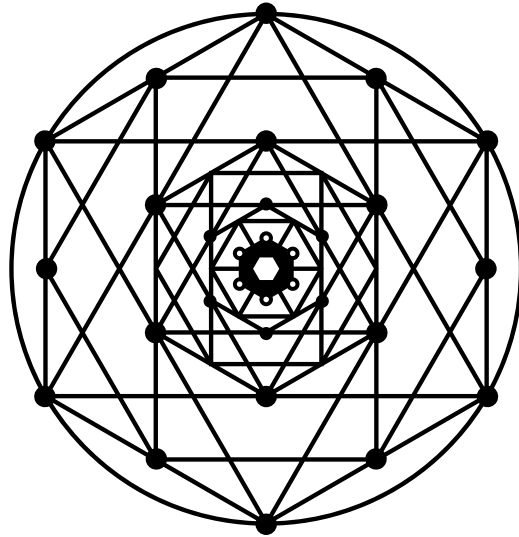


GUSTAVO
CASTRO



MATERIA

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Gustavo Castro

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AUTHOR'S NOTE

1. ON THE TITLE OF THE BOOK

In *Chrono*, my previous short story compilation, I had attempted to develop the idea of *time* beyond the notion of a linear progression of events. I wrote a series of essays in which I expounded a nonlinear perspective of time that was circumscribed to a subject as experience, but also a habit of the universe that made it possible for the latter to process information. In my series of nine stories, I represented time as a woman, for in many cultures it has a masculine form and is understood in the rigid manner I have explained.

Now I want to give similar treatment to *matter*: I want to create a view of matter where it is an epiphenomenon of consciousness, a habit of the universe needed for subjective information processing, where objects can be infused with vital energy and referenced to memories, which to me reside outside the human brain on a nonlocal plane of existence. However, unlike the past compilation, where the metaphor of time as a woman was more adequate because in all the languages I knew, time is used in a masculine form, here matter is feminine. Here, then, I would *not* sell the metaphor of matter as a woman vs. a man, because I am trying to sell a wider understanding than a purely materialist viewpoint—instead, I would put it in terms of the current body-type rebellion in modeling, where “plus size” models are becoming mainstream in a world that still does not want to let go of the heroin-chic archetype.

Metaphors notwithstanding, I am trying my hand at philosophically-based fiction, which has a basis in cognitive science and quantum physics and chooses to interpret them broadly, but in a way that still tries to comply as much as possible with current science. I, however, wish not to be put in the “new age” camp. If you group me with Paulo Coelho and his ilk, I will hunt you down. This is not a fucking self-help book.

Again, what I will try to do is cross the cognitive science of Humberto Maturana with consciousness-based interpretations of quantum physics, similar to the ways of Stapp and Goswami (though I don't like the self-help-y kind of way in which Stapp writes his books) and most importantly, the metaphysics of Henri Bergson. If I were to take a label(s), I would say that the work laid here and in *Chrono* fall somewhere between Neo-Bergsonian fiction and magical quantum realism.

2. ON THE STRUCTURE OF THE BOOK

Like its predecessor, this short story compilation will have a nucleus of three essays and then nine short stories that revolve around the rules established here. Surprisingly for me, the stories here are less cohesive

than in my last literary work: the first one is a historical explanation of something that has yet to (and hopefully might not) happen: humans' exodus to space due to the exhaustion of Earth, scattering throughout the universe and establishing themselves on various planets. The second piece is a technical essay that explains "spiritual tech," and the third is a review of a band that has yet to exist, that released a concept album based on the Good Regulator Theorem of cybernetics, which was expounded by Ross Ashby and Roger Conant many years ago and which plays a key part in a couple of stories.

So, the essays were less technical this time (save for the second one, which is really dense and I apologize profusely for this) and conversely, some of the stories are more technical—namely, "Breakfast at the Moon Palace" and "Rashomon at the Heart of the Universe."

The technical content of the second essay and some of the ideas in "Breakfast at the Moon Palace" explain completely my viewpoint on matter and resonate strongly with the explanations made in *Chrono*, which are a complement for it. I intend to create a third book, tentatively called *Mnemone*, where I take a stand regarding the concept of *memory* in order to close the trilogy, which echoes the development of Bergson's philosophy in his books *Time and Free Will* and *Matter and Memory*.

Now, in *Chrono* I tried to complement my nonlinear view of time by messing around with different narrative structures to give accounts of circular, mutual, and branching causation, as well as reversed time and reincarnation. *Materia* will not be any different: I will present the reader with a more lively, colorful and complex concept. I will also use different techniques to convey the different ways in which matter can be perceived.

Three stories will be presented in a graphical format: "In Keeping Secrets..." will be a colored comic, "Breathing Towers..." will be a black and white comic that follows Alberto Breccia's technique in *Mort Cinder* and "Beastfight..." will be a manga. "Fith-Fath" deals with the manipulation of typography, and "The Roaming War for Beginners" will pay homage to legendary political satirist and cartoonist Rius and his book *La Revolucioncita Mexicana*, in which he makes one of the most serious and didactic analyses of the Mexican Revolution using scribbles and cartoons.

In "The Strange Laboratory..." I use colors to denote feelings and other situations, as well as implement an opportunity for the reader to physically unfold certain pages, to convey the feeling of expanded space. "Building Stuff and Shit" also deals with typography manipulation: each character has a different type of font, so with a couple of reads you get used to their "voice." Finally, "The Long Exile..." is written in pop-up book format, a seriously underused and interactive technique. It should be reconsidered as a serious graphic format beyond the realm of children's literature.

3. ABOUT THE STORIES

“Breakfast at the Moon Palace” deals with an abandoned mall refurbished into a squatters’ house for misunderstood geniuses, like *Foster’s Home for Imaginary Friends*, but filled with disruptive thinkers, philosophers and other generally valuable stuff that doesn’t fit within the mainstream. This stemmed from my frustration at the time of writing this intro (5/21/2015)—I had been sitting on a theory of law, made as my PhD thesis, for almost a year and nobody wants to publish it or the many related articles that I have because they are outside legal scholars’ and political scientists’ comfort zone.

“Rashomon at the Heart of the Universe” deals with the theme of reality being kaleidoscopic—that is, that nature behaves in such a way that there is no single objective reality. Rather, it has many aspects, some of which can be perceived as contradictory. The “Rashomon” part of the title lies in the fact that one of the characters in it (The Prism) thinks about it, and also because there is a Rashomon effect: the three protagonists, The Wolf, The Halo and The Prism give contradictory interpretations of the same event (the upward-facing result of a coin on the floor.)

“Fith-Fath” is probably my oldest story, as I conceived it many years ago, abandoned it, and then rewrote it from scratch. It deals with a young woman who can transform herself into a cat by means of an ancient Gaelic poem that has been passed down through her family for generations.

“In Keeping Secrets of Dying Earth” is a story about Lightning Polly Hawkins and her sisters Penelope and Pixie Ford, who each manipulate different aspects of matter: one can condense cosmic energy into objects, the other can shape and distort dimensional space and the last one can bring forth her imagination into the material world as temporary projections. They live on Earth, before an impending collapse that leads to a massive exodus to space. This is the prelude to both *Arre Pues’s* historical essay about The Roaming Wars and to the second section of pieces, which form a cohesive science fiction block of stories. Mind you, all of my stories, both here and in *Chrono*, take place in the same continuity, and it’s just that in *Materia*, all stories from “Breathing Towers...” to “The Long Exile...” are part of a very tight-knit block.

“Breathing Towers to Heaven” is made as a black and white comic book set, and it is set in the spaceships that make up the fleet of the Heian-kyō Federation (where “Tenben Chii,” one of the stories in *Chrono* takes place) as they search for a habitable world. A scientist, Dr. James Oakes, witnesses a series of exercises from *tenben chii*, a technique where specialized monks are able to transmute matter, a process which is applied to interstellar travel.

“Beastfight at Dinner Time” (a manga) and “Building Stuff and Shit” are set in the world of Paris-Earth, a planet that is being colonized by people who fled Earth, when they are suddenly attacked by giant creatures seemingly made out of thought. The creatures are combatted by Spiritnauts, people who can project their spiritual energy into gigantic shapes. These stories are related to the essay, “General Information About the Spiritnaut System for the Defense of the United Republic of Paris-Earth: What We Do and How and Why We Do It,” which is written by León Armienta, the protagonist of “Beastfight.”

“The Strange Laboratory of M. Fukasaku” and “The Long Exile of M. Reynolds” are set many years after the rise of the Spiritnauts in the Second Roaming War. The first story deals with two elite pilots, Harry Windsoar and Valentina Oleviskaya, who are summoned by the chief scientist of the Republic of Titan-Earth, M. Fukasaku, to be test pilots for new devices. The second story is set in a space race between riders of the Awal and Nadu-Earths, and in the middle of this long, traditional competition is the exiled Titan-Earth space pilot, M. Reynolds, and his mercenary team.

4. CONTINUITY

As I have mentioned, all my stories—both in *Chrono* and *Materia*, and in the upcoming *Mnemone*—form part of the same world, which stems from Bergsonian fiction and magical quantum realism, to magical quantum science fiction or whatever the fuck it can be called. Let me connect some dots: “In Keeping Secrets...” is set just before the Fall of Earth (called the Earth-That-Was and Gaia Earth by those who fled from it) and “A Day in the Life of Her Holiness Chrono Gaia III...” is set many years after the fall. “Tenben Chii” is set in the same world as “Breathing Towers...,” that of the Heian-kyō Federation. The interconnection of the other stories is already explained. I will revisit some of these worlds in *Mnemone* and perhaps create others related to this stream of stories.

5. INFLUENCES

I had many unexpected influences for this short story compilation. One of the most important was Coheed and Cambria’s legendary album, *In Keeping Secrets of Silent Earth 3*, which also narrates a science fiction story. I borrowed a couple of terms, like the name Paris-Earth (which is beyond cool), the term “Western Third” to refer to the Western Front of the Second Roaming War, and overall, the term “In Keeping Secrets of...” which I used for my story “In Keeping Secrets of Dying Earth.” All of this is done with utmost respect and admiration.

Another unexpected (but not unwelcome) influence was the seminal Mexican band Café Tacuba (sometimes called “the Mexican Beatles” by critics), whose song “Quiero Ver” was stuck in my head for weeks. The music video for this song had an abandoned mall in Ciudad Satélite, which inspired “Breakfast at the Moon Palace.” Also, the title of the story “Breathing Towers to Heaven” comes from a song of the same name by AFI. The movie *John Wick* was an influence as well: The Continental—a hotel that caters exclusively to assassins—inspired my idea for The Heart of the Universe, a bar that caters to the movers and shakers of the world.

Another thing that was an influence on this compilation was the lack of realistic depictions of women in many forms of media. This is why the characters in “In Keeping Secrets...” are based on the likenesses of real young women—I wanted this story to have extraordinary elements contained in seemingly ordinary

characters who may as well be your neighbors. Another step taken towards this lies within the body types of the characters in “Beastfight...” who are athletes, but have different proportions actually based on the bodies of real athletes. Most importantly, because it is presented in manga format, there is no emphasis on humongous breasts or skimpy outfits.

BREAKFAST AT THE MOON PALACE

What the fuck is this place? was usually what everybody thought the first time they arrived at the Moon Palace. It was a mall built in the 1970's outside a major city—the name of which I won't disclose—which fell into disuse in the 80's due to the small size of the place and its locales, and also the fact that bigger, more conveniently located places came to be. It came to serve as a refuge for all kinds of prodigies and brains that got shoved out of academia and corporations for having strange or inconvenient ideas.

It was retrofitted about a decade ago by a guy who squatted there in the 90's and later became a billionaire. He saw the potential of sheltering people who possessed all sorts of skills, as he could use them as a brain trust or as occasional help for his enterprise. The place was now run by Jenkins, a former philosophy professor in his late 60's who quit his Ivy League job due to a mental breakdown and also due to racism, as he was black. He and the billionaire were the OS's—the original squatters.

Jenkins was very athletic, probably in the best shape out of anyone there—I mean, “athletic” was an understatement, as he was closer to fucking *chiseled*. He looked like an old and slightly skinnier Shannon Briggs. Because of his health commitments, he made sure that the place got as much healthy food as possible, much to the chagrin of a good part of the general population, which fluctuated between 50 and 75 people.

We called it the “Moon Palace” because it had a big tinted glass ceiling with a crescent moon on top. Originally, it was part of a larger project involving another mall that had a ceiling with a sun, but in the end it didn't fly. The Palace had four stories and about two hundred rooms, with around half of those retrofitted as living quarters. There was an enormous kitchen on the lower floor and bathrooms scattered all over. There was also a gym of sorts at the bottom, and a couple of residents made an orchard in the courtyard, in addition to installing solar panels on the ceiling.

I had been here for a little over a year, struggling to get through postdoctoral applications. I also tried to get papers published here and there in an effort to stay relevant and add shit to my CV. Sometimes I couldn't help but think that regardless of what I put on it, American law schools were less likely to listen to a guy named Francisco Vargas, than a Francis or a Frank when it came to teaching them constitutional law.

My father was Mexican and my mother American, and for most of my life I lived in Mexico, but my mother went to great pains to ensure that I spoke the English language with an American accent. In Mexico, law is a B.A. career, so I studied that there, and later went on to complete an LL.M and J.S.D. (not to be confused with a J.D.) at an American law school. Before I went stateside, I clerked for a Supreme Court Justice for four years, and when I came back from grad school I got into the Legal Research Institute of the Mexican National University.

However, I could never get my career off the ground, as I came up with things that were not to the liking of the elder scholars of the Institute, which dominated the field. Thus, I became a pariah and instead decided to search for an alternative, rather than stay stuck under an unchanging and unrelenting system. Soon enough I ended up here. To sustain myself I did some electoral, political, and constitutional litigation for a couple of political parties—they scanned the files and assorted legal materials and sent them to me, and I gave them lawsuits and writs. I also tried to get my thesis published, both in English and Spanish, but to no avail.

That, more or less, was the regular struggle for any resident, be it as a sociologist, biologist, economist, physicist or whatever. Things were also made difficult by the fact that there was the deadly double loop that hovered above many: to get things published one needed a teaching position, and to secure the latter, one required publications.

“Good morning, Frank,” I heard a voice behind me say.

Everyone called me Frank or Paco (short for Francisco), and the first was not of my own doing. People said I dressed a bit like an old man, with my dress jacket, vest, tie, jeans and dress shoes. Thus, the “Frank” vibe.

“Good morning, Lils,” I answered.

I poured her a fresh cup of coffee from the pot I had just brewed. She was wearing an elegant black dress and had her hair pulled back into a bun. In sharp contrast with her refined clothing, she was wearing Converse sneakers, and had so many bracelets on both wrists that they rattled as she moved. She was a red-head by idiosyncrasy, though not by nature: she had a very artistic dye job that made her hair look like it was on fire. She also had a very tall, slender, and elegant frame.

She was a musician and had landed a record deal at age 18. Two records and four years later, disenchanted with the industry, she picked up painting and sculpting at a major art school, before she got kicked out after a couple of months for her unconventional approach to things. Seeing her dressed like this, I could infer that it was...

“Poetry day?” I asked.

“Most likely,” she said as she continued sipping her coffee.

“Good morning,” another voice chimed in.

“Good morning, Emily,” we both answered.

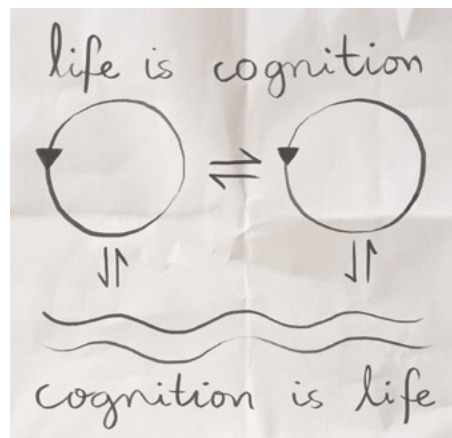
Emily was a petite girl with dirty blonde hair and blue eyes and had a Luna Lovegood sort of aura about her, although she was plumper. She was also wearing a dress, although hers was navy blue. She also had a white blazer and flat shoes, and her hair was let down.

“Good morning, children,” said Jenkins with a cigarette in his mouth.

He looked tired as he grabbed his cup of coffee and immediately left, which was unusual as he tended to like the morning conversations. He was shirtless and as he walked out Lily looked at him like a hungry man would look at filet mignon. Emily was impressed with his physical form and I felt inadequate for having love handles at half his age. All of these were the standard reactions that he usually elicited.

Emily’s specialty resided in cognitive science, although she was also very knowledgeable in cybernetics (both information theory and autopoietic theory). This knowledge brought us together, as I tried to apply cybernetics and complexity theory to the field of law—namely, the endeavor of creating a theory of law. Her fall from grace came from her attempt to find a connection between quantum computing, living systems and Jungian archetypes, which brought her close to Sheldrake’s morphogenetic fields, which had long been the object of constant ridicule. He was like the Voldemort of the life sciences.

But that got her funds cut off, and soon enough she was kicked out of her assistant professor position at a top-tier university. Her main research was so weird that *Kybernetes*, the leading cybernetics review, rejected her twice. And cybernetics was supposed to be by the weirdos, for the weirdos. Nowadays she worked on making simulations and models of autopoietic systems and cells. So committed she was to Maturana’s autopoietic theory that she even had designed a tattoo for the back of her neck:



Such was the life we were living—square pegs forced into round holes. I’d always hated the hypocrisy of the sciences: if you were different but not useful, you were cast out, and if you were useful, then you were a “genius.” Why not be open to other fucking ideas in the first place?

“Hey, what’s going on in there?” said Lily as she knocked my head lightly with her right hand, making a lot of jingling sounds. “You ranting again?”

“A little,” I said.

“Legal stuff?” she inquired.

“Nah, just your regular ‘fuck the mainstream’ blues.”

“Well, that’s everyone’s bread and butter here, man,” said Emily.

She took out a cigarette and lit it while Lily spread some honey on a slice of bread. People tended to think that the wild one was the chain smoker and not the introspective, shy one. All three of us, though, were heavy drinkers. After a brief moment of silence, Emily spoke up:

“You know, what really fucks with me is that I feel that science has been handling itself like organized religion.”

That comment hit me up like a shot of espresso. That woke up Lily as well, for I think it touched on things that we’d thought before, but never really said out loud.

“I think you’re onto something, man,” said Lily. “Keep going.”

“For one, people like to believe that science leads to objective knowledge about an objective reality. But for one, the people that delve into it are subjective: they have a set of perceptions, which are organized by means of self-reference into an organized thread of information, and the way in which we remember and experience things is very much like a narration, where we are the protagonists. Because of this, we cannot possibly create knowledge that transcends subjectivity. Rather, we create knowledge that can be transmitted *among* subjects.”

“Okay,” I said, “remember Edgar Morin? He says that attempting to take subjective experience and epistemology out of science only leads to epistemological blind spots.”

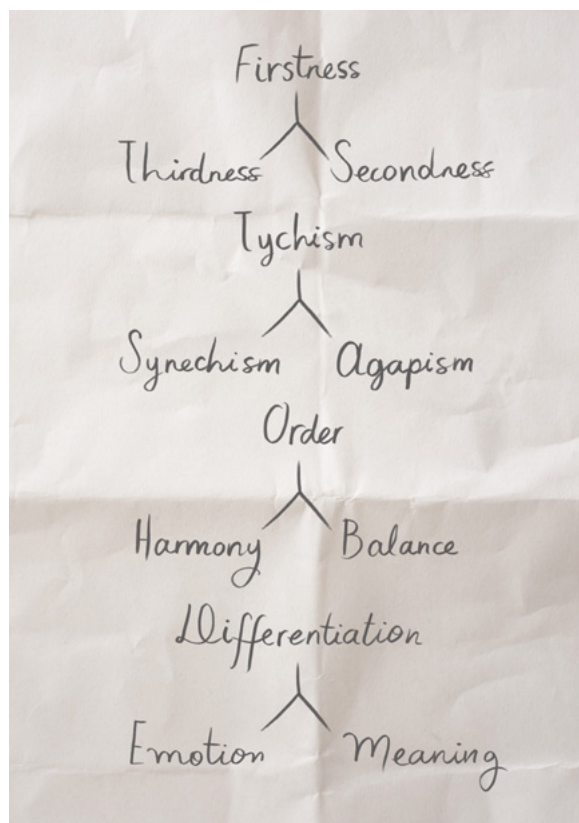
“True,” she said, “but you also have to take into account that *subjects construct knowledge* through interacting with their environment, rather than receiving it passively through the senses without being able to interfere.”

“Dude,” Lily said, “you had an idea of how we build concepts that you shared with me the other day while doing the laundry.”

