns consumed by beehive blooms

- **V2 (From Human, Liveliness):**

inside the coat of a hungry man

to sing and play, to love and dance

- **V3 (From Coral, Calm):**

right next to the coral that carpets the walls

and sleeps in coral encrusted shawls

- **V4 (From Dandelion, Fury):**

in a strip where hostile dandelions nest

as **gluttonous puffs** find **lungs** to infest

○ **V5 (From Fig, Liveliness):**

around a **fig enormous** and **ripe**

unleashing **critters** of all **shape** and **type**

○ **V6 (From Moss, Calm):**

on **top** of a **street** with **moss** **overflown**

and **rests** in a **green** **enmoistured** **throne**

○ **V7 (From Water, Fury):**

in a **sudden swirl** of **furious cold**

until the **glacial lure** takes **hold**

○ **V8 (From Rock, Liveliness):**

amid ten **rocks** that **sing** and **reel**

to **weave** their **music** **into steel**

○ **V9 (From Wind, Calm):**

surrounded by **subtle, harmless breeze**

as every **tempest** **lays** at ease

● **Mono Node # 3: Micro**

- **V1 (From Bee, Calm):**

inside a **honed, minuscule cocoon**

to **sleep and wait** for **another moon**
- **V2 (From Human, Fury):**

within a **human cancerous cell**

and **conjures tiny funeral smells**
- **V3 (From Coral, Liveliness):**

vibrating **'round a polyp's mouth**

to **reach** where **basal plates sprout**
- **V4 (From Dandelion, Liveliness):**

inside a **floating dandelion sea**

and **nurture hungry dandelion seed**
- **V5 (From Fig, Calm):**

beneath the **tongue** of a **hummingbird chick**

as **fig sap moist** grows **sweet and thick**
- **V6 (From Moss, Fury):**

between strands of **muscle and bone**

and becomes a **meal** for **moss** regrown

○ **V7 (From Water, Calm):**

inside a **falling drop** of **rain**

as **rainfull choirs** begin to **wane**

○ **V8 (From Rock, Fury):**

within the **heart** of a **grain** of **sand**

to upset a **minuscule planetary gland**

○ **V9 (From Wind, Liveliness):**

within a **running dog's snout**

as **air** threads **in** and **wind** threads **out**