“Yes. So, to me, concepts are built by means of three actions. First, you must distinguish one thing from another, which is what Gregory Bateson called *information*—“the difference that makes a difference.” Then you have to give that shape a meaning. For instance, a cup is a container that *you* use to drink a liquid or move it. All differences and meanings are created by you in relation to yourself, and when someone teaches you something you internalize said concept by creating a representation of it. This has been said many times by cyberneticians and semioticians.

“Here comes the sexy part: in addition to the latter process, we add emotional content to our concepts. Either we try to give them a neutral tone, or we hate or like something, or we slap on all the other textures and nuances that feelings give us. All knowledge is a mixture of reasoning and experience. Also, why is it that when people tell us ideas that oppose ours, we sometimes react so viscerally? Because our ideas have emotional content, because we form attachment to them. Dude, as a matter of fact, I want to put this on as a tat. Below my neck, trailing down my back. Here.”

She grabbed a blue Moleskine from her purse, laid it on the coffee table and she showed us a stored piece of paper that had a series of triads on it. The first one I recognized, as it was the classic Peircian triad: Firstness, Secondness, and Thirdness. The second one was the extension of this triad to cosmology: Tychism, Agapism and Synechism. The third one I did not recognize: Order, Harmony, and Balance. The fourth one was the thing she just said: Differentiation, Meaning, and Emotion.



“I’m still working on it,” she said, “but the idea is that it summarizes my view on things.”

“So if someone were to browse your back and neck they would know which hand you use to swing a bat?” Lily joked.

“Well, I would be more honest than most.”

“True. Going back to emotional content, does this mean that we’re rejected by the mainstream because people are attached to their ideas?” said Lily.

“Yes,” she said. “And we’re just as attached to ours- let’s not kid ourselves.”

“This all leads to another important point in science: all knowledge is a social construction.”

“True,” said both Emily and Lily.

“Good morning, my people,” said Reginald.

“Morning, Reggie,” we all chorused.

Reggie was this whiz kid from Berkeley who was waiting for his acceptance to a master’s program in health and public policy. He was also a genius economist and statistician, and a committed stoner, although you would never stereotype him as such, with his lanky frame, short blond hair, dark green dress shirt and bowtie, suspenders, khakis and caramel dress shoes. He took a few hits from a loaded Irish wooden pipe that he had shortened to enhance its recreational capability as he prepped a fresh pot of coffee.

“Wake and bake?” he offered.

Emily and I politely declined, but Lily accepted. Reggie grabbed his coffee as well as some bread with marmalade and excused himself, for he had some pending work.

“So,” Lily said, “knowledge is a social construction...”

“Yes. Take it from here, my man. I wish not to intrude upon your realm,” Emily said to me.

“So, the most well-known sociologist of science is Thomas Kuhn. He has this awesome book called *The Structure of Scientific Revolutions*, which everyone has read, but nobody wants to actually interpret in the way he fucking wrote it. Homeboy starts talking about the widespread belief (which I think still goes on) of science as a repository of facts, theories, and methods, with scientists being those men who, successfully or not, strive to contribute to that body of knowledge, with scientific development as a piecemeal process by means of which new elements are added.

“He goes on to dispel this and says that science is more like a competing set of theories, practices and facts (and those who create them) in which there is a dominance of what he calls a paradigm, a theory that solves existing practical problems by stating a narrative that attracts an enduring group of followers, and that is open-ended enough to leave all sorts of problems to be solved by practitioners.

“Stuff is all dandy when there is an accepted paradigm that dominates the scene, but there is always a new paradigm that ends up explaining shit better, and thus it substitutes the old one. So scientific development is a process where there are revolutions where scientists drift from the adoption of one paradigm to another. It’s a nonlinear process. He talks about three stages: normal science, crisis and change of paradigm, which leads to another cycle, and so on and on and on. So in reality, science is not the divine accumulation of knowledge, but rather a change from one paradigm to another. There isn’t a search for an objective truth, but the creation of different understandings of what the truth is, with people attacking and defending those beliefs.”

“So the theoretical aspects of science are conceptual pieces of literature that are later confronted or supported by interpretations of facts of nature derived from experiments,” Lily said.

“Yes, philosophy is also conceptual literature,” I said.

“So there’s a main narrative or narratives that determine what counts as valid knowledge. As new facts arise, new additions are made as interpretations or parts of the whole construct are challenged.”

“Social systems have a tendency to homogenize by means of peer pressure. You know, like when people give you the stink eye because you have tats, or dress weird...”

“*When are you getting married?*” said Emily.

“*When are you going to have kids?*” said Lily.

“*We know!*” both chorused.

“Creativity is disruptive and annoying,” I said, “but necessary, as it brings answers to problems, different viewpoints and such. So that’s how you get the usual hypocrisies: ‘he’s a genius,’ ‘he was ahead of your time,’ ‘he was misunderstood’ and so on. In fact, there’s this cool idea about that shit that I got from a book by this dude called Dean Radin, which kinda complements what I told you about Pappy Kuhn.

“So, this guy says that the acceptance of new ideas follows a four-stage sequence: first you get a bunch of fuckheads saying with all confidence that the new idea is impossible because it violates the laws of science; then they grudgingly accept that the idea is possible, but not interesting nor useful; then the mainstream realizes that the idea is important and its effects much stronger and more pervasive than previously imagined; and finally, the same assholes that criticized and disavowed the idea begin to proclaim that they thought of it first or that they knew you were right all along.

“The first stage happens during Kuhn’s state of normal science, where the mainstream defend their paradigm from others. The second leads the transition to a period of crisis. The third is crisis and the fourth represents the advent of a change of paradigm.”

“If I may,” said Lily, “there’s something that caught my attention.”

“Please,” I said.

“In this understanding, science has a problem-solving function, right? You have shit, you solve it, in comes new shit, and so on and so forth.”

“Yeah, pretty much.”

“But philosophy has pretty much the same function. The difference was that when some metaphysical aspect was corroborated by experimentation, it became a part of physics or some other branch of science. So, there’s a perception of philosophy going nowhere, and science leading mankind as a shining beacon of light, when there is really a complementing of both.”

“And then you have those stupid fucks that say that philosophy is dead or useless and that we should all just science, science, science...” said Emily.

“Stephen Hawkins,” I raised my cup to toast.

“DeGrasse Tyson,” Emily raised hers and we toasted.

“They would probably say the same about you guys. But you know,” said Lily, “literature and art are also problem-solving endeavors, and spirituality too. Mind you, not religion, but the spiritual aspects behind dogmas are problem-solving efforts. Art, literature, philosophy and spirituality depart from the individual to an external environment and then back. On the other hand, science, be it physical, natural or social departs from the environment to the individual and then back.”

“Very nice,” I said. “That’s pretty much it.”

“Alright!” Lily said. “I’m feeling this shit.”

“Good morning,” interrupted a bleak shadow of a man in an almost inaudible voice.

“Morning, Lloyd.”

Lloyd Rogers was the resident alcoholic writer of the house, the Raymond Carver of this generation and an endless source of whiskey. In he came, looking tired, with his reddish-brown hair, brown shirt untucked, brown dress pants and shoes, and a 5 o’clock shadow already blooming. He held a bottle of whiskey loosely in his right hand.

“Irish coffee?” he offered.

“No thanks,” said Lily.

Emily and I held out our cups. His pulse was shit, but he managed to serve us the necessary amount. Then he went to the cupboard and grabbed the highest fiber cereal possible, put it in a bowl and filled it with Jameson until it got all mushy. He then proceeded to munch on it like one would with a regular bowl of cereal.

By that time we had finished our Irish coffees and refilled our cups. He then offered to make them Irish anew, to which Lily said no, but Emily and I agreed to. His pulse was now as precise as a surgeon’s and his

personality was cheerful. He tucked in his shirt, cracked his back and neck and with a polite goodbye, went to his room to work.

“Okay,” said Emily after Floyd left, “here’s another disruptive idea: how much of the concept of matter is a social construction?”

“I’m loving that fucking question,” I said.

“So, to start, things exist outside of ourselves and we perceive and interact with them but they are things insofar as we perceive them as such...”

“Like ‘if a tree falls in a forest and nobody’s around to hear it, does it make a sound?’ kinda shit?” said Lily.

“Yeah,” said Emily.

“Okay, I’m following.”

“And if they’re concepts, there’s a cultural influence on them: we create culture, but we’re raised in a cultural context. So what we perceive as matter in part has a cultural component that we can’t escape, even if we’re happy denying it. For example, science has a strong Western influence, as matter is usually thought of as something separate and uninfluenced by a conscious observer, unlike many Eastern philosophers who state that material reality is but an illusion. And then you have modern cognitive science that tries to understand consciousness as a brain function, whereas some philosophers and even scientists will say that maybe reality is considered consciousness to a certain vibration, held together by observation.

“Both of these viewpoints have a degree of validity and both have metaphysical assumptions that haven’t been proven. But when you stigmatize those who hold a non-materialistic view, calling them ‘quacks,’ ‘new age,’ and ‘mystics,’ and when most of the world’s scientific funding goes to the materialistic camp, guess who’s going to have a more compelling argument?” I said. “There’s no objective way to determine materialism, as even experiments and their results are interpreted by a subject.”

“Okay,” said Lily, “give me examples of what materialism presupposes.”

“Here, boss,” said Emily. “I’ve got this one.”

“Fine,” I answered.

She cracked her knuckles, did a mock stretch, and took a deep breath.

“For one, it presupposes that knowledge can be traced back to firm foundations. You know, like rational principles that give way to other beliefs. They hold that things can be understood as the sum of their

parts, that there must be a cause and an effect that explains phenomena along with specific laws of behavior, that things, which exist independently of whoever observes them, are to be described and explained from a detached, 'objective' perspective. That all causes and their effects propagate in space with a finite velocity, taking a finite time..."

She made an exaggerated pause to take a breath of air and continued.

"That, of course, everything is made of matter, like atoms and its correlates, energy and force fields, and that every phenomenon has a material origin to which it can be reduced. That all mental phenomena can be explained as secondary phenomena of matter. That is, that consciousness is a property of the brain and not the fundamental reality of the universe. Last but not least, the way that scientists interact with the systems they study consists of applying external force that makes a system act in a certain manner, instead of working the system from within."

"All that sounds so predictable and boring," said Lily.

"One more thing, though," I said. "There are moral implications of physical theories: if reality can be reduced to matter, there is a moral justification for capitalism and consumption, as material objects and possessing them would matter the most in this world. If the universe is made of consciousness and we are all bound by it, then people are what matter in this world and selflessness and serving others are to be pursued."

"Now," said Emily, reaching for another cigarette, "let me tell you guys about the conceptual stunt that got me kicked out. I interpreted certain aspects of quantum physics, like the wave-particle duality of matter, the uncertainty in measurement, the double-slit experiment and its variations and quantum entanglement in a way that is akin to consciousness—namely, the idea that the observer is an important element of the universe, as they bring forth reality by making representations of it and interacting with it. So, the idea is that living systems are observers and by means of interacting with reality they take the universe from a realm of all possible outcomes to one where one of the many takes place. All living systems, because of the particulars of their perception, cognition and adaptation to their environment bring forth the world from their many differing perspectives. That is, all life helps to keep the world together.

"This coalesces into my interpretation of the well-known double-slit experiment, where the position of an electron is determined by its measurement. To state the importance of conscious observation in two theorems: 'Anything that happens does so before an observer' and 'Anything that happens does so because of an observer.'

"All living systems are observers and can be distinguished from machines because they are capable of self-production, they engage in cognition by computing themselves in order to distinguish themselves from their environment (Morin's *computo ergo sum*), and they behave in an adaptive manner, with teleonomy as goal-directedness, as they interact and depend on their environment for survival.

“To me, most living systems in their cognition engage in both quantum and classical computation. Classical computing takes place in all neural systems, but until recently very few people believed that quantum computing could take place in living systems. Penrose and Hameroff have a theory that human consciousness takes place by means of quantum computing in the microtubules of the brain, whereas quantum computing has been proven to happen to plants and bacteria in their photosynthesis, and plays a part in the innate compass that birds use to travel across the earth. My idea is that for every instance of classical computing there is in a living system, there is a quantum correlate taking place.

“Like I told you guys, cognition entails distinction, meaning and emotion. Cognition can then be logical (difference and meaning) or experienced (emotion and perception). The first one puts the derivation of knowledge into the subject, who creates and stores concepts, while the second consists of accounting for the derivation of knowledge as a process of interaction with reality, which yields intuitions, instincts, reflexes and other types of cognitive cues. Both types of cognition and epistemology are put together into an identity, which also conciliates them, and this is related to consciousness as a biological process where different types of computing are put together in the form of subjective experience.

“As somewhat of a side note, human behavior is differentiated from that of the rest of living systems in the fact that they have a fully developed internal dimension of the self—that is, they are a body that enacts reality by means of perception and movement, but at the same time they have the experience of being a body.

“Jungian archetypes are important because they help in understanding the finality of my hypothesized quantum-classical correlation. They are an autonomous set of all possible ideas that can be accessed by many subjects and which are made real when they enter consciousness as concepts or ideas and materialize in a subject’s behavior. To me they exist on a nonlocal plane, outside of time and space, and they are a cumulus of possible abstract behavior, as well as configurations of recurrent ideas in human and all living systems, all of which are materialized by choice and free will.

“This all leads me to understand the universe as a massive computer in which all living systems, having quantum and classical computing, process information which is then stored on a nonlocal plane (to me, memories are also stored nonlocally). Furthermore, classical processes help the creation of a subject-object split (the difference between the observer and the observed) which allows them to consciously observe and collapse the wave function of the universe. Self-reference helps living systems to collapse all possibilities into a reality by means of their observation.”

“This is all very impressive,” said Lily.

“It’s not entirely original. Many of these things have been posited already,” Emily said. “What pissed people off was that I was trying to prove it and came close to a breakthrough, to be honest. It’s so frustrating to spend so much time and effort just defending the existence and merits of my research.”

“Dude, we all know how it feels. It kinda reminds me a bit of Willy Shakes,” said Lily.

“Really, what part?” I said.

“*Hamlet*, man,” she said.

She snatched Emily’s half-consumed cigarette from her mouth and held her cup of coffee in the palm of her right hand as if it were Yorick’s skull, and after an insightful puff, she recited:

To weird, or not to weird, that is the question—

Whether ‘tis Nobler in the mind to suffer

The Slings and Arrows of an outrageous Fortune 500,

Or to take Arms against a Sea of hipsters...

RASHOMON AT THE HEART OF THE UNIVERSE

THE HEART OF THE UNIVERSE is a bar where the movers and shakers of just about everything gather to discuss their designs. It is a place as mysterious as the people who populate it: it is never too crowded and there never seems to be a too-awkward episode or anyone too drunk. Furthermore, people who need to meet to discuss something seem to bump into each other at just the right time.

It is open nearly all day, every day, and is tended by Frank, a handsome, well-built man in his late 40's, who has had one of those shaved-on-the-sides haircuts since well before they became fashionable and who will probably keep it even if it is no longer in vogue. He is known as THE GATEKEEPER. Along with him, we find his apprentice Aidan, a sophisticated young man, more thinly built and delicate in his features, but no less knowledgeable about liquors, cocktails and spirits than his master. He is nicknamed THE CAVALIER.

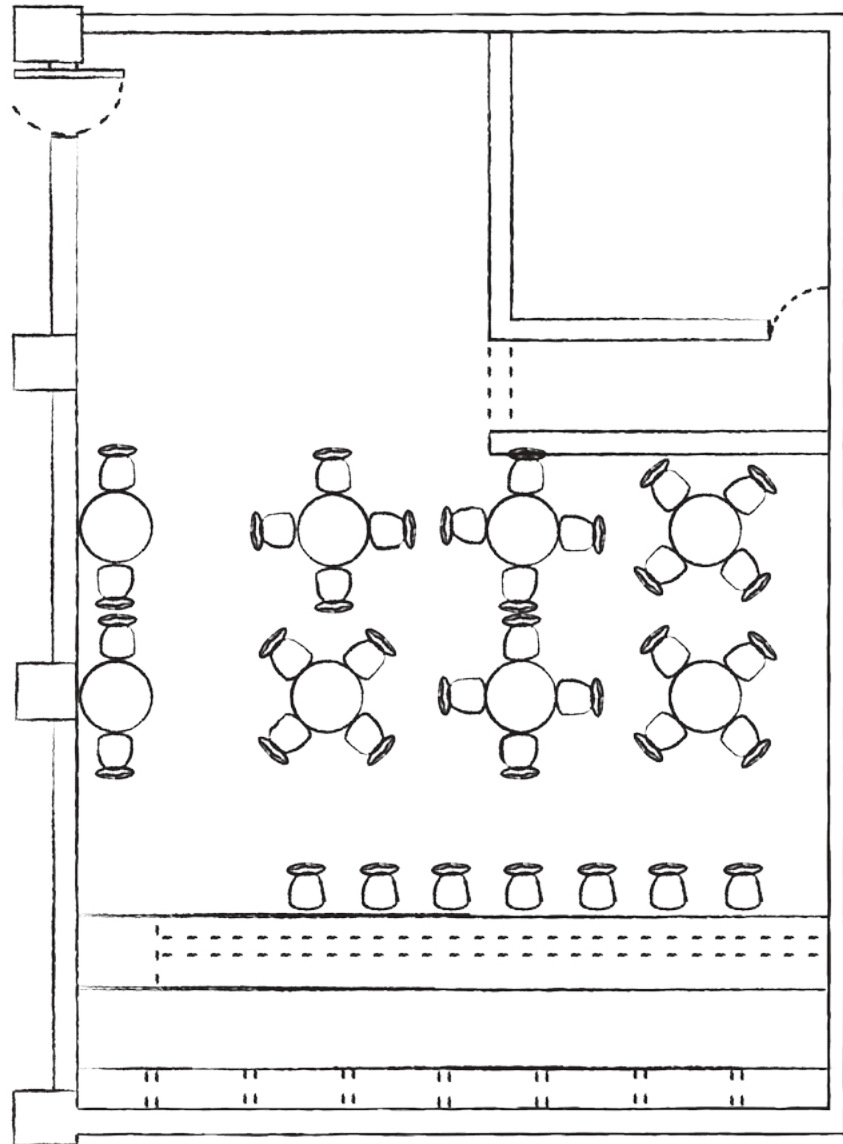
Alice is the other apprentice of THE GATEKEEPER. She is roughly the same age as Aidan, has short red hair that she holds back with pins, blue eyes and a pretty face. She is very good at tending the bar, but she is primarily in charge of serving hors d'oeuvres to the patrons. She is called THE ROOK.

The layout of the bar has changed over time, although nobody seems to agree on how many times and in how many ways. Some say, through a quantum interpretation, that the layout is different according to who sees it. Most recently it bears a very minimalist design with elegant tables in black and white. The bar is made of this beautiful oak that has a very intricate design that does not clash with the theme. The wall behind the bar is painted black and has a massive liquor rack that extends all along that wall, but never seems to repeat itself. On the floor level there are fridges, shelves and coolers.

To the right of the bar there is a plain brick wall and to the left, the wall is painted white. There seems to be a game of contrasts: tables are either black or white and so are the chairs, although the stools are all black. The floor is dark gray concrete, like the roof. Two walls are painted white, and in addition to the black wall, there is one painted navy blue, and another a dark, regal purple.

This is a place where the usual rules do not seem to apply: one can smoke, for example, and in fact, there is a wide selection of cigars available. However, this place also seems to be devoid of contradictions: for instance, people who smoke and those who don't are never quite within range of one another and there never seems to be a moment where one offends the other.

Opponents almost never seem to bump into each other unless necessary. The overall environment at THE HEART OF THE UNIVERSE is one of strange and surreal convergence and cordiality—not a substantive one, but rather one based purely on form.



THE WOLF

I took my time to enjoy my scotch before forcing myself to return to the endless maelstrom of shit tossing and fuck ups that was my noble world. I specialized in the field of political maneuvering: you gave me a clogged cesspool and I made shit flow, you gave me a corpse and I raised the dead. This was my life and for reasons foreign to my own understanding, I enjoyed it very much.

I was sitting on one of the stools at the edge of the bar, next to the brick wall. Sitting some tables behind me, wearing a long, beautiful, sleeveless golden dress that embraced her slender figure, and which had a hood that slightly grazed the top of her head—much like a halo—was a courtesan who was very high on the food chain those days. She was waiting for her date, and had a plate of hors d'oeuvres before her and a glass of red wine. Good company, if memory served—quite cultured. A decent, if overpriced fuck, kind of full of herself.

Tending the bar was THE GATEKEEPER and THE CAVALIER and at one of the tables on the other side of the bar was THE PRISM, my technical equivalent, who was in charge of filling in the gaps of political maneuvering, designing systems that overrode the incompetence of politicians. We worked together on occasion, and we got along well, both of us being glorified plumbers.

When he saw me he raised his glass. He was the kind of guy you would never bother to glance at twice. He didn't have an outstanding sense of style, nor a memorable face, nor a build that imposed itself on men and swayed women to his side. He was, however, a very important man, one who many people wanted on their side, and being this discreet proved to be useful on more than one occasion.

Today was a calm, uneventful day, and after some consideration, I realized I could have another drink, so I asked THE CAV for another 18-year-old Sherry Oak Macallan and told him I'd cover THE PRISM's tab. When he realized what I did he raised his glass again.

I was feeling very poetic today, more than usual, I guess, as I had always fancied myself as a warrior-poet. While reading John Searle's *Mind, Language and Society: Philosophy in the Real World* during my morning coffee, I was caught up in the idea of social ontology. That is, human societies have a degree of (technical) development due to the fact that the advent of language allowed them to give value to things collectively, creating things such as money and government.

Unlike face-to-face communication, which can be nonverbal and based on body language, language allows a level of abstraction that permits communication over long distances and collective understandings due to common knowledge of facts and signs. This all means that things are the way they are because we accept them to be that way, and when people stop believing things, they just crumble, like cigarette ash.

I asked THE GATEKEEPER for the *Romeo y Julieta* cigar that I usually had here and while waiting for it to arrive, I continued to enjoy my drink and ramble internally about the Things That Are. He complied and interrupted his current work, which was counting money at the bar. When he came back to it, a coin bounced off the register as he opened it, and rolled for a bit until it stopped and laid flat on the floor.

When Communist Russia and the ruble crumbled in the 90's, people started to use cigarettes as currency for six months or so. Hell, this guy Gene Sharpe made a career through teaching people to oppose dictatorial regimes by undermining their social ontology. All this renewed my belief that regardless of what physics says, the reality we live in is a social construction in which the rich are rich and the poor are poor because we all tacitly agree on the existence of such rules, much like the people before us did, and so on. But this game isn't fair, and is based on the idea that there are the strong and on the other side, the weak. The criteria for the strong can change from one generation to another, through the military, religious institutions, and economic shifts and tides. What also matters is that in every iteration of the game, the strong are allowed to keep the means used to get there and thus, there is very little mobility between the rich and the poor—just more success for the successful.

What is implied but never really stated is that the strong are also allowed to design limitations of all sorts for the weak, in order to keep them in their place: malnutrition, lack of education, lack of resources. It ends up amounting to the fact that the rich have the means to consider things for the long run, while the disenfranchised are so overwhelmed by things that they can only act in the short term, and for immediate satisfaction, resulting in “bad decisions.” Both instances are just adaptive behavior performed by a certain type of subject in a certain type of circumstance.

I know—a cultured thug, how insightful.

Personally, I didn't give a fuck about changing the game. For one, I liked playing it: the maneuvers, being feared, respected, considered necessary, having a good income, fucking bitches and the occasional high rise like Gold Hood here. Life was good and the system fair—to me, at least.

I took a look around. What's-her-name was having another glass of wine, waiting impatiently on someone, and she had finished her dish. THE GATEKEEPER was taking inventory and THE CAVALIER was cleaning some glasses. THE PRISM was lost in his thoughts, like always.

I was almost done with my scotch and was halfway through my cigar. Soon enough I would get a text from the office asking for my whereabouts, or worse, for help. So I felt that it was time to head back and preempt their sorry asses. I got up from the bar and asked for the check, which I would pay upon my return from the can. As I made my way, I heard her talking on the phone and saw the coin that jumped from the register to the floor.

It was tails.

THE HALO

I always found the name “THE HEART OF THE UNIVERSE” kind of funny, not because it sounded ridiculous for any bar—the present establishment being the exception—but rather because I believed that in their heads, each human being understood themselves to be the center of everything. We were all the lead role in this movie.

We were all storytellers: everything that happened to us and everything we did took place in relation to ourselves. Self-reference, or better said, “me, me, me...” In this particular moment of my movie, I was having some charcuterie and wine while I waited for my benefactor, so that we could head out for that night’s charity function. THE ROOK had outdone herself with this magnificent plate.

THE WOLF was sitting at the end of the bar, having some fancy scotch; THE ROOK was inventorying, while THE GATEKEEPER was tending to the register. At a table far from mine, a random dude who looked kind of off-putting and out of place was raising his drink to THE WOLF. Why he would care to answer was beyond him.

They were complete opposites: THE WOLF was a handsome man in his mid-40’s, athletic, stylish, well-dressed, an alpha, and had an air of force and confidence. This other guy was a plain man in his 50’s, with short hair, an unremarkable face, a protruding stomach and bad posture. He was wearing a polo shirt, some khakis and ordinary shoes. You would never look at him twice on the street.

THE WOLF was known as a ruthless political enforcer, solving problems and procuring miracles both big and small by any means necessary. Unlike others of his kind, who were fat and bloated, he was very attractive and used that to his advantage, either by fucking his way to a better position or as a way out of stormy waters. Despite some prudish people calling me a whore, I wasn’t any more of a whore than he was.

I fucked him once, if memory served, and he was so good that I almost gave him his money back. He commanded all sorts of legal, political, media and economic forces of darkness for whoever could afford them. I’d thought about extending him a business proposition, but the flaccid dick I was riding then paid too well. Or as the boys put it, “THE TIT was just too big.”

But back to me—I considered myself to be a courtier, a woman of class and sophistication who loaned her time and disposition for a sum of money to those who could afford it. Surprisingly, to those outside the trade, it didn’t always take a sexual connotation: some hired us because they appreciated the company of a young, cultured, pretty woman to whom they had no attachments. Others did it because it was a symbol of status; others did it because it gave them status. Others just wanted to cuddle (not a joke) and so on.

I played with the toys I was given and told my story the way I liked. We were all the narrators of a novel and we—the strong and the weak, the rich and the poor—were necessary for that story to be told. Some chastised me for the role I played and my decision to do so, telling me it was a lazy choice. But there was nothing

lazy in what I did, and not many people did so well or lasted long in this. What I did took a lot of skillful maneuvering and insight, as much or more so than THE WOLF or the other random guy. As THE ROOK came by to relieve me of my plate and refill my glass, I asked her:

“Who is that guy?”

“That would be THE PRISM. He’s the technological equivalent to THE WOLF.”

It had to be a tech guy to look so unremarkable. Such a mysterious nickname, though. This place was weird in that way, in that anyone of note had a title. THE WOLF, THE GATEKEEPER, THE PRISM, THE ROOK. They kind of had a thing for titles—it was like Moffat’s run on *Doctor Who*, minus the blatant sexism. Speaking of The Doctor, I once fucked Matt Smith...

My phone chimed. I had a text, which read: “I’ll be there in 20 minutes.”

THE WOLF was smoking some fancy Cuban cigar and here I was thinking about how reality is just a collective story that we write while thinking about ourselves. Again, I was a cultured woman of leisure. Both THE WOLF and THE PRISM must think about work stuff all the time—*How do I solve this tech thing? How do I kill that guy?*—with no regard whatsoever for the world that surrounded us and its complexity. How boring.

THE WOLF headed to the restroom, but first stared for a moment at a coin that was lying on the floor. Why didn’t he pick it up?

Sometime later I received another message: “20 more minutes or so.” Well, who the hell did this man think he was? I mean, he had a vested interest, but he didn’t own me.

As I passed the time browsing the Internet on my phone, I watched THE WOLF leave as everyone else just minded their own business. I received a final message: “I will meet you at the gala. Driver will pick you up in 5 minutes.”

As I readied myself, I went to the bar to pay THE ROOK, and encountered the coin that THE WOLF refused or forgot to pick up.

It was heads.

THE PRISM

Today my head was a bigger mess than usual and God knew I needed to unwind. I read some cool blog post about quantum physics and complexity the other day and I had been dealing with the latter all damn morning as I'd been supervising the implementation of an urban monitoring system for the whole state. It kept track of potholes, leaks and all sorts of urban failures by means of an app installed on cellphones.

Complex systems are especially complex because there aren't (and can't be) a definition of complexity that applies to everything. There are no universal, objective and absolute parameters in this world. Most complex systems, however, are sensitive to initial conditions, which means that any small affectation of said system can lead to a chain of positive feedbacks and explosive effects. Furthermore, in quantum physics one can't measure with complete exactness the position and momentum of an object. By measuring an electron, one collapses it from a wave of possible positions to an actual locatable particle.

Normally, this wouldn't wreck my head, except the post had commented on an experiment which said that there might not be a Rashomon effect in how we describe nature ("he said, she said..."). Rather, nature behaves as a Rashomon effect: there is one and only one true story, but it has many aspects, some of which might be in contradiction with each other (although I thought the contradiction was in the observer or whole group of them).

So if Complexity is in the eye of the beholder because different parameters and contexts yield different measurements of complexity, it might also be the case that Reality is a kaleidoscope so rich that the observers can only ascertain a limited amount of aspects.

"Sir," said THE GATEKEEPER, interrupting my thoughts.

"Yes?"

"Here's your beverage."

"Thank you, GATEKEEPER."

"The tab is on THE WOLF."

"Ah, he's too kind."

I raised my glass to him in acknowledgement of his generosity and he returned the courtesy. I had a sip of my beer, a fine Delirium Tremens. I used to order these ridiculous drinks back when I first started coming here, but THE GATEKEEPER took some pains to introduce me to the fine art of having a real brew, not the swill that I drank during my early adulthood.

“I have a favor to ask,” he said.

“Oh?”

“Management is thinking about crowning the courtesan who’s having wine at the end of the table.”

Crowning was when you were given a nickname in this establishment, and the name was usually proposed or chosen by senior patrons, people who had been here some ten years or more. She had been a regular for some four or five years now, and had accomplished many things, but I thought she was still too immature to be crowned, mind you, not too young.

“I don’t think she’s ready.”

“Why do you say that?” asked THE GATEKEEPER.

“She still has a thing or two to learn about not judging a book by its cover.”

“Isn’t that within her line of work?”

“I suppose, but I’ve seen her come and go in this place for some time now and I can bet you that if you ask her about me, she would probably say that it’s the first time I’ve been here. In addition to saying that I’m out of place.”

“Why don’t you teach her, then?”

“I’m a bit too old for that shit,” I said.

“Give it some thought,” he said. “Some people are backing up her crowning.”

Crowning was not about how much you had or how you played the game—it had more to do with who you were and what you gave to THE HEART OF THE UNIVERSE. Billionaires and politicians came and went and they were never crowned. I had partaken in it a couple times, bestowing names.

“How about a name?” he said. “I’ll let people know about your warning.”

“I like that dress,” I said, “and the way the golden hood crowns her head. How about... ‘THE HALO’? She has this air of elegance and something else that you can’t quite pinpoint, but it always keeps you interested...”

“You’re always so good with names,” he said, impressed.

“Speaking of names... where’s THE CAVALIER?” I asked.

“He has the day off. THE ROOK will come at night.”

“I gave that kid the name for his crowning. You could say he’s my godson.” My mind wandered, lost in thought.

THE GATEKEEPER smiled. “I’ll leave you be.”

I turned around to perceive my surroundings: The Wolf was on his way to the bathroom but he stopped to stare at what looked like a coin on the floor. The young woman was busy browsing her phone. I returned to my reflections on the Rashomon-ness of the universe. Each of us in THE HEART OF THE UNIVERSE had a different perspective on the world: THE WOLF was a philosophic bruiser; THE HALO, a cultured it-girl; THE GATEKEEPER was a sage who dispensed beverages not fit for inducing mindful states; and then there was me.

I considered myself to be a planner and an implementer. I quietly kept things running and (more or less) stable; I liked to scheme and work behind the scenes, and I didn’t care about receiving acknowledgement or even playing the game. I liked creating the game and the concepts behind it: I was the engine who made it work and kept it running.

They called me THE PRISM because I took ideas, reflected them, and projected them. You gave me light, I returned a rainbow.

THE WOLF left and so did the young hooded lady, but before she did, she stared at the coin as well. After she was gone I was curious to see what made that coin so interesting. I picked it up and realized it wasn’t a coin.

It was a round and flat piece of metal that had no inscriptions on either side.

FITH-FATH



My grandmother used to tell me this story all the time: from 1846 to 1848, when the *gringos* invaded Mexico, there was a group of Irish immigrants and army defectors called the *Batallón de San Patricio* (Saint Patrick's Battalion), which after witnessing the great injustices and brutalities committed against the Mexican people, defected and fought alongside those whose country was being invaded. Eventually the Mexicans were defeated and the *San Patricios* were treated as deserters, many of whom had their faces branded with a "D" and were executed. My great-great-grandfather Daniel Lynch escaped the firing squad using a *fith-fath*, an incantation or poem of sorts that turned him into a black dog and helped him escape.

The poem was recited in Gaelic and was passed from one generation to another in my family. It worked for some, but not for others. My grandmother taught it to me when I was 10 and showed me how to do it (she could turn into a doe, which was an impractical thing in an urban setting). I mastered it by age 13 and turned into a stereotypical black cat—you know, one of those things purported to bring bad luck.

I tried my best to practice this skill because seeing the world from the viewpoint of a cat was so much different from that of a human, and it both humbled you and showed you how much we take for granted. And it was *fun*. Cats have a slightly larger visual field than humans, and a reflective layer behind the retina that sends light that passes through it back into the eye, which improved my night vision.

Cats have an extended range of hearing when it comes to high-pitched sounds, and a sense of smell that is fourteen times as strong as a human's, due to the fact that they have twice the number of olfactory receptors. And as for the sense of touch, cats have twenty-four movable whiskers that help relay information to the brain, allowing them to create a three-dimensional map of their surroundings, which meant I was rarely caught off guard and could easily detect nearby movement, even if it was minuscule.

All this made for a lot of fun when talking strolls up and down buildings and trees and reaching places I would not normally have dared to reach or go to. It was all very liberating, and good for clearing my mind.

The way in which this worked was that there was an incantation to be recited in a very specific way in Gaelic—which I had to take classes to improve—with very specific breathing patterns. When I transformed my clothes stayed behind, although my grandmother said that her mother managed to keep her clothes on when transforming back, so I guess there were aspects of it I could work on.

Increasing my understanding of the language—both in how to pronounce the words and what they meant—also helped a lot in increasing my success rate. At first, 1 out of 8 attempts would be successful; then, as I learned the language and practiced more, it became 1 out of 3, and eventually, I mastered the initial skill. Concentration and focusing on centering your energy on different points of your body were very important.

There was another important aspect to all of this: the nonverbal use of my skill, which my grandmother was able to do. She could transform without speaking the incantation, and could do it just by thinking about it. However, out of all the stuff I wanted to work on to perfect this wonderful ability, there was one thing in particular that was the unattainable unicorn: immediate casting. This went one or two steps beyond non-

verbal, and meant that just by thinking about it, one could transform. Out of all the people in my mother's family who had any talent for transformation, only my great-grandmother could perform immediate casting, but not all the time.

MONTERREY, NUEVO LEÓN, MÉXICO | SPRING, 2005

I got stuck in this boring ass class called *Advanced Writing Skills*, which was part of the general school curriculum at *Instituto Tecnológico y de Estudios Superiores de Monterrey* (or *Tec de Monterrey*). This school was Mexico's response to MIT and in fact, its founder, Eugenio Garza Sada studied there. At first a technical school, it did open itself to the humanities as time passed by, although the curriculum looked like it was designed by an engineer. This school basically catered to enterprises, for Monterrey was widely known for its industrial activities and entrepreneurs. It also expanded, creating campuses in other cities in a McDonald's kind of way, which I felt cheapened the value of my education.

But anyway, on our first day of class, people were introducing themselves and the guy who immediately caught my attention was **black-haired**, grey-eyed, and clearly very fit, despite his choice of unflatteringly loose clothing. He was very handsome, and not too tall (I'd say 1.65m), which made him just a little bit taller than me.

"Hi, my name is Alessio Luppi. I'm studying economics and I'm from Tamaulipas."

Remember the name: **Alessio**, Alessio, Alessio... I had heard of this guy. My friend María Alejandra used to date a *Borrego*—a member of the school's American football team, which was the institution's pride and joy—and her boyfriend told her about a guy who was having a beer at a random bar one Saturday night when he had an altercation with Lupe de la Garza, the school's linebacker. The dude was 25cm taller and at least 30 kilos heavier (Alessio was very slender), and was very drunk and looking for a fight.

What he didn't look for but found anyway was an ass kicking. Alessio dealt with him and another *Borrego* without breaking a sweat. In the end Alessio got off because the other guy was instigating the problem and attacked first, but apparently he displayed such physical prowess that he got offered a sports scholarship, which he politely declined.

So this guy was a *foráneo*—that is, unlike me, he came from out of state. I thought it must suck to live by yourself, without any family around, although Tamaulipas was a neighboring state. He said something about living in the northern cities, which were about two or three hours from Monterrey. It wasn't too much of a distance- he must not have been that homesick, then.

My turn to speak came.

"My name is Paola Durero Lynch. I'm studying medicine and I'm from Monterrey."

After our very entertaining class during which I ignored the droning of our professor in favor of reading something else, I saw Alessio on one of the benches outside the library lighting a cigarette, but I couldn't work up the courage to talk to him.

A couple of days later, I decided to take an evening stroll as a cat to ease my mind. I lived very close to the main campus, on the side of Luis Elizondo, which was also close to Junco de la Vega. My parents owned a couple of houses that they rented to students, and we lived in one of them. I had recently found this kindergarten that had a nice courtyard and trees where I could relax without being bothered. I loved these walks, as they helped me relieve stress, which was common currency at my school. **And there were a lot of fun things I could do as a cat, like climbing and killing rats for sport.**

With time I realized that the *fith-fath* was not a magical spell, but some kind of formula that helped me to channel my energy and allowed my consciousness to take **cat form**. It was something akin to a computer program, where you could give the universe a command and it executed it. Something like:

use (fithfath):

if breathing

if syntax

if chanting

change (Paola) to (cat)

else nothing

Another way of understanding this was to envision an electric guitar: the melody I played with the guitar on clean was my human form and I had an effects pedal for the "cat form." Both of these ideas I got from my high school ex-boyfriend, *El Pedales*: the first one because he once without my knowledge gave me a weed brownie, and this idea came as a result; and the second by observing his great fascination with guitar gear.

I once heard a joke about how the princess and the frog story could never come true because the amount of energy used to transmute a frog into a man would be so vast, it would obliterate the whole kingdom. I also happened to watch a documentary on antimatter that time I got stoned, so during my brownie-induced epiphany it occurred to me that the energy that might be expelled could be on the basis of antiparticles, which are created anywhere in the universe where high-energy particle collisions occur. So maybe, whenever I changed forms, somewhere in the universe there was a massive explosion or a collision of such intensity that it would make Arnold Schwarzenegger shed manly tears.

I thought that given time I could create another animal pedal, but I wasn't sure. I'd have to brush up on my scarce Gaelic and maybe see other examples of *fith-faths*. I would also need more hash brownies, a whole

custom-made pizza and some sushi from Yamato, maybe that fried shrimp one with cream cheese that tasted strangely awesome when paired with a glass of milk. I would save such a big effort for vacation time.

One day during the first week of February I was taking a nocturnal promenade, looking here and there for any possible prey. My ears perked up as I drew near the kindergarten, where the few mice that lived there feared and loathed my existence. The scent of a cigar hit my enhanced sense of smell: who might be smoking at this time of the night? I turned my head to see the house next door had a terrace on their second floor and there, Alessio Luppi was taking a study break. I quickly climbed the birch tree that led to the terrace and approached him.

He looked at me with curiosity, as street cats usually don't approach people like that. He kept smoking and went back to his apartment without closing the door. He came back with a small bowl of milk and as I approached, he did as well, and seeing that I did not run away nor flinch, he caressed my head. I tasted the milk in the bowl... my God! It was the good shit: whole milk, very creamy and tasty, not like that bullshit fat-free milk that was downright terrible. It was like drinking silk. This man knew how to treat a lady.

During the whole month of February we had a courting of sorts, or maybe it was more like the thing the Little Prince had with the Fox, but sexier: **I would visit him, more or less at the same hours and he had the courtesy of serving me milk. I think that by the fifth time, he had stroked me a bit more and trusted me enough to let me inside the house. As a cat I had to accustom myself to two things: killing rats (which I ended up loving) and having people pet me, which was still somewhat awkward because when I changed I lost my clothing, and therefore, Alessio was caressing my naked body (not that I found it unpleasant).**

By the end of February, whenever I visited him, I would do it during supper time, for he would give me **fresh salmon** if he cooked it for dinner as well as some whole milk, and whenever he cooked something other than fish, he would give me a can of cat food. Jackpot. He also started to talk to me like I was a human being, almost as if he knew I was one.

He had a two-room apartment on a second floor, right by Junco de la Vega. It was close to a 7-11 and a laundry place where they would take care of your stuff for you. On the bottom floor lived a cute elderly couple, a retired army captain and his wife, who were always nice to me (and once even gave me some filleted fish). The entrance was just up some stairs next to the bottom floor door. The apartment had a common bathroom with two closets, located on either side of the toilet and shower. It also had a small kitchenette. The floorplan of the apartment consisted of a loop, with the main entrance leading to the kitchen, that had on the left and right the entrance to the rooms, which in turn led to the restroom. Incidentally, the room on the right led to the terrace.

Alessio lived and slept in the room on the right and the one on the left was used as his study room and part-time gym. He liked to work out before dinner, and man, did he work out: he did all sorts of manic, fast-paced bodyweight exercises with a lot of heavy weights. He also had a pull-up bar installed and he could do a hundred of those without pausing. He also told me that he liked to run at night when nobody was around

to see, and I would watch him go at an incredible speed and then return an hour later drenched in sweat. One time I climbed on his back while he was doing push-ups, and I was going up and down so frantically that I almost vomited, and it took me a while to overcome my dizziness. He laughed when he saw me stumbling.

He was in really amazing physical condition: he could do one-arm pull-ups, push-ups where he would stand on his head, two-finger push-ups and overall, shit you could only imagine Bruce Lee doing. Outside his home, he would wear loose clothes so you wouldn't know he was really fit, but sometimes, he would take his shirt off when it was drenched and it annoyed him. Then I would see that he wasn't just very fit—he was a fucking Greek god.

However, things turned surreal about a week after I started watching his workout sessions. He got a bamboo spear out of his closet and set it against the bathroom wall. What was he doing with a fucking spear in the bathroom?

“Don't be scared, little one,” he reassured me, “but you might want to make some room.”

He did one of those things I once saw on TV where a shaolin monk pushed a spear with his bare chest without anything happening to him. Alessio's face turned red as he did it, but other than that, nothing happened. He was still the exquisitely shaped classmate I knew and loved.

“You see?” he said. “It's all good. It's called Iron Shirt, and it's a hard-style martial art form. Grandpa taught it to me.”

So his grandfather was a Chinese monk? That didn't make much sense to me... although he did have a Chinese-looking coin attached to a chain around his neck. He was going to do the spear exercise again, so he took his coin amulet and put it on the counter, as it was getting in his way. As he completed his exercise successfully for a second time, he turned around and looked at me. His eyes were very weird: they were silver and not grey, like I knew them to be.

Seriously, who was this guy? Maybe seemingly superhuman stuff like Iron Shirt, where a guy takes a drill to the head or a spear to the body without harm was something akin to what I could do, but following an inverse process: maybe instead of releasing energy as antimatter, it would take some of that cosmic stuff and hold it in the body to enhance its endurance. My thoughts were then interrupted when he started to undress for his shower. I turned around in order to not take advantage of the situation.

As time passed, I observed some other patterns: on Friday nights he usually went to the movies by himself, and sometimes on Saturdays he went to have a beer with friends. As far as I could see, he had no girlfriend nor a strong candidate for one. He seemed to be all about his privacy.

One of the strangest things was that he hadn't given me a name. He talked to me as if I were a normal person, but made no effort to name me, almost as if he knew that I already had one. Did he know my secret?

He sure had an open mind, due to the fact that he practiced extreme martial arts. What he did try was to put a collar on me. I kept thinking, “Gee, I don’t know if I’m ready for that kind of commitment,” but once he caught me off guard by scratching me behind the ear—which I absolutely loved—and then put that wretched thing on me. “Fine. Whatever, man,” I thought. This later backfired on me when I tried to change back into a human and nearly choked to death.

Things on the human front were going somewhat slower: at school we weren’t on the same team for the activities that our droney, grumpy teacher, a Panamanian lady in her 60’s gave us in her *General Writing* class. However, knowing more details about him helped me to start and maintain conversations outside of class. We would talk about rock music—I once dated a lanky stoner musician for a year, who my parents despised, but he did leave me with good taste in music. He had this obsession with Johnny Cash—God knew how many times I had to listen to Live at Folsom Prison in his apartment.

We did have lunch and coffee together many times, and exchanged emails and chatted together over MSN Messenger. I tried to make small talk about movies, which he seemed to enjoy very much, and he would give me lessons on Fellini, his favorite director. He also seemed to have a thing for Anita Ekberg, but honestly, with those tits, who wouldn’t?

He would also speak about this magical cat he had found, who never kept collars, and seemed to understand complex orders and language in general.

“I tell you, I keep thinking my cat is secretly a human being,” he once said.

“Your cat?” said Paola. “I thought she came and went as she pleased. You seem to be her servant. Maybe *she* owns you...”

“Jajaja. Funny girl. But seriously, sometimes I tell her stuff, which no cat would understand, and she reacts to it.”

“Have you heard this song by Geri Halliwell called ‘Desire’? In the video she transforms into a black cat and sleeps with her boss.”

“Are you implying that my cat wants to sleep with me?”

Who wouldn’t?

“What I meant is that maybe it’s not that much of a farfetched idea. Your cat could be anyone.”

“Jajaja, like who?”

“I don’t know. Maybe I’m your cat.”

“Jajaja, yeah right!”

One day while making dinner he stepped on my right foot, something that made me scream and leap and which left me with a limp for a while (though fortunately nothing was broken). I was walking funny the next day in class and when he passed me by in the library corridor later that afternoon, I shouldered him in retaliation, and it was like hitting a brick wall.

“What’s up with you?” he asked.

I stormed off without answering, just giving him the finger. I was also frustrated with the fact that despite befriending him and having a great friendship and some occasional flirting, we were close to April and he still hadn’t asked me out despite my hinting at it and, well, I’m not the most confident woman. But he would talk about me when I was in cat form, which was what kinda pissed me off.

“You know,” he said to me as he lay on his bed, “I like Paola. She’s a great girl, and she has awesome taste in music, and those eyes... seriously, they’re so expressive. And she’s slender, you know, very elegant. I could spend an entire evening kissing her neck.”

Mao! Mao! (Why don’t you?)

“It’s not that simple,” he said, almost as if he understood. “I’m weird—my eyes are strange and you’ve seen me do my crazy shit. Not all the girls I’ve liked have understood all this.”

Mao! Mao! Mao! (Don’t be a fucking coward!)

I did understand where he was coming from. I’d had a couple of boyfriends already, but this guy somehow intimidated me, making me nervous enough to lose track of things. Maybe I felt insecure about my physique. I didn’t have a dazzling body or a face that met the standards of beauty sponsored by TV. I was 1.65m, thin, skinny, had small breasts, and short, wavy brown hair—nice eyebrows, though, and I rarely had to pluck them. I had a love-hate relationship with my eyes: they were big and brown, and I used to be teased in junior high about it, as other girls would call me *La Ojitos* (rough translation: The Eyes). They did get me some boyfriends in high school, though, who loved big, expressive doe eyes. To this day there were times in which I loved them and occasions in which I thought they were too big for my face.

One day I made a big mistake. I got too confident. It started with business as usual: he worked out, took a shower (I never peeked), cooked dinner (always at 8:00pm) and listened to some music while eating. After doing the dishes he lay in bed working on his laptop, and that day he was so comfortable in bed that he was too lazy to get up and smoke, so he had a cigarette on the spot. I lay curled up beside him in bed, feeling too comfortable to go back home. Next thing I knew, he stowed away the computer, took off his shirt, and placed his wallet, keys and belt on the bedside table. He turned off the lights and went to sleep.

When I woke up I was naked beside him, hugging his chest, and he had his arm around me. It was 10:00am when his alarm sounded. Because he hated repetitive noises, he kept a CD in there, so the alarm sounded to John Frusciante's "Song to Sing When I'm Lonely." The beginning of the song sounded like an old video game before it turned to acoustic guitars and vocals.

It was in this moment that we both woke up, and I forgot to go back into cat mode. He jumped off the bed, and I screamed and grabbed the blanket to cover myself.

"Unless God granted me my most recent wet dreams," he said, trying to remain cool, "what the fuck are you doing naked in my bed?"

He threw me his shirt that was on the floor and turned around while I quickly buttoned it. I then used the sheets to cover the lower part of my body.

"Well, remember that joke I told you about me being your cat? It wasn't a joke."

"Goddammit, you've seen me shower so many times!"

"I never peeked! And God knows I wanted to!" I said in my defense.

"Still, some fucking privacy, please."

"Well, at least I made a move! You kept running around in circles!"

"You're not the only one who can do weird shit. You saw my eyes and you saw me take a spear to the chest without a scratch. That isn't something I'm going to disclose on the first date."

"We're both weird—so what?" I said. "Get. Over. It."

I didn't know what else to say, so I instinctively went into cat form and ran home. My mother had been worried sick, and I fed her some excuse about work and a dead cell phone and got grounded for a couple of weeks. As for Alessio, things were quite awkward for a long while: every time we finished class I would run out to avoid him questioning me and I would also evade eye contact during class. He also tried to sit next to me and contact me on MSN Messenger. I avoided walking near his house whenever possible. This lasted all the way until finals.

A week before my finals were due, I dared to take my evening promenade near his house again. I realized that he put a bowl of milk on the terrace. He kept that habit up for two weeks and finally, one day, I relented and just went and knocked on his front door.

"Hey, Paola," he said as if nothing had happened. "Dinner's ready. Come on in!"

IN KEEPING SECRETS OF DYING EARTH





O HAI! I'M LIGHTNING POLLY HAWKINS.



THEY CALL ME THAT BECAUSE I GOT STRUCK BY LIGHTNING AND GOT THESE COOL-LOOKING SCARS...



...WHICH WAS PRETTY LUCKY, BECAUSE I'VE SEEN PICTURES OF HOW GRUESOME THESE THINGS CAN BE.



PEOPLE THINK I'M CALLED LIGHTNING BECAUSE I'M FAST OR SOMETHING, BUT I WASN'T FAST ENOUGH TO EVADE ACTUAL LIGHTNING. I SHOULD BE CALLED SLOW BUT LUCKY POLLY HAWKINS.



I LIVE IN A WORLD THAT'S BUSY DEVOURING ITSELF BY THE DESIGN OF ITS OWN BREED. I MEAN, IT'S ALWAYS BEEN LIKE THIS, BUT BEFORE, THIS WAS A HOBBY...



...NOW IT'S A FULL-TIME JOB.

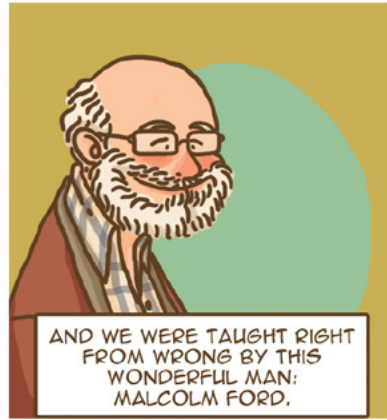




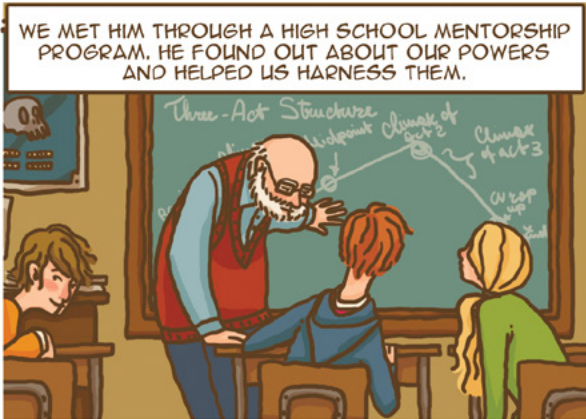
THIS IS PENELOPE...



...AND THIS IS PIXIE.



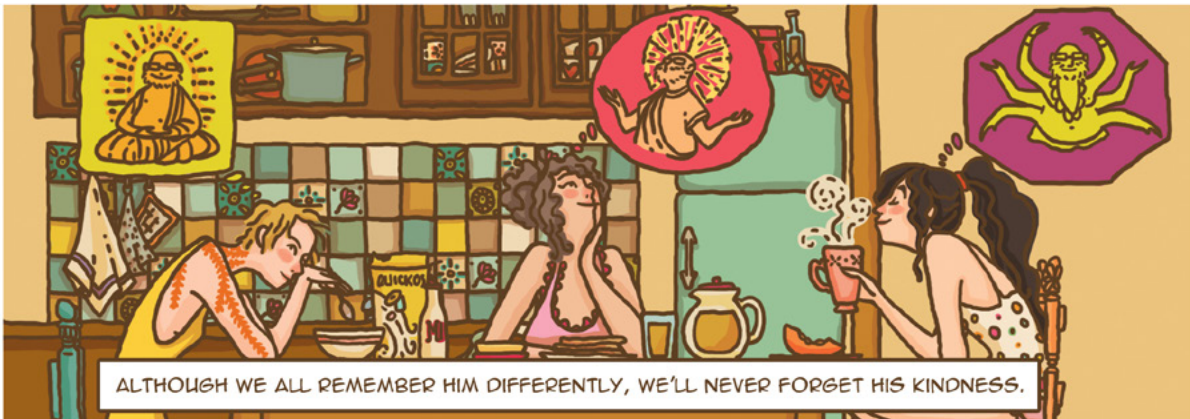
AND WE WERE TAUGHT RIGHT FROM WRONG BY THIS WONDERFUL MAN: MALCOLM FORD.



WE MET HIM THROUGH A HIGH SCHOOL MENTORSHIP PROGRAM. HE FOUND OUT ABOUT OUR POWERS AND HELPED US HARNESS THEM.



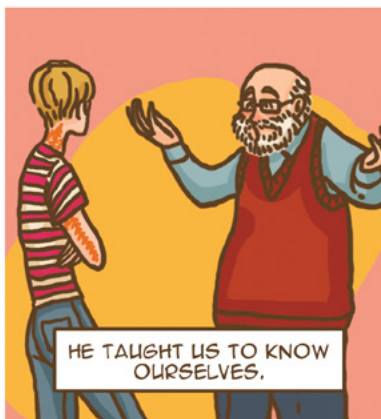
HE ALSO KEPT OUR SECRET.



ALTHOUGH WE ALL REMEMBER HIM DIFFERENTLY, WE'LL NEVER FORGET HIS KINDNESS.



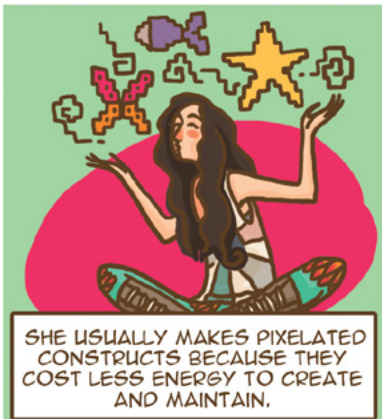
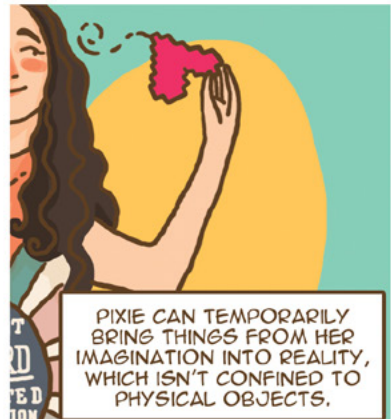
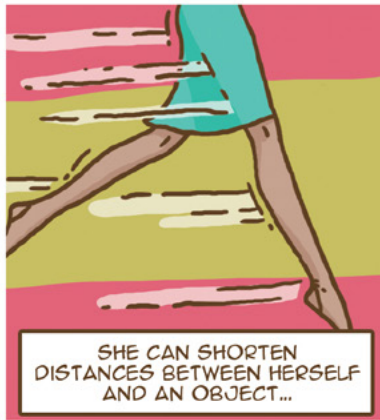
HE WAS JEWISH, BY THE WAY.



HE TAUGHT US TO KNOW OURSELVES.



AND WE TAUGHT OURSELVES TO CONTROL THIS.



BECAUSE THEY CAME FROM BROKEN HOMES, MALCOLM ADOPTED PENELOPE AND PIXIE.



HE ALSO HELPED US GET INTO GOOD COLLEGES...



...AND GRADUATE.



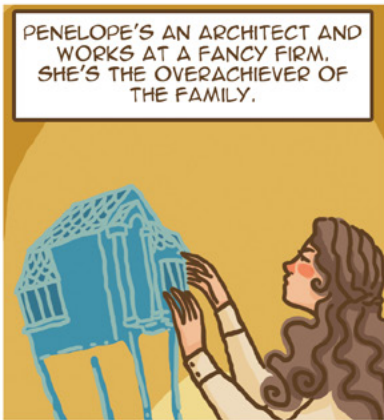
SADLY, HE'S NOT WITH US ANYMORE.

BECAUSE HE NEVER MARRIED OR HAD ANY CHILDREN BEFORE PENNY AND PIXIE, HE LEFT THE HOUSE TO THE THREE OF US.



ALTHOUGH WE MISS HIM A LOT, WE STILL FEEL HIM HERE WITH US.





PENELOPE'S AN ARCHITECT AND WORKS AT A FANCY FIRM. SHE'S THE OVERACHIEVER OF THE FAMILY.



SHE DREAMS OF HAVING HER OWN FIRM AND TELLS ME THAT I'LL BE HER INTERIOR DESIGNER...



...DESPITE THE FACT THAT WE FIGHT ALL THE TIME.



I MAJORED IN DESIGN AND WORK AS A FREELANCER, SOMETIMES DOING ILLUSTRATION WORK...



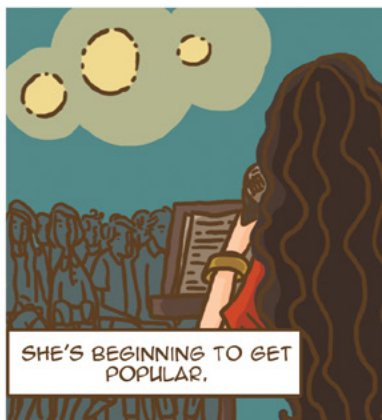
...BUT MOSTLY DESIGNING FURNITURE AND OTHER ACCESSORIES



SOMETIMES I SELL "VINTAGE" CLOTHING TO BOUTIQUES WHEN I WANT SOME EXTRA CASH.



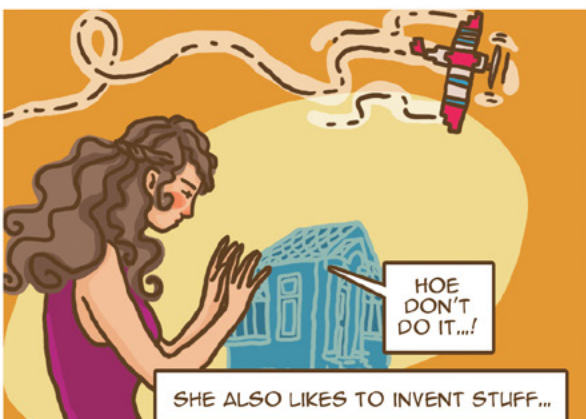
THE PIXSTER IS A PUBLISHED POET AND AUTHOR.



SHE'S BEGINNING TO GET POPULAR.



SHE ALSO WORKS AS AN ASSISTANT PROFESSOR AT OUR ALMA MATER.



HOE DON'T DO IT...!

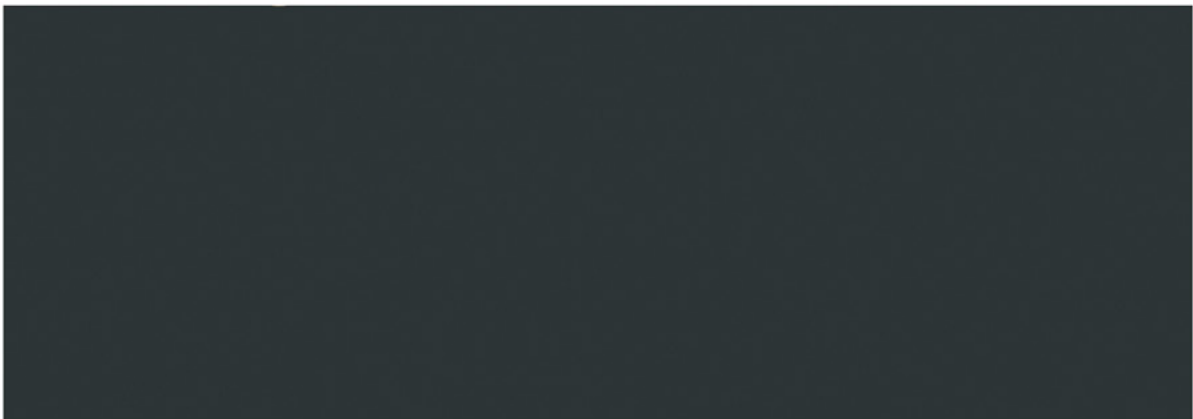
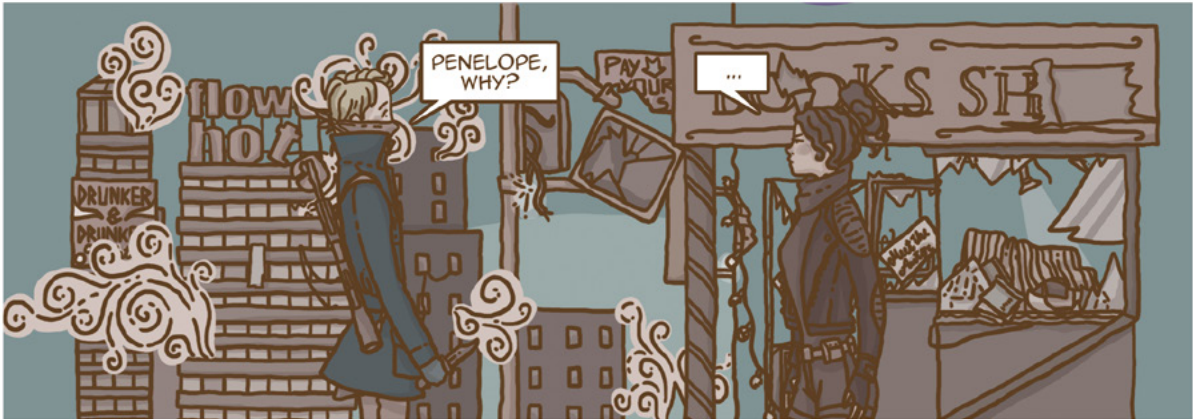
SHE ALSO LIKES TO INVENT STUFF...



...OH MY GOD.

...DESPITE THE OCCASIONAL DISASTER.







THE ROAMING WARS FOR BEGINNERS

by Arre, Pues.

INTRODUCTION

The purpose of this small monograph is to make a quick and fun, but trustworthy account of the events that gave way to and resulted from The Roaming Wars, the conflict between a confederation of humans that held the Paris, Titan, Awal, and Nadu-Earths, against the Nugard Federation, a confederation of humans that wandered in space from planet to planet exploiting their resources, and their unlikely allies in the Heian-kyō Alliance.

I will first give a brief history of the massive exodus that came out of the Earth-That-Was, also called Gaia-Earth, which resulted in the settlement—in this order—of the Paris, Titan, Awal and Nadu-Earths. I will also narrate certain notable incidents that helped develop the technology that was involved in combat and which resulted in an arms race that marked the pace of the conflicts. This means that the myth of the Spiritnauts and the thought monsters of Paris-Earth will be briefly addressed.

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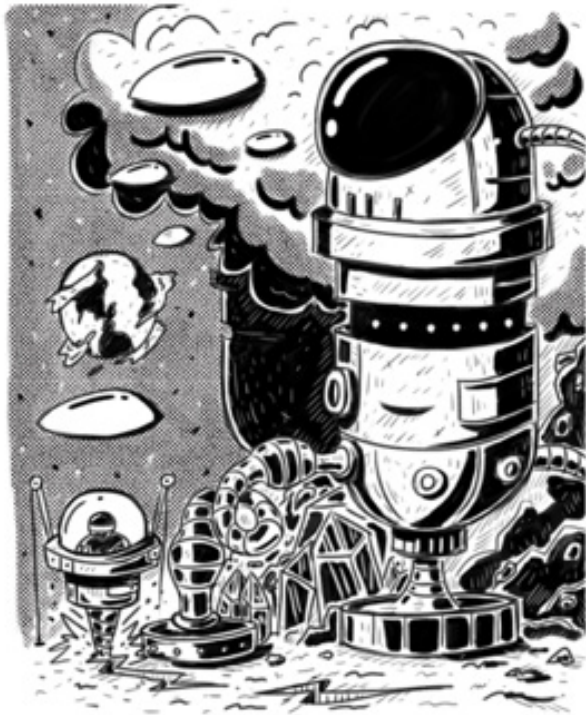
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Not quite the monumental size of George Lucas' *Star Wars*, nor with a large variety of participants—as sentient alien life has not been found—The Roaming Wars shaped the moral and technological development of this whole quadrant and should be studied thoroughly in order to not commit the same mistakes made within them.

1. LEAVING THE EARTH-THAT-WAS

By the year 2150, the people of planet Earth had exhausted most of its resources and were scrambling to build spaceships through which they could make it out of the planet to an uncertain future. From the year 2075, where the population peaked at 11 billion, there was a massive food shortage caused by senseless exploitation of resources, mismanagement, corporate interests, politics and conflicts of all kinds. There were efforts to unite the warring populations, but most of them had strings attached to them. Some unsuccessful efforts were also made to terraform Mars.



By 2175, a fleet of 1,000 ships, dubbed “arcs” by some and “spaceship nations” by others, harboring a total population of 3 billion, was ready to sail forth to an uncertain future, as sub-light travel would take a ridiculous amount of time to reach Alpha Centauri, the nearest star, and much more to reach a possibly uninhabitable planet. So it was pretty much a question of dying on Earth or dying in space with an almost impossible chance of finding a place to live.



But human stubbornness always finds a way, even unintentionally. Unexpectedly, a wormhole appeared near Jupiter and it took another decade of intensive probe and drone testing to determine that if something came in, it most certainly would make it out. Sort of. This was better than nothing, the high commands mused, and the fleet set sail for the possibility of a greener pasture—or any pasture, for that matter.



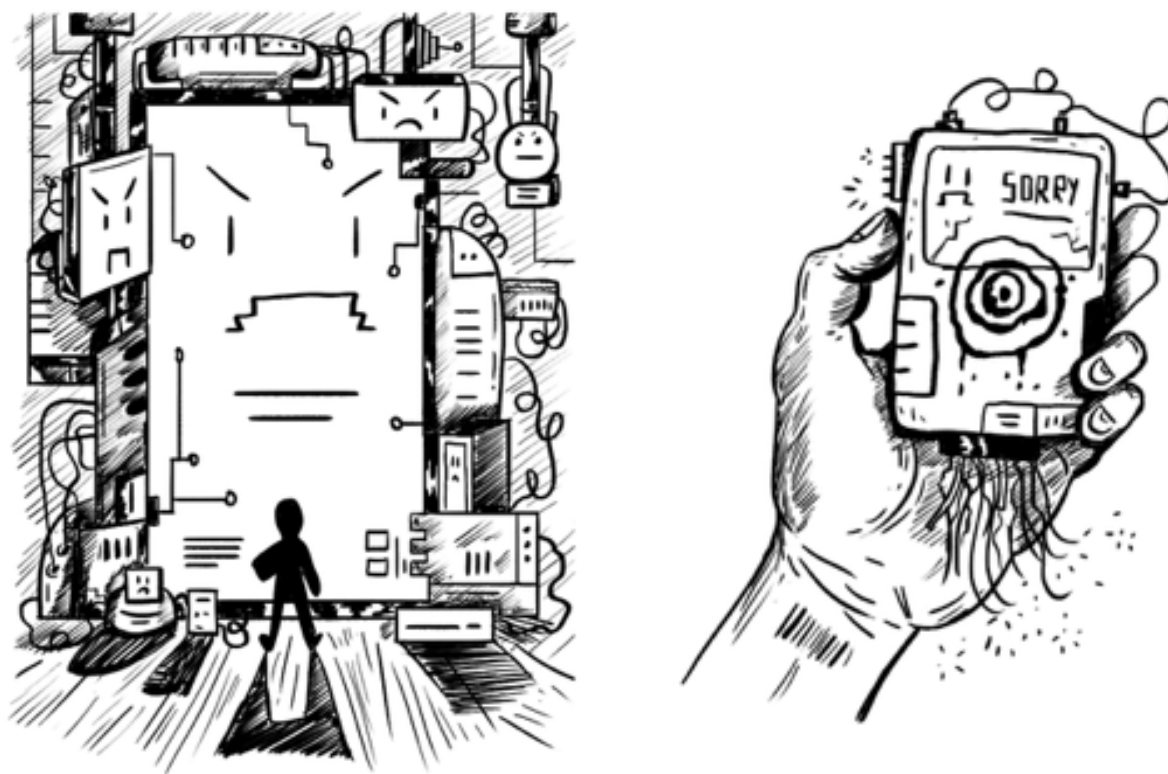


What nobody expected was that observation and choice affected the structure of the wormhole—namely, where would one land. The wormhole was not a one-directional tunnel, as the drones had reported, but rather, it could lead to a myriad of different places. Thus, the United Human Fleet, which was organized into subfleets according to nationality and sometimes, other affinities like religion, dispersed and scattered with the wind, with many ships unaccounted for to this date.

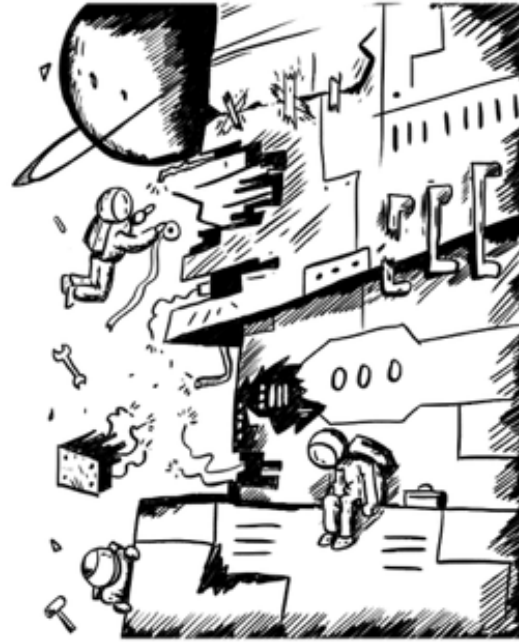
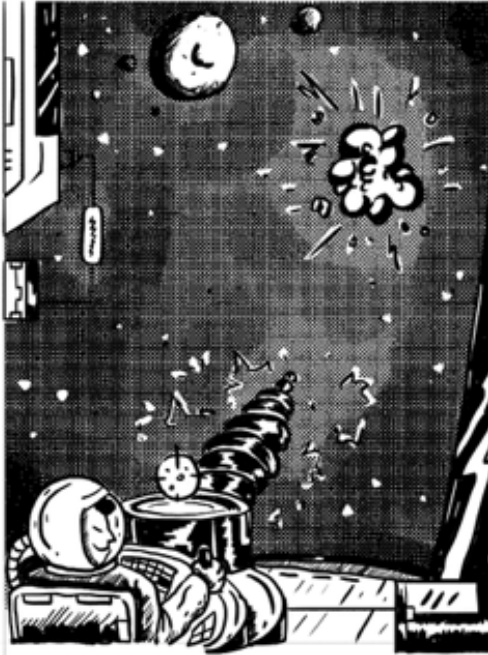


Two subfleets made it out in the same direction: one, comprised of ships containing people of Spanish, Italian and Latin American origins, and another, comprised of people from the Baltic and Balkan regions. Like all ships in the United Human Fleet, there were quantum computers with enhanced AI that helped in the administration of the vessels. This artificial intelligence did not quite fit the criteria for “strong,” but its managerial activities and suggestions became increasingly disruptive and manipulative of human beings.

Latinos, Italians and Balkans, never fond of taking orders, ultimately decided to put the AI—which attempted to fight back by suspending life support whenever it could, once the decision was made—into hard drives and jettison them into space, and used them as targets for shooting practice. Seeing the aftermath, Baltic ships followed suit. This episode, which happened in 2250, was called the AI Rebellion.



The fleet spent some 50 years happily fighting each other, as they would not take orders from themselves either—until they found three stranded ships from the Asia subfleet. The *Osaka*, *Delhi* and *Phuket*, which had gotten out ahead, got lost from their fleet and then found each other as they subsequently malfunctioned. When found they were marooned due to said problems, which were attributed to the AI, which was readily ejected and shot. Out of the three ships, the *Delhi* was the most damaged and thus was dismantled and used to repair and remodel the remaining ships, with the population being split across the whole of the fleet.



This pilgrimage continued for 50 more years, until in the year 2360, an inhabitable planet was found: Paris-Earth. Nobody really knows why it was called that, as there were no French people on the ship. Some say it was due to the discoverer's love for an obscure science fiction novel called *The Bag.On.Line.Adventures*, also known as *The Amory Wars*, which took place on a planet called the Paris:Earth; others blamed it on a nostalgia for the glories of an Earth they never knew. In the end, all agreed that it sounded cool and to avoid a civil war due to something as ridiculous as naming a planet, which they all knew they were well capable of doing, they kept the name.



2. THE PARIS-EARTH

A. Features

Paris-Earth is a planet that is nine-tenths the size of Gaia-Earth; it is the third planet from the sun of this Solis system and its gravity is comparable to the Earth-That-Was. There are three main continents and several archipelagos spread around it. The main landmasses were named as follows: O'Higgins, Tucumán, Giulia. Although similar to the Earth-That-Was, there are some differences worth mentioning pertaining to its atmosphere and ecosystems.



There is luscious vegetation which was thoroughly researched before colonization attempts...

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The skies and seas of Paris-Earth are also quite different: the seas are purple and have a sweet taste; the clouds, however, are yellow and the rain that comes from them, which is drinkable, is slightly bitter. The skies are yellow, purple and green and at night the two moons and the stars shine brightly, illuminating the clouds.



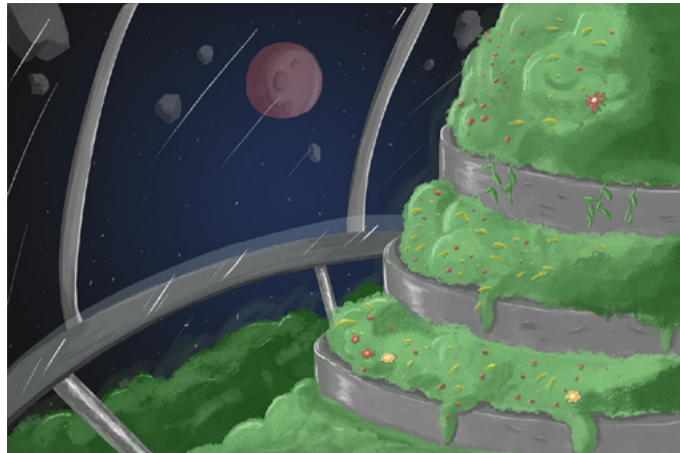
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b. The United Republic

For ten years Paris-Earth was studied thoroughly before any colonization efforts were made. The Fleet's population at that time was about 100 million and at first, four cities were founded on the plains of the Giulia continent: Tenochtitlán, Nuevo Veracruz, Ciudad Gardel and, Priština. They formed what was first called the Four Cardinal Points. Each city housed around 20 million inhabitants and to construct them, a whole mountain called Mt. Cynar was leveled and used as construction material.

The United Republic of Paris-Earth thus comprised the landmass of the planet and the fleet that circumnavigated the planet, housing the rest of the population, which waited for new cities to be built. Many of the spaceships were dismantled in order to ease construction efforts by providing necessary electric material, among other things. Some of them were used for agricultural purposes, as all spaceships housed whole ecosystems of the Earth-That-Was and thus preserved necessary foods and commodities like tobacco, corn and coffee. The rest of the ships housed a population of over 40 million.

There were many attempts to live closer to the jungle areas, but these resulted in several unexplainable diseases and problems. Subsequently, the colonization efforts of Paris-Earth were then circumscribed to plains, mountainsides and forests.

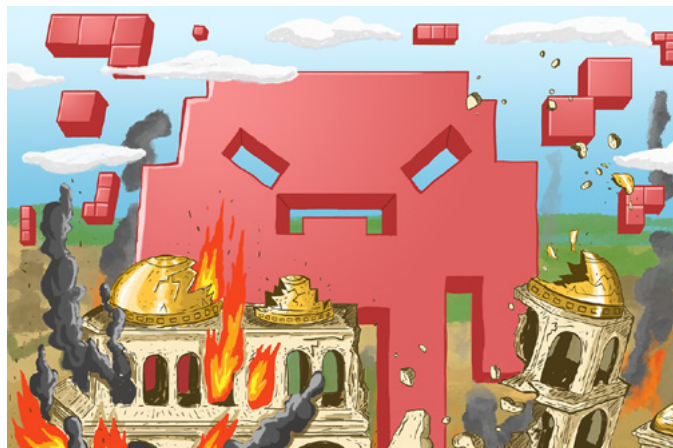


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c. The Rise of the Spiritnauts

For the first few decades of the United Republic of Paris-Earth, it was all rainbows and unicorns: the population was sustainable, people were living in harmony, and soon the rest of the space-bound population would be able to settle. But things got really complicated really quickly, and in the most unexpected way imaginable.

A giant monster made of ...(file corrupted)... the city of Tenochtitlán was destroyed almost in its entirety and... (file corrupted) put a stop to colonization plans until the problem was completely explained and solved.



¹ See bibliography section for a sample of his work. A good summary of it can be found in “General Information About the Spiritnaut System for the Defense of the United Republic of Paris-Earth: What We Do and How and Why We Do It.”

To stave off further incursions, the Spiritnauts were created. They were men and women capable of projecting their *chi* (life energy) through machines in such a way that they could fight the monsters that were routinely attempting to take down the cities of the Republic. This also led to research on the potential of non-physical energy, as well as on consciousness-based cosmological understandings and their application to technological development. This marked a great change in the way technology and science were understood and researched and set the pace, as I said before, for The Roaming Wars.

Without deviating too much from the topic at hand, a good historical account of the situation as well as an interesting theoretical explanation of the spiritual technology of the time can be found in the work of León Armienta Palermo¹, a second-generation Spiritnaut, who also was the head of the Spiritnaut Division. He was a great leader, a keen analyst and philosopher, and a fearsome fighter. He was nicknamed *la Bestia* (The Beast) for his fierceness, although some say it was due to his sexual prowess. He was also called the “Bridge Between Worlds” due to his role in ...(file corrupted)...



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3. THE TITAN-EARTH

A. Features

The second planet in Oniria, a neighboring solar system, is the Titan-Earth. It is twice the size of Gaia-Earth, and similar in its atmosphere and ecosystems, but only half of its surface is covered in water. This planet has four main continental landmasses, Vrh, Rie, Hunahpú, Ixbalanque, and very few islands and archipelagos. There are 20 major cities on the planet, chiefly among them Ringa, Konets, Ravangrad, Paredes and Nuevo Nuevo Veracruz, a city that has earned the Mexican sector great praise for its naming capacities.



"I don't care, pendejos"

It also has a habitable desertsic moon called Cydonia, which is rich in mineral resources, contributing to its industry and entrepreneurial people. This body has no sea, but rather several oases spread across the planet and cities like Acuña, Valdés and Camacho. Its deserts range from those comprised purely of dunes to those made entirely out of sedimented rock. It also has a great mountain range that traverses most of the moon and which provides unique minerals, like Cydonian marble, a regal white marble that reflects light in a beautiful way.



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b. The United Republic

Once Titan-Earth was discovered, a research mission was carried forth and following its success, a massive migration was organized. It was formed by the originally spacebound population of Paris-Earth and also by a third of its earthbound population, which migrated. There is a strong bond of kinship between the two United Republics and a constant exchange of technology, knowledge and resources, as well as mutual aid when disasters strike.

The governing body of the United Republic... (file corrupted)...

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4. THE AWAL-EARTH

a. Features

Located in the Wabar system, Awal-Earth is roughly the same size as Paris-Earth. It is comprised of a single landmass that stretches across the planet, but never connects with itself. Because most of the land mass stretches along the planet's equator, it possesses a vast extension of jungles and tropical forests, and a scarcity of mountains. It also has great oceans and exuberant sea life, like the Kinglobsters and the Emperorquids, both of which are creatures that can reach 40 meters in length. This in fact is due to the rich oxygen concentration in the atmosphere.

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b. The Caliphate

The political organization of Awal-Earth is very different from that of the Paris and Titan-Earths, as among other things, it possesses a strong religious element. Back when the United Human Fleet migrated through the wormhole, Indonesia, Nigeria and Egypt, among other Islamic countries traveled together as a subfleet, and they converged with a fleet that was Buddhist, comprised mostly of those from Thailand, Bhutan and Sri Lanka.

During their voyage, both religions clashed violently several times, to the point that it proved to be almost the undoing of the fleet. From the rubble of contempt and hatred rose a group called the Teachers, who promoted an idea of selflessness and a spiritual teaching that had elements of both institutionalized religions. The fleet instituted a theocratic system that included a class of "Pillars," children raised to be knowledgeable in the spiritual ways and trained to be selfless, so when they held public office they would never act for the sake of their own benefit or that of their group.



Among the Pillars, one would be chosen among the people to coordinate the Pillars and tend to the needs of the people, acting as a Caliph (Arabic: *خليفة* khalifah). The term originally was used to denote a person who was either a political and religious successor to the prophet Muhammad, acting as leader of the Muslims. In this case, he just handled the macro-level issues of the polity and had a symbolic spiritual function, holding no domination or hierarchy over others.

The term *caliph*, I believe, was used due to the nostalgia that many spaceship nations had for a past that they never experienced on a planet that they could not call their own, and thus, they sometimes took aspects of the past and exaggerated or interpreted them in ways that differed from historical accounts. The Pillars and the Caliph were considered to be spiritual successors in responsibilities regarding the sustainment of the people. They were not to be served, but rather acted as servants, and as such, they took a vow of humility.

In the course of their travels, they developed a spiritual technology akin to those of the Spiritnauts of Paris-Earth. They reached the inhabitants of the latter and had a great cultural and technological exchange that also trickled down to Titan-Earth. Their settlement in the Wabar system was assisted by both planets and they always held good terms with both, though they were somewhat shy at times in matters of commerce or defense.

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5. THE NADU-EARTH

a. Features

The Nadu-Earth is another inhabitable world of the Ātman system. Traversed vertically by mountain systems, it presents a strange mixture of forests and deserts. It does not have rivers or seas, but rather a group of great lakes, which led to the proverb: “What is the sea, but a big lake?”

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b. The Maharajate

Comprised of a fleet that represented most of the Indian subcontinent, save for Delhi, which mysteriously disappeared, the Maharajate have a history that echoes that of the Caliphate. They experienced great tumultuousness in the beginning of their travels, and came close to destruction and realized that selflessness was the way in which society should be organized—to “live for each other.”

The caste system was reconstituted, but rather than being a system of social stratification, it became one where all occupations had the same hierarchy and intermarriage was permitted. The importance of one another was recognized in the tasks they performed and they all served a common societal purpose.

They have a government system similar to that of the Caliphate: there are a group of functionaries raised from childhood in the arts of spirituality and government, who are in turn coordinated by a Maharaja, who is in charge of macro-level functions and the coordination of local functions. Also, unlike the Caliphate, Hinduism, Sikhism, Jainism and Islam have not merged.

The Indian fleet arrived sometime later than the one that later became the Caliphate. They were also warmly received into the bosom of Paris-Earth, and adopted and developed innovations of the technology of the Paris and Awal-Earths. Upon finding a suitable system within which to live, both the Maharaja and Caliph decided to share the system, as there were two suitable worlds to inhabit.



It is important to note that there has never been a conflict or a war of any kind between the Caliphate and Maharajate. Their emphasis on non-conflict and peaceful negotiations were important in the development of The Roaming Wars.

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6. NUGARD FEDERATION

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b. (file lost)

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7. HEIAN-KYŌ FEDERATION

a. Political Organization

Like the Nugard Federation, the Heian-kyō Federation was an itinerant fleet of nine spaceship nations, chiefly amongst them the Amaterasu, Tsukuyomi and Susanoo. The governance of the fleet was the result of an alliance between *zaibatsu* (family corporations), government as a minority stakeholder, and the Order of the Four Temples. The latter were monks who helped fuel the fleet after an energy crisis by means of spiritual energy and plugs installed in their bodies, a method that was discovered when attempts to create wet computing—the establishment of a communal network of information—led to the realization that consciousness was a form of wet computing in the first place.



Economic life was presided over by *zaibatsu* and their interests. Part of the resource allocation was done by means of bloodsport... (file corrupted)...

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b. Tenben Chii

Competition over what spaceship would keep what resources took place in the context of *Tenben Chii*, an advanced spiritual technique that involved the manipulation of matter, in order to create settings in which the participants could engage in lethal combat and respawn in the case of death. The word *Tenben Chii*, which was translated or understood as heaven and Earth paranormality, was a deformation of *tenpen-*

chii (天變地異), which simply means “cataclysm,” although it can be translated literally as **Natural Disaster Befalling Heaven and Earth.**

All this had the purpose of emphasizing nationalism and political disunity, as well as... (file corrupted)...

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8. THE ROAMING WARS

a. First Roaming War

i. First Contact

After the Teotl Quadrant was created by the institution of the Paris, Titan, Awal and Nadu-Earths, there was a long period of relative peace which lasted for several decades, until the Nugard Federation irrupted into the spacehold of Paris-Earth and proceeded to invade it. The Spiritnaut program had evolved into outer space with the help of the technological output of the Awal and Nadu-Earths and thus, routine patrols helped to avoid an unavoidable surprise attack, which ended up as a surprise incursion repelled by the timely help of Titan-Earth.



On the one hand, the Nugard Federation had massive military experience as they had armaments reminiscent of that of the superpowers of the Earth-That-Was. On the other hand, such armaments were somewhat ineffective on the spirit-tech of the Paris and Titan-Earths and despite having superior numbers, their space power was evenly matched. The Defensive Alliance of the Titan and Paris-Earths came to be and they swiftly staged decisive counterattacks. Staying true to their non-conflictive roots, both the Caliphate and the Maharajate declared themselves as neutral parties, although they supplied crucial resources to the Alliance's line.



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... (file corrupted) ...after three years of conflicts, the Nugard Federation was pushed out of the quadrant.

ii. Breakdown of the Key Players

1. Alliance of the Titan and Paris-Earths

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2. Nugard Federation

...

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3. Caliphate of the Awal-Earth (neutral)

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4. Maharajate of the Nadu-Earth (neutral)

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b. “The 20-Year Calm”

Twenty years passed after the defeat and retreat of the Nugard Federation. At this point, both the Paris and Titan-Earths—who had more or less improvised a defense force at the beginning of the First Roaming War—had institutionalized militaries, although the former was more loosely formed and organized than the latter. The Awal and Nadu-Earths, seeing that conflict was a possibility in the future, also started to make preparations just shy of creating a military force.

A contingency plan was made for a possible second incursion of the Nugard Federation, which relied mostly on the advantage provided by spiritual tech. What nobody had really expected or planned for was the fact that the enemy had reverse-engineered and appropriated this type of technology and in the span of a mere twenty years was now ready to renew hostilities. Part of this quick adaptive process was spurred by constant flirting and exchanges with the Heian-kyō Federation, which had a take on spiritual technology akin to their mindset, but wanted to take hold of the selective reproduction and eugenics program that Nugard possessed and enacted.

c. Second Roaming War

i. The Resuming of the Hostilities

Nugard, now truly on fighting terms with both the Paris and Titan-Earths proceeded to brutally and swiftly attack both, with the Awal and Nadu-Earths on the verge of breaking neutrality, although they once again helped with valuable resources, and this time, with the enabling of mercenary forces. This allowed the

Paris and Titan-Earths to push back and to establish a “No Man’s Land” with the Federation, which was constantly crossed, but never overcome.



This push back and forth, along with escalation in spiritual technology on both sides and pleas for the Caliph and Maharaja to take a side marked a 30-year period of conflict, which later had a 3-year truce and led to the last conflict. The duration and impasses are why the Second Roaming War has been called “The Long War” by historians and folk alike.

i. Key Players

1. Alliance of the Titan, Paris, Awal and Nadu-Earths

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2. Nugard and Heian-kyō Alliance

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ii. Shift in the Balance: Heian-kyō Federation

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iii. Second Shift: The Caliphate of Awal-Earth and the Maharajate of Nadu-Earth Enter the Fray

...

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d. Third Roaming War

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iii. (file lost)

iv. (file lost)

v. (file lost)

vi. (file lost)

Bibliography

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BREATHING TOWERS TO HEAVEN



ONE

Panel Two

OAKES: Good morning sir, I'm Dr. James Elijah Oakes.

ABBOT GENERAL: We know, and you know well who I am.

Panel Three

ABBOT GENERAL: I was told by the Federation High Command that your research is of utmost importance and that we may humbly serve to further it in the benefit of all.

NARRATION: *Translation:* We think you might be of use.

Panel Four

OAKES: I specialize in consciousness based physics and I think that if I could see the implementation of Tenben Chii, I could develop a more efficient way to travel that could be used by the Order on the benefit of all.

NARRATION: *Translation:* I can give you more political leverage but help me out.

Panel Five

ABBOT GENERAL: This is a very delicate request Dr. Oakes, Tenben Chii is one of our most sacred techniques and has never been seen by people outside the Order.

OAKES: I am aware of it sir.

Panel Six

NARRATION: The Order of the Four Temples came to be when several Buddhist sects joined forces with Bon, Jesuit and Franciscan monks and with Kabbalistic rabbis and developed advanced spiritual techniques. It is one of the dominant political forces in the Columbia-Heyiankyo Federation as they have helped fuel the fleet by means of spiritual energy that is extracted from their meditating monks by a series of electric plugs installed in their bodies.



TWO

Panel One

ABBOT GENERAL: Fortunately, the high command was very generous in sharing your research and we have decided to help.

OAKES: Thank you very much.

ABBOT GENERAL: You are welcome.

Panel Three

ABBOT GENERAL: Now doctor, what do you know about Tenben Chii?

OAKES: The technique is used to temporarily create physical objects by condensing consciousness.

Panel Four

NARRATION: This technique is used to create mazes, where people butcher each other playing capture the flag without ever really dying; all for the entertainment of the masses and also their disunification; as representatives from each spaceship battle for resources to be split among their people all of which generates disunity that is exploited by the Order, the corporations and the high command (in reality, corporations with another name).

Panel Five

ABBOT GENERAL: You forgot that objects generated in Tenben Chii have their own principles of behavior; it's habits, which not necessary abide by the so-called "Laws of Physics".

NARRATION: I knew that, but did not know how to put it in a politically correct way.



THREE

Panel One

ABBOT GENERAL: You have studied the behavior of the technique without knowing its exact elements by treating it as a "Black Box". Is this the right term?

OAKES: That is correct.

Panel Two

ABBOT GENERAL: Now, I would like an explanation of your ideas.

OAKES: Because the Universe is made out of consciousness. I think that space travel can be more efficient if we think it as a movement in consciousness rather than one in time and space and thus we could coordinate non-local space jumps that could take us farther than conventional means.

Panel Three

ABBOT GENERAL: This sounds all so interesting, he said, just for curiosity sake, how old are you?

OAKES: 35.

ABBOT GENERAL: A most notable achievement for someone so young.

OAKES: Age is but a number sir.

ABBOT GENERAL: Is it?

Panel Four

OAKES: Now, I intuit that this form of space travel operates under the same principle as Tenben Chii, although manifested in a different configuration.

ABBOT GENERAL: So, by observing Tenben Chii, you purport to find the last piece of your puzzle.

OAKES: That I do, sir.

Panel Five

ABBOT GENERAL: Interesting, interesting. My monks have been preparing for a demonstration that will be ready in an hour's time. At that moment I shall leave you to brother Manderling, who will explain the process as it all takes place.



FOUR

Panel One

NARRATION: Almost like clockwork, after an hour of chit chat with the General Abbott—something very unusual in a very busy man and which stressed to me the importance that they gave to my research— we were summoned to the main courtyard of the Temple, where everything was ready for the ritual. The Abbot General bid his farewell and I was introduced to Brother Manderling.

Panel Two

MANDERLING: Please take your shoes and socks off as we are about to enter hallowed ground. An acolyte will take care of them.

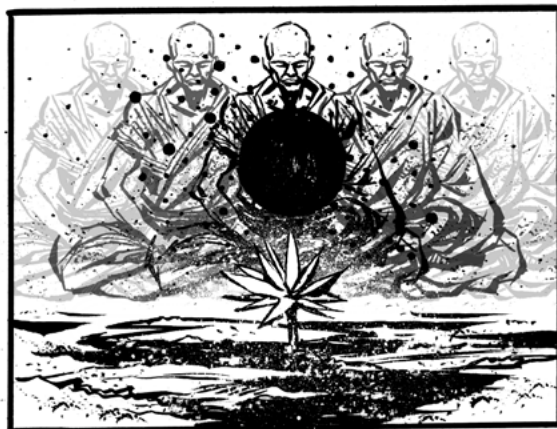
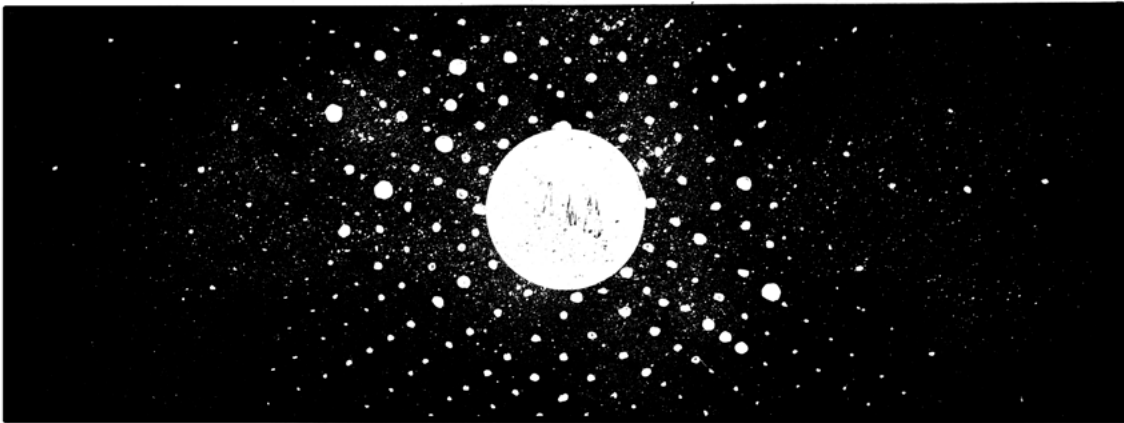
Panel Four

MANDERLING: As you know, higher training leads to a higher understanding of the subconscious, which helps in manipulating anti-matter and non-physical energy. This helps us to carry unseemingly superhuman feats of discipline, but to be honest, to the untrained, everything looks superhuman. To us, will is everything.

Panel Five

MANDERLING AS NARRATION: “We will do two ceremonial exercises: The first, *Hail O Hallowed Lotus of the Golden Garden* will consist in the creation of a small fragrant garden with a single lotus flower in the middle...”

MANDERLING AS NARRATION: “...in the second, called Breathing Towers to Heaven, will consist in the creation of an 8 meter stone tower”.



FIVE

Panel Three

MANDERLING AS NARRATION: "The basic premise is as follows: the brother in the middle is to be covered; he will enter into a high and sublime meditative state where his ego will be completely set aside".

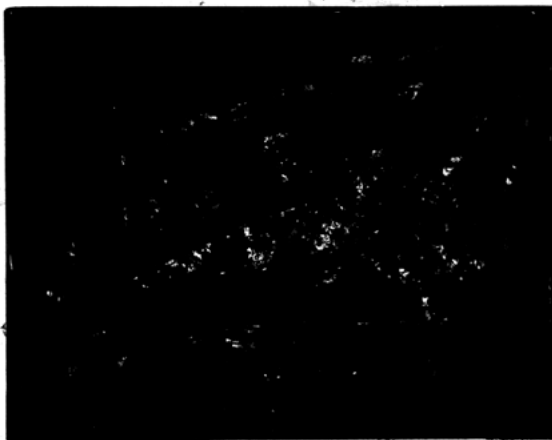
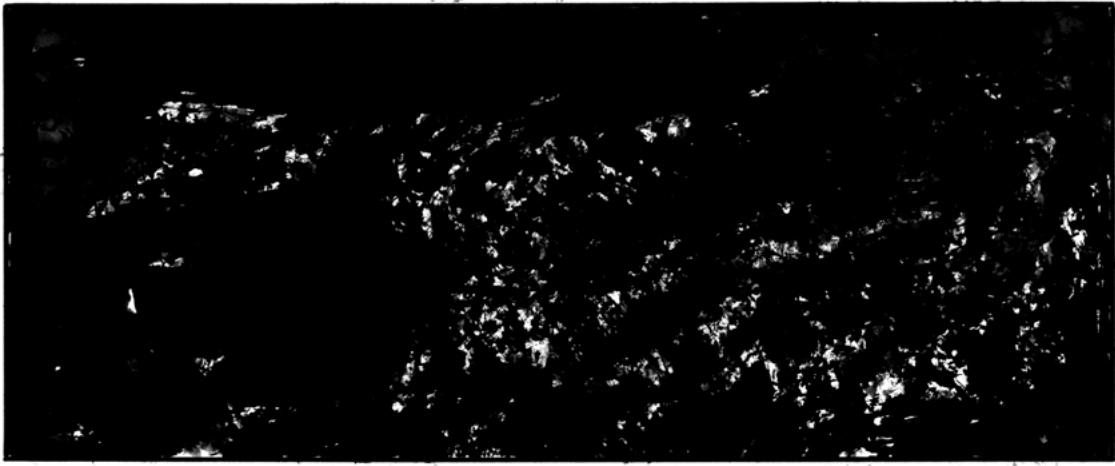
MANDERLING AS NARRATION: "Ego, as a false sense of consciousness that allows us to distinguish between subjects and objects is what allows conscious observation and permits us to remain as coherent actuality".

Panel Four

MANDERLING AS NARRATION: Our brother here will become pure potentia, which will be consciously observed by our other four brothers, who have memorized the form to be collapsed up to the most specific detail. Strictly speaking, Tenben Chii is not creating reality from zero, rather reconfigure existing one; this is also why this technique has a duration.

Panel Five

MANDERLING AS NARRATION: When our brother has become absolute potentia, a bell will be rung and we will close our eyes; only the observing brothers will participate in order to collapse the garden into existence.

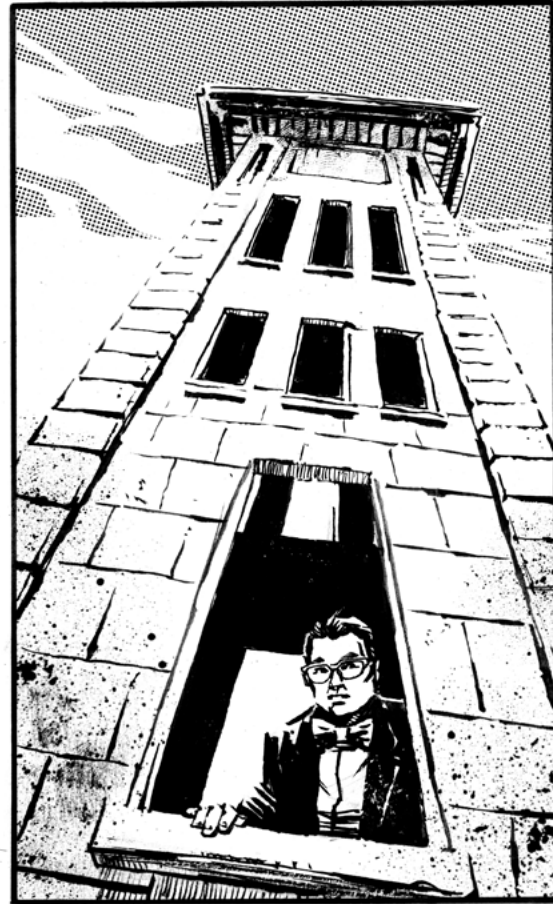
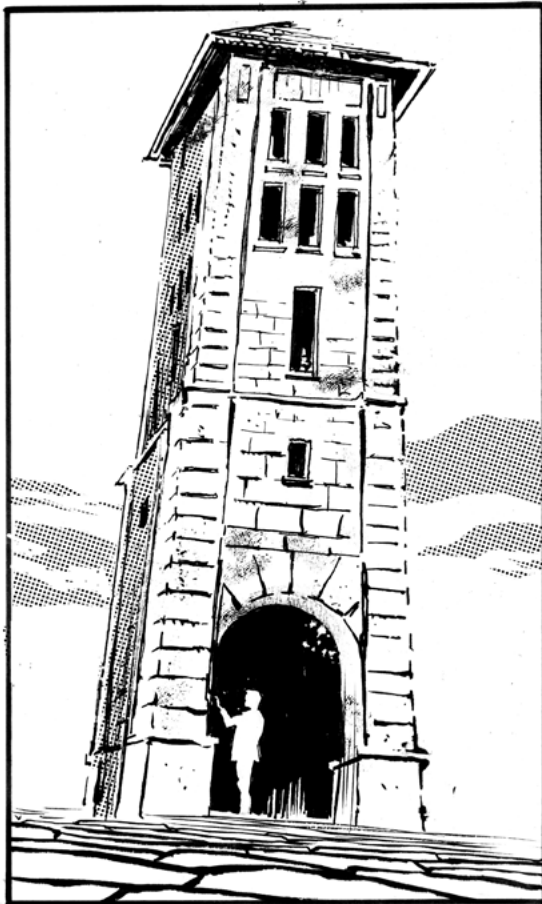
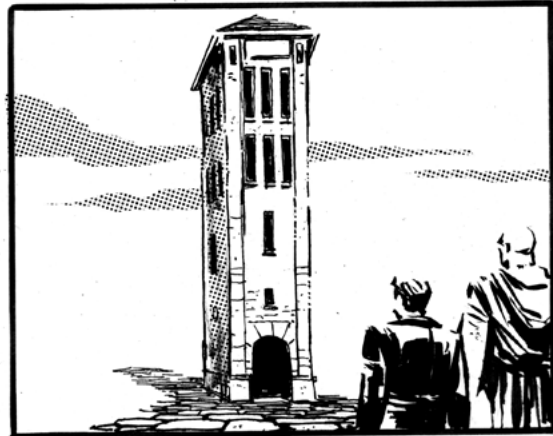
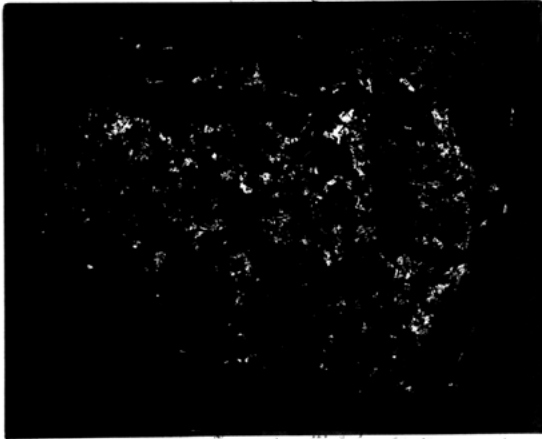
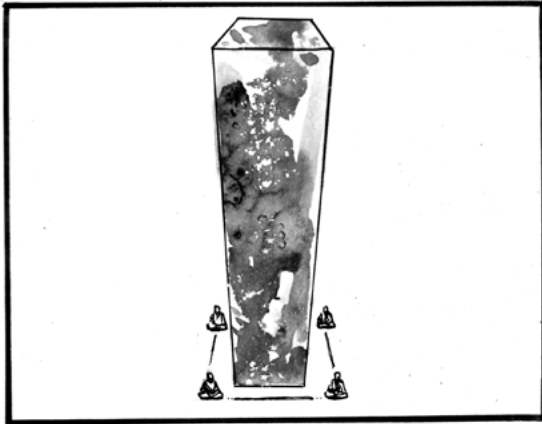


SIX

Panel One

NARRATION: This all meant that there was a movement of consciousness from actuality to potentia and then from other actuality.

NARRATION: To apply this to space travel the pilot would have to become wave by shedding the ego through meditation and then actualizing themselves in another point of space.





EIGHT

Panel One

MANDERLING: What do you think of this?

OAKES: I think I know how to apply this principle of consciousness shift to space travel. It is an inverse application as one does not shift into reality, but rather shifts oneself within reality.

Panel Two

MANDERLING: That is very impressive, brother.

OAKES: Brother?

MANDERLING: Yes, he said, you need to get to work now.

OAKES: What do you mean by "brother"?

MANDERLING: Well, how else did you think you would be allowed to witness Tenben Chii, if it was not by joining the order?

Panel Three

OAKES: So if I had not understood the procedure and its possible application. I would have been killed?

MANDERLING: Regrettably so, he said, imagine the implications of all that in an ego dominated society. Chaos, young brother, utter chaos; people need their shepherds to guide them, and we in the Federation strive to fulfill that role.

Panel Four

OAKES: This also means that my previous life is over.

MANDERLING: Indeed.

OAKES: At least I was right and I will get to implement this.

Panel Five

MANDERLING: You are very optimistic, young brother!

GENERAL INFORMATION ABOUT THE SPIRITNAUT SYSTEM
FOR THE DEFENSE OF THE UNITED REPUBLIC OF PARIS-EARTH:
WHAT WE DO AND HOW AND WHY WE DO IT

by León Armienta Palermo

GENERAL INFORMATION ABOUT THE SPIRITNAUT SYSTEM FOR THE DEFENSE OF THE UNITED REPUBLIC OF PARIS-EARTH: WHAT WE DO AND HOW AND WHY WE DO IT

By León Armienta Palermo*

INTRODUCTION

I recognize that a text of this caliber is long overdue for the citizens of Paris-Earth, as many of you lost family and friends in the Fall of Tenochtitlán, and you have experienced disruptions of all sorts in your daily life every time a thought monster attempts to breach established perimeters in order to attack our cities. This involves all of you and as such, you should be a part of it.

The fact that there is very little information available to the public about what we do and how, does not mean that we at the Spiritnaut Division intend it to be so; rather, it is due to the fact that what we are doing is very recent in its inception and development and almost as new to us as it is to you. There are many moral and social implications in the development of what has been called spiritual technology or *spiritech*, and very few specialists and resources to engage in them, partly because they are spent on defending the territories of the United Republic from increasingly organized and sophisticated thought monster attacks.

I apologize beforehand for the length and technicality of this text, but it is the culmination of intensive studies—some of my own making, but most by the merit of others—and the retaking of neglected theories, and the invention of many in order to yield an explanation of the world that can fit the possibility of monsters made of condensed spiritual energy that attack cities.

I want to create a text that can be used to understand the Spiritnaut system in all its dimensions: the scientific background required, which extends from the life sciences to that of physics, psychology and philosophy, but also the field aspects of it, such as how many pilots are used, and the types of equipment, training and other activities related to the system. However, I also want to illustrate the personal cost paid by many pilots in the defense of the people of the United Republic of Paris-Earth.

It is my sincere intention that this text helps to illustrate the way in which we engage in the defense not only of our friends and family, but also of all those who are not bonded to us, but for whom we equally shed our blood and give our lives.

1. Historical Background: The Rise of the Thought Monsters and the Spiritnauts

I need not provide the reader a reminder of the tragic events that took place more than 25 years ago, when an entity later named by us as *Invasor* destroyed most of the city of Tenochtitlán and caused grievous human loss. This attacker was impervious to conventional weaponry, as missiles, bullets and even tungsten

* Second-generation pilot, current head of the Spiritnaut Division, Defense Forces of the United Republic of Paris-Earth

projectiles thrown from spaceships went through it without slowing it down or causing it damage. Rather, they caused material and human damage.

It did not have the degree of reflexivity that human beings have, but rather behaved like an animal and adapted to the stimuli presented by its surroundings. As all defense efforts failed and the leaders of the United Republic debated the possibility of improvising a nuclear bomb out of radioactive material aboard the spaceships, an idea of its nature came from a scientist named Salvatore Constantini.

This man hypothesized that the creature in question was condensed energy of some kind that acquired a coherent form as a massive creature reminiscent of the earliest forms of visual-interactive entertainment. There is little to no visual record of it, due to the devastation caused and the inadequacy of video equipment to capture it in its full form.

One of the distinguishing features of this creature is that it could adjust its density somehow, which meant that it could go through buildings, but also meant that if it did, the people inside these structures would somehow die, although their bodies would be mostly intact and present no signs of damage.

Constantini posited that these energy monsters coalesced into physical form by somehow collecting human thoughts and choosing an ideal shape to manifest. The term “thought monster” was coined. However, it is still not known who sends them or why these monsters regularly take shape and attack the cities of the Republic. At first he was mocked, for his observations contradicted several mainstream ideas, but as this monster raged on without being stopped, he was taken more seriously.

Constantini discovered that the same type of energy that constituted this monster was also found in human beings—that is, that the thought monster was made of what the ancients called *chi*, or “vital or spiritual energy.” After some tinkering, he managed to construct a cannon that would take this energy from human beings, amplify it and direct it into a single beam. This proved to be very successful and after just an hour of effort, *Invasor* disintegrated. It had raged on for three days, causing vast material damages, and took the lives of ten million people—including Constantini’s wife and children.

Another attack took place three weeks later and despite being better prepared, it took three spirit cannons six hours to take down this second thought monster, similar in shape to the first, codenamed *Nishikado*. Tenochtitlán and the northern extension of the “four points” were abandoned and the remaining cities were called the Trinity, and determined the territorial extension of the United Republic. Seeing that the cannons had been sufficient, but were not tenable as a long-term option, there were calls for a better system of defense.

Eventually, Constantini and a team of like-minded scientists came up with a system of spiritual projection, which consisted of taking the energy of a person and amplifying it and condensing it in a similar manner to the thought monsters, in order to be able to engage them in one-on-one combat. The Spiritnauts were born.

The first generation of pilots consisted of five women and four men, and among the latter was Constantini. Of the latter, only three survived, while the whereabouts of Constantini are unknown—unable to cope with his

grief, he chose to exile himself to the wilderness. I was part of the second generation of pilots, formed of four women and five men; of this generation, all of us are currently retired and only five survive.

This time, there is a third generation of a dozen pilots—seven women and five men—who defend the Trinity against thought monster incursions.

2. Theoretical Foundations of the Spiritnaut

Before being qualified for combat, a Spiritnaut candidate must undergo the strictest physical training possible, which requires not only peak physical condition, but also extensive knowledge in diverse meditative practices. However, it is also necessary for pilots to understand the philosophical and scientific background of their endeavors, in order to carry out their duties in the best way possible. In the following sections I will create the most basic model of human cognition, a basic cosmological explanation and the integration of both, which explains the functioning of Spiritnauts and gives way to understanding the workings of the system.

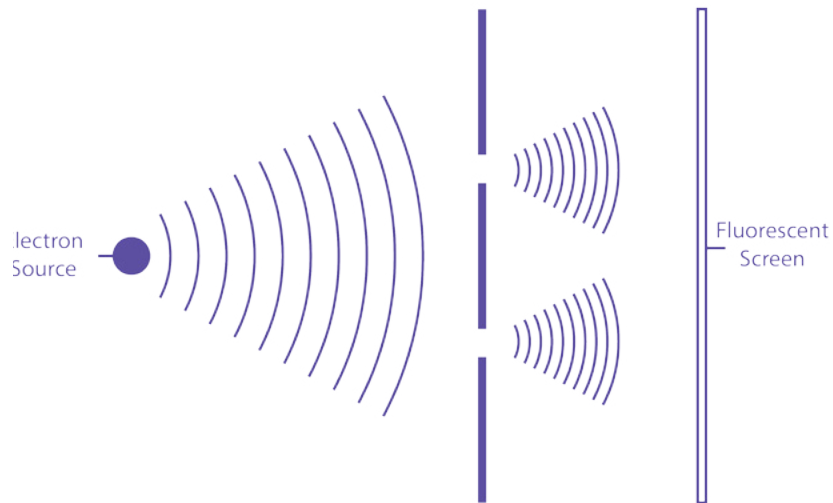
As I mentioned previously, the way this framework came to be was through the intervention of Constantini: he had found a book lost in the black market called *The Passage of Time*, by a J.E. Passeron-Lavac of the Old Earth, and of whom almost no information is known. This book led to a search for other philosophers and scientists who had banded together in the late 1970's and early 80's, forming a current of metaphysics called quantum cybernetics. We also used the cosmological theories of Dr. Vitaliano Altovito, who had been a mentor of Vincenzo Florenzi, who in turn mentored Constantini, and who, like his academic grandson, was rarely taken seriously (to put it kindly), despite having very interesting empirical research, to say the least.

a. Basic Cognitive Models of the Human Mind

i. The Role of the Observer

As a Spiritnaut, the first thing that I learned was that the universe does not exist entirely outside of an observer, that not only do I interact with it and am influenced by it, but I can also affect it in ways that go beyond what my senses intuitively tell me. All the physical objects that we interact with on a day-to-day basis are made of atoms and subatomic particles, and at this extremely small scale, matter follows different rules than at the level of the things that we perceive. However, both levels have in common the fact that they have rules of organization, which are affected by consciousness and the observer as a(ny) living system.

Matter at the subatomic level exists as a wave and as a particle. The double-slit experiment—which consists of a beam of electrons passing through a screen that has two narrow slits in it—is a useful experiment that helps to ascertain the wave/particle duality of a quantum object. As electrons are waves, the beam is split into two sets of waves by the two-slitted screen. These waves then interfere with one another, and the result of the interference shows on a fluorescent screen.² It also helps to corroborate the uncertainty principle, postulated by Heisenberg in the field of quantum mechanics: one cannot simultaneously determine with certainty both the position and the momentum of an electron; efforts to measure one accurately blur our knowledge of the other.³



The double-slit experiment for electrons

To us, the usefulness of both the experiment and the uncertainty principle resides in the importance of measurement and whoever makes it. In his book *The Mathematical Foundations of Quantum Mechanics*, von Neumann, a foremost scientist of the Earth-That-Was, stated that in a causal chain formed by (1) the measured object, (2) the measuring instrument and (3) the brain of the human observer, the collapse of the wave function can be attributed to either (2) or (3), and thus it makes no difference as to which one is referred to as the “observer.” London and Bauer differed from this position, stating that it is human *consciousness* which completes quantum measurement. This was followed by Wigner, and later Stapp.⁴

From the latter position, I will extrapolate the following theorem: “Anything that happens does so *before* an observer,” which was postulated on the Earth-That-Was by Emily Eckhart.⁵

She replicated and interpreted two variations of the double-slit experiment: a) Wheeler’s delayed-choice experiment, where the method of detection used can be changed after a photon passes the double slit, so as to delay the choice of whether to detect the path of the particle, or its interference with itself; and b) Radin et al.’s experiments with a double-slit optical system to test the possible role of consciousness in the collapse of the quantum wave function, which accounted for variables such as temperature, vibration, and signal drift.⁶

² J. Djokic, M. Martínez, J.R. Laht, *Introducción a la Física Cuántica*, Universidad Autónoma Mexicana, Nave Tlaloc, pp. 69-72, 2352.

³ *Id.* p. 81.

⁴ Enciclopedia de Filosofía de la Universidad Autónoma Mexicana, *Filosofía Cuántica de la Consciencia y Cognición*, pp. 3450, 2350.

⁵ E. Eckhart, *Cognition as computation and quantum fields in living systems*, S. Constantini ed., Tartu Ülikool, p.99, 2022 (ed. original), 2410 (reimp.).

⁶ *Id.*, p. 115.

She came to the conclusion that in Wheeler's experiment the act of observation ultimately determines whether the photon will behave as a particle or a wave, whereas in Radin's she noted that qualities in the observer influenced the outcome and significantly correlated in predicted ways with perturbations in the double-slit interference pattern. This led her to conclude that the internal states of the observer and how the observation is made influences the collapse of the wave function. Thus, she enunciated a second theorem: "Anything that happens does so *because* of an observer."⁷

Any observing system is a living one and the latter are self-organizing systems: they take energy and resources from their environment in order to sustain themselves by producing their own components. This is called *autopoiesis* (self-construction).⁸ Because they are thermodynamically open, to determine or recast their boundaries, living systems must accumulate energy from their environment to later expend it, which generates entropy and leads to the need for accumulation, in an ongoing cycle; that is, there is a transition from orderly to disorderly states.⁹ Living systems are then organized in a stabilized dynamic, rather than an unchanging state of equilibrium. Because of this, they cannot be understood in isolation, for the environment in which they develop (which includes other living systems and a geography) must be accounted for.

Self-organization takes the form of adaptive behavior guided by cognition, the latter being information processing in the form of calculations and logical operations for decision-making and the creation of a repertoire of actions. This process takes place in a self-referential way, or in the words of Morin: "computo ergo sum."¹⁰ In computing oneself, living systems posit their identity; the latter is comprised of a notion of "I" as a being animated by its self-organizational subjectivity, and a "me," which can be understood as an objectification of the individual-subject. This allows the system to process its physical body in an objective manner, while remaining a self-organized being.¹¹

The first act of cognition made by an autopoietic is the distinction between itself and its surroundings, which also makes it an object of its own observation. Being a subject is then a fundamental quality of living systems, which cannot be reduced to a morphological or psychological singularity.¹² One becomes an observer by creating representations of oneself and our interactions and interacting with the representations of our environment, generating relations with the representations with which we can then interact and repeat this process. All of this takes place in a self-referential, recursive dynamic; that is, the observer presupposes itself in the process we have previously described.¹³

⁷ *Id.*, p. 122.

⁸ H.R. Maturana, F.J. Varela, *Autopoiesis y Cognición*, Universidad Autónoma Mexicana (G. Rodríguez Prieto trad.), p.79, 2312

⁹ E. Morin, *Ensayos sobre Complejidad*, Universidad Autónoma Mexicana, (G. Rodríguez Prieto trad.), p.18 2324.

¹⁰ Morin, *supra*, note 8, p. 113; Maturana and Varela, *supra*, note 9, p. 13.

¹¹ Morin, *supra*, note 8, pp. 73, 79.

¹² Morin, *supra*, note 8 at 77.

¹³ S. Constantini, "Breves reflexiones sobre la naturaleza del observador y de la Autopoiesis", *IV Congreso Interdisciplinario de Cognición y Consciencia*, 2410, Universidad Autónoma Mexicana, Nave Tlaloc.

Observation is mediated by the perceptual apparatus that each system possesses and which can vary from one to the other in accordance with the environment they develop in and from which their species evolved from; this means that although all living systems observe, each does so limited by their own self-organization.¹⁴ To this development one can add Maturana's theorem, "Anything said is said by an observer," and von Foerster's "Anything is said to an observer" to Eckhart's theorems.¹⁵

i. Human Cognition

The great Maturana provides a useful reprise of what I've said so far: "A cognitive system is a system whose organization defines a domain of interactions in which it can act with relevance to the maintenance of itself... Living systems are cognitive systems, and living as a process is a process of cognition. This statement is valid for all organisms, with and without a nervous system".¹⁶

To von Foerster, cognition is equivalent to computing a reality. In the most general sense, computation is a mechanism for ordering, which can take place on two levels: 1) when we wish to make a description of a given arrangement of things, and 2) when we wish to rearrange things according to a certain description.¹⁷ This notion of computation brings forth a tension between what the observer perceives and what he knows, for the first one entails the creation of knowledge according to perception and the second one the recasting of perception according to existing concepts.

This leads to the notion of "Cognition → computing descriptions of a reality." As the observer defines and redefines his boundaries and interactions with his surroundings based on what he perceives and what he knows, cognition becomes an infinite recursion of descriptions of descriptions that ends only when the observer ceases. If computing descriptions is nothing else but computations, cognitive processes are ongoing recursive processes of computation that transform, modify, and in general interact with perceived physical entities (objects) or their representations (symbols).¹⁸

Of these recursive computations one can ascertain three cognitive processes of importance: one of *inference or logic*, where representations are made by differentiating objects from others and assigning them a meaning in relation to the observer; another of *experience or feeling*, where information is used and gained in a process of perception and movement; and another of *identity and consciousness*, where all the different cognitive processes are unified into a single thread.¹⁹ Logic and experience interact in a circular relation: sensory input brings forth the possibility of new signals from which new concepts can be constructed in order

¹⁴ H. von Foerster, *Entendiendo el Entendimiento*, Universidad Autónoma Mexicana, (J. Reynoso, trad.) p. 283.

¹⁵ *Idem*.

¹⁶ Maturana and Varela, *supra*, note 9, p. 13.

¹⁷ *Ibid.*, p. 194.

¹⁸ *Ibid.*, p. 216-217.

¹⁹ Eckhart, *supra*, note 5, p. 105.

to understand them, but at the same time, new concepts determine the way in which sensory input is to be interpreted. At the same time, this cognitive flow is put together by identity in a type of cognition that is called *cognitive coherence*.

This cognitive framework of living systems is the foundation for human cognition, but how is the former distinguished from the latter? Despite both being self-referential by virtue of their recursive computations, reflexive observation has proven to be something exclusive to human beings, who are the only species capable of self-face recognition; this has been used as a measure of higher-order self-processing.²⁰ Berger and Luckmann perfect this observation:²¹

On the one hand, man is a body, in the same way that this may be said of every other animal organism. On the other hand, man has a body. That is, man experiences himself as an entity that is not identical with his body, but that, on the contrary, has a body at its disposal... man's experience of himself always hovers in a balance between being and having a body, a balance that must be redressed again and again.

Because we have an internal representation of all that surrounds us in order to understand it and interact with ourselves, and such interactions have us as the main point of reference,²² one can arrive at the following theorem: “Anything that an observer says, he can say to himself.”²³

b. Basic Cosmological Model

i. Of Archetypes

Archetypes are unconscious repertoires of behaviors that can be accessed by a cognitive system in their interaction with the environment. These are in part what we deem in animals as “inborn behavior” or “built in” into their cognitive system. Human beings, being changed by their reflexive cognition, conceive these repertoires of information in a diverse way. Archetypes have been studied most prominently by the old Earth psychologist Carl Gustav Jung in the realm of personal psychology, but they also have an important cosmological application.

Seen from a subjective perspective, the whole of the unconscious is comprised of archetypes, or primordial concepts and behavior made conscious by a subject and which act as a medium between them and provide frames of action, behavior and knowledge to the observer by means of a dialectical process that results in

²⁰ E. Eckhart, *Cortical midline structures, mirror neurons and their quantum correlate*, in E. Eckhart. *Obra completa*, S. Constantini ed., Tartu Ülikool, p. 99, 2405.

²¹ P. L. Berger, T. Luckman, *The Social Construction of Reality*, 50, (Anchor, 1967).

²² Morin, *supra*, note 8, p. 62.

²³ Eckhart, *supra*, note 5, p. 110.

either concepts or perceptually guided action; they are foundations of human action.²⁴ These primordial concepts are rarely questioned but are reflected in myths, which across time and cultures have many aspects in common, as Jung points out. These rich repertoires of action are autonomous, personal and polysubjective.²⁵

Consciousness can be understood as the unification of all cognitive processes and information into a union of action and understanding by means of cognitive coherence; the unconscious is comprised of concepts, images, experiences, feelings and other cognitive contents that are not being used by the cognitive system. The unconscious can be personal or collective.²⁶ Jung stated that the personal unconscious is formed by repressed or forgotten images, feelings and experiences, while the collective unconscious is comprised of “archaic or—I would say—primordial types; that is, with universal images that have existed since the remotest times.” Archetypes are unconscious content made conscious and assimilated by the culture—and history-bound cognitive system;²⁷ they are the bridge between the collective unconscious and a conscious cognitive system.

The collective unconscious, then, is a repository of behavior and concepts of the whole of humanity, unlike consciousness, which encompasses only a minuscule fraction. Jung states the contents of the former and its relation with the latter: “...it is sheer objectivity, as wide as the world and open to all the world. There I am the object of every subject, in complete reversal of my ordinary consciousness, where I am always the subject that has an object.”²⁸

Both humans and animals have a preformed psych core, which serves as a basis for cognition. Jung speculates on “individual functions, especially those which derive directly from the unconscious predisposition,”²⁹ but I will only abide by the idea of an unconscious basic structure, which can be later filled and reconstituted by means of interaction with an environment.

Archetypes are not information in and of themselves, but rather in perceiving and understanding them, information is created. This process takes place by means of the constant repetition of typical experiences within the psyche, which at the same time is carried out by logical and experienced cognition.³⁰ Archetypes and the collective unconscious are then a series of abstracted objects and actions; that is, they are all possible ideas and behavior (what was, is, will be and could have been) that when we interact with them, we make it a specific type of action. In relation to the observer, then, archetypes are all possible configurations of a specific idea or concept.³¹ Consciousness and unconsciousness are in a continuous feedback loop, where they interfere

²⁴ A. Estevez, *Introducción a la Psicología de C.G. Jung*, Universidad Autónoma Boliviana, pp. 33, 40, 42, 2400.

²⁵ *Ibid.*, pp. 7, 27, 30, 58.

²⁶ *Ibid.*, pp. 3-4.

²⁷ *Ibid.*, p. 4-5.

²⁸ *Ibid.*, p. 22.

²⁹ *Ibid.*, p. 78.

³⁰ *Ibid.*, p. 31, 32, 40, 48.

³¹ *Ibid.*, pp. 43, 44, 58.

and influence one another. The psyche is not homogeneous, as there are emotions, impulses and thoughts (both conscious and unconscious) that contradict each other and which are conciliated by cognitive coherence.³²

Another interesting feature of archetypes is that they exist on a nonlocal plane—outside time and space—and are not located within the brain of the observer. Initial interaction with archetypes then takes place by means of quantum computing and then is made actual by classical computing, both of which can take place in the human brain.³³ An elaboration of archetypes as nonlocal phenomena can be derived from Eckart.³⁴

Despite being acontextual repertoires of action, archetypes make use of the Good Regulator Theorem, which was created by Roger Conant and Ross Ashby, which states that under very broad conditions, the simplest and most effective approach for a controller is to be isomorphic with the controlled³⁵—that is, the best solution to a problem must be a representation of it. Every good regulator of a system must be a model of that system; every good key must be a model of the lock it opens; control implies resemblance, and identical situations imply identical responses.³⁶ Because they presuppose a model of themselves and the observer that makes use of them interacting, this means that archetypes are recursive (they have an archetype of interaction within themselves), which is what gives them their autonomy.

Because archetypes are acontextual, nonlocal repertoires of action that are converted into information by a contextual and localized subject, they process time in a different way than their recipients. Archetypes are condensations, so to speak, of the collective unconscious that communicates it with the conscious, and therefore, the collective unconscious processes time differently as well. Jung states this: “The anima and animus live in a world quite different from the world outside—in a world where the pulse of time eats infinitely slowly, where birth and death of individuals count for little.”³⁷ Finally, archetypes are not repertoires that can be exhausted or fully defined, and this is because they are a body of potentiality that can be defined in many ways and which transcends the context of the observer, although at the same time adapts to it.

³² *Ibid.*, pp. 3-4.

³³ See R. Penrose, S. Hammeroff, “Consciousness in the Universe: Neuroscience, Quantum Space-Time Geometry and Orch OR Theory” in *Consciousness and the Universe. Quantum Physics, Evolution, Brain & Mind*, 36 and 37, (R. Penrose, S. Hameroff, S. Kak, eds.), Cosmology Science Publishers.

³⁴ See also M. Nichols, S. Vinogradoff, “Consciousness and the Quantum Hologram,” *Philosophical inquiries on consciousness*, vol. 35, pp. 935-936, 2012. Reedited by L. Armienta Palermo.

³⁵ R. C. Conant and W. R. Ashby, “Every Good Regulator of a System Must Be a Model of That System,” *International Journal of Systems Science*, 1970, vol. 1., No. 2, pp. 89-97. Found in the library of the Universidad Autónoma Boliviana.

³⁶ D. L. Bolucci, *Comentarios sobre el Teorema del Buen Regulador*, Revista de Informática, 2412, pp.90-93, Universidad Autónoma Argentina.

³⁷ C.G. Jung, *Los Arquetipos y el Subconsciente Colectivo* (Departamento de psicología de la Universidad Autónoma Boliviana) pp. 287, Universidad Autonoma Boliviana, 2400.

ii. *The Universe as an Information Processor*

Having seen all the ways in which living systems process information, we can see that the universe is a local/nonlocal, entangled, parallel information processing system which is made by potential and actuality, and is made effective by the wave function collapse brought forth by observations made by living systems. For this continuum of potentiality actualized by aware observation to happen, it requires certain parameters—time and space are then habits formed by the universe, which in cognitive systems manifest as perceptual mechanisms that allow spatial and temporal reference as survival mechanisms.³⁸

This being stated, the universe is transcendental in nature, in the sense that it goes beyond space and time, but also in that it surpasses the reaches of individual human cognition. It is simultaneously mutually-observing and self-observing. This may sound paradoxical to the reader, but it is the most accurate description at hand for a universe that is in constant movement, change and flow.

This system is self-observing on two levels:

- 1) Living systems are information processing systems that by means of their cognitive processes create information which is stored nonlocally and allows the universe to experience itself from a subjective perspective. This may be called substantive self-observation.
- 2) The universe is formed in part by self-observing systems, which can be called formal self-observation.

At the same time, it is a mutually-observing system on two levels:

- 1) Some of the living systems that form part of it mutually observe each other acting as social units. This is formal mutual observation.
- 2) From the perspective of the observer, one collapses the wave function of the universe that turns possibility into actuality and thus brings forth reality. This is substantive mutual observation.³⁹

The universe is a flow of consciousness, understood as information created by cognition and the collapse of the wave function made by aware observers, of which living systems are a part. It feeds back to itself and is a consequence of the relationship between the observer and the observed, between the knower and the known. This can be summarized in a very interesting way by manipulating a quote by Piaget (“The mind organizes the world by organizing itself”) and stating it as a theorem: *The mind organizes the universe by organizing itself, while the universe organizes itself by organizing the mind.*⁴⁰

³⁸ Eckhart, *supra*, note 5, p. 108.

³⁹ *Idem*.

⁴⁰ *Ibidem*, p. 110.

iii. Time and Matter

Old-Earth philosopher Henri Bergson conceived consciousness as a continuous flow of change, which is temporal, ever-renewing and creative. He goes so far as to state that consciousness is time, and vice versa, and that thought is a subjective experience. This idea of experienced time is denominated *duree* (duration).⁴¹ It is the indivisible convergence of many and one, an ongoing and changing temporal flux of awareness. In the words of Barnard: "...it is a flowing that is ever new and always unpredictable; it is the continual, seamless, interconnected, immensurable movement of our awareness, manifesting, simultaneously, as both the knower and what is known."⁴²

Subjective and measured time are not synonymous: the former is a series of states of consciousness that flows, and experienced time that cannot be measured, but felt; the latter is a measurement of a uniform external process that can be measured and distinguished into definite and distinct units that follow one another in a linear succession. One is quantitative, the other qualitative.⁴³ To him, time is not unified, and reality does not take place in a single dimension: there are a multiplicity of them manifested as planes of experience and levels of reality that possess a unique and changing temporal rhythm. Also, Bergson does not see matter and duration as two different things, but envisions the former as something similar to the latter and concludes that the external world is not split into atomistic parts, but rather is a dynamic, flowing, interconnected continuum of processes. In other words, reality is a shifting, converging and interacting field of different patterns of *duree*.⁴⁴

Consciousness and the physical world have several things in common: 1) They are dynamic systems; 2) they do not have clearly defined boundaries; and 3) their components overlap, interpenetrate and remain distinct.⁴⁵ If one understands that both time and space take place as a set of possible states that are later made into one by conscious observation, then one can believe that the foundational matter of the universe is consciousness. If conscious observation brings forth reality by means of the collapsing of a wave function, the universe at first existed as a series of potential universes that collapsed into one the moment one of them developed an observer and after this, there was a retrocausation of its history before the collapse. Furthermore, if a system is not observed, it develops a series of possible states that have a history of their own, and when one of them is made actual, its development is caused by the observation as much as the development that it had as a potential state.

What became actual in this primordial collapse, along with the history that was retro-caused by the collapse, was the universe—a total information processing system that functions on quantum entanglement,

⁴¹V. Florenzi, *Metafisica Bergsoniana e cognizione*, Università Lombardiana, Astronave Lombardia, p. xxviii, 2375.

⁴² *Ibidem*, p. at 6.

⁴³ *Ibidem*, p. 28.

⁴⁴ *Ibidem*, p. xxix, xxx

⁴⁵ *Ibidem*, p. xxx

nonlocality and the coherent emission/absorption of photons—which stores information on a zero-point plane (an archetype).

Consciousness functions as a loop: when the observer collapses the wave function they do so by means of aware observation, which is the processing of information, and brings forth an actuality, which is understood within an internal framework of information. At the same time, the observer that brings forth the actuality is part of an information processing system made of condensed consciousness, besides being a processor themselves, and part of the potentiality that collapsed into actuality.

c. Integrative Model

i. *The Actualization of the Universe via Living Systems*

The universe is an information processing system that is objective, subjective and polysubjective; it appears to be an evolving, adaptive system that utilizes information to organize itself and to create ever-increasing levels of complexity. All living systems are a part of it and cannot be separated from it, nor can they avoid being interconnected with it all. This system appears to have bootstrapped itself into existence and uses sentient beings to know about and experience itself, and in a sense, the latter are able to influence its evolution.⁴⁶



On the spaceship Lombardia, Catholic priest and Doctor of Biology, Vitaliano Altovito, posited a biocentric theory of the universe that echoed theories from Old Earth and which departed from the fact that the laws of the universe are fine-tuned to support life. Thus, the universe is designed for life at all levels because what brings it forth from a state of probability to one of actuality is the existence of the observer.

⁴⁶ Nichols, Vinogradoff, *supra*, note 34, p. 962.

Deprived of conscious observation, matter would exist only in an undetermined state of probability, so the universe preceding consciousness would only exist as a series of possibilities.⁴⁷

Living systems then have a cognitive system that uses both quantum and classical computing to help collapse the wave function and bring forth an actual material state. This could be called the “Gaia principle,” which summarized means that without life, the universe cannot exist as actuality, but rather as a possibility.

The collapse of the wave function takes place by means of an interrelation of quantum and classical processes as a choice between existing possibilities; this can only come from awareness, because it implies a subject-object split that comes to be through the subject considering itself to be separate from the objects of experience by means of a self-referential choice that is illusory, as consciousness is a continuum.⁴⁸

All information processing relates within a system in which there is no hierarchy, but rather a tessellation of different types of cognitive processes and agents that range from conscious to unconscious. This means that the universe is a producer of living systems and at the same time is produced and maintained by them as they observe. Put in the simplest of terms: everything small is just a small version of something big. At all levels, the universe is an information processing system and can be studied as a whole by means of that feature. All this can be summarized by the following theorems:

- “Anything that happens does so before an observer”
- “Anything that happens does so because of an observer”
- “Anything said is said by an observer”
- “Anything said is said to an observer (by another)”
- “The mind organizes itself by organizing the universe/The universe organizes itself by organizing the mind.”

i. Circuits of Consciousness

Now that the little picture was brought forth through the explanation of cognition, and the big picture by explaining the universe as an information processing system, I will make a “middle” picture, partly through making a model of human cognition that accounts for quantum computing with the universe, both as the interrelation of humans with archetypes and with the collective unconscious. A very useful framework

⁴⁷ V. Altovito, *Teoría biocéntrica dell’Universo*, Università Lombardiana, Astronave Lombardia, p. 81-83, 2375.

⁴⁸ G. Ravichandran, *The Universe as a transcendental information processing system*, Victor Travail et Fils, 1992, pp. 64, 73; G. Ravichandran, *A philosophical framework for the integration of science and spirituality*, Victor Travail et Fils, 1995, pp. 27, 30.

for the achievement of this endeavor is the Eight-Circuit Model of Consciousness, posited by Dr. Timothy Leary, a psychologist of the Earth-That-Was who advocated the usage of psychedelic drugs, both in recreation and psychological treatment.⁴⁹

Although considered a “quack” and a “pseudo-scientist” by many, his ideas fit perfectly within the framework I have given. Inspired by first-order cybernetics, he talks about eight “circuits” that work within the human nervous system, making a sub-classification between the first four circuits (which he calls “larval” or “lower,” and deal with normal human psychology) and the latter four (which he calls “stellar” or “higher,” and are concerned with altered states of consciousness and mystical experiences).⁵⁰

Although in the working of the human nervous system, classical and quantum computing are closely correlated, it can be observed that in the functioning of the lower circuits, classical computer is predominant, whereas the quantum computing aspects of the human brain are more dominant in the second set. The circuits are the following:⁵¹

1. *Oral biosurvival*: This circuit is concerned with the self-organization of living systems: nourishment, physical integrity and all aspects related to adaptation and survival. It represents the most basic form of self-referential computation, Morin’s “*computo, ergo sum.*”
2. *Emotional-territorial*: It is concerned with generalized animal behavior, such as domination, submission and the assertion of a territory.
3. *Symbolic or neurosemantic-dexterity*: It is related to general sign-processing, and in the case of humans, with abstract symbol systems, namely language. It is also concerned with a larger capacity for abstraction and conceptualization, as language, as told by Piaget, brings forth reflexive behavior—that is, having a body at one’s disposal vis-à-vis being a body. This circuit’s contents can be preserved and transmitted as culture.
4. *Domestic or socio-sexual circuit*: It is concerned with sexual pleasure and the values that comprise the operation of social systems: morality, fairness, legality, and others.
5. *Neurosomatic*: It is concerned with feelings of well-being and consciousness of the body and its health.
6. *Neuroelectric or metaprogramming*: It is related to the reprogramming of earlier circuits and of the subjectivity of reality.

⁴⁹ V. Florenzi, *Una ricostruzione della psicologia di Timothy Leary come un sistema filosofico*, Astronave Lombardia, p. 35-42, 2384.

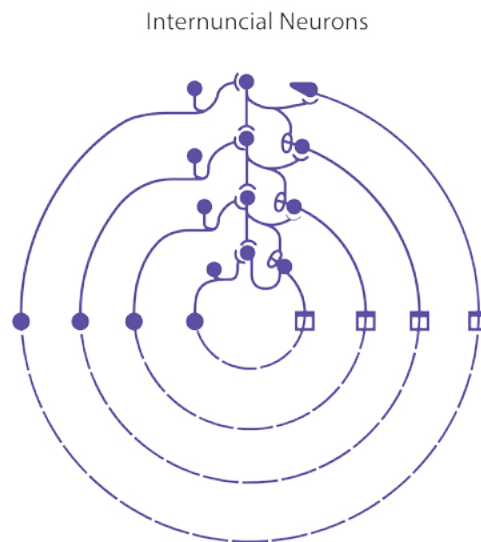
⁵⁰ *Ibidem*, pp. 44-45.

⁵¹ *Idem*.

7. *Neurogenetic or morphogenetic*: It involves the connection of the individual’s mind to the experiences of previous generations, as well as memories of past lives. It is the circuit that relates to the collective unconscious described by Carl Jung.

8. *Psychoatomic or quantum nonlocal*: This circuit delves into broad-scale consciousness—that is, awareness and the exchange of information with the collective unconscious and the universe. It also involves nonlocal awareness such as information exchange in memories and archetypes and, some argue, illumination and alike experiences such as near death experiences.

In my understanding of things, Leary (or what little of his material survived), his successors and his commentators had a very simple grasp on these circuits and their operation. Allow me to explain why this is so: first, the circuits are understood in a linear way, and comprise a hierarchical relation in which one is higher than the other, and they rarely feedback. Rather, they function as a heterarchy, which is a form of organization where there are no hierarchies and the elements can be ordered in differing ways, according to the circumstances; the precise definition varies across fields, but the term was created by cybernetic and cognitive science pioneer Walter McCulloch in his 1945 paper, “A heterarchy of values determined by a topology of nervous nets,” in which he demonstrated that the human brain was not organized in a hierarchical way. Being based on first-order cybernetics, I am surprised that the aforementioned circuits are not ordered this way. Allow me to give an example of a heterarchical neural circuit:⁵²



Second, circuits are in constant feedback with one another. This is addressed somewhat by the fact that there are two groupings of circuits: larval and stellar. The fact remains that the continuous feedback between

⁵² Warren. S. McCulloch, “A heterarchy of values determined by the topology of nervous nets” in S. Constantini, *Textos Básicos de Cibernética*, Universidad Autónoma Mexicana, 2403.

circuits is not fully addressed, especially that which is between the eighth and first circuit. The latter consists of any instance where an observer chooses from a repertoire of possible actions and brings one of those into actuality—that is, the actualization of the archetypes. Interaction with nonlocal memory is another instance of the interaction between the first and eighth circuits. This all means that the organization of the consciousness circuits is circular.

Another important aspect to bring forth is that the role of the eighth circuit is greatly exaggerated. The eighth circuit consists mostly of the interaction between the cognizing subject and nonlocal repertoires of action and information by means of quantum computing in their brain processes. The enlightenment aspect brought forth and emphasized by Leary is only a facet of it, and it does not have a primordial role in this circuit.

Related to this aspect is the fact that circuits are in constant use. They are not “awakened,” but rather have a conscious or unconscious usage. Leary and his followers only recognize the conscious usage. The feedback between circuits and the subsequent creation of circuits of circuits, which we dub “supracircuits,” is an ongoing process that only ends when someone dies.

Supracircuits are important because they comprise larger, important activities that the whole cognitive circuitry carries on. There are three main ones: *a) larval*, which comprises circuits 1-4 and consists of regular psychological behavior, and within which classical computing is very predominant; *b) stellar*, which comprises the interaction of the observer with the universe by means of quantum computing, and gathers circuits 5-8; and *c) bridge*, which consists of higher reflexive cognition brought forth by meditative practice, which engages circuits from higher and lower supracircuits and operates in a dynamic equilibrium between quantum and classical computing.

Some of the observations that I make are based on my practical experience in the development of spiritual technology. Working with the circuits and their conscious acknowledgement (their “activation”) is vital for a Spiritnaut, and thus, mental fortitude is practiced by means of meditative practices, breathing exercises and physical conditioning. To use the conscious circuits to their full extent requires constant practice. Although we recognize and sometimes use psychedelic drugs for psychological therapy, we do not use them to practice with our circuitry, but instead rely on training and sheer will.

ii. Spiritual Energy and Its Usage

1. Aether

During the exposition of my cosmological framework, which emphasized information processing at different levels, I did not touch on more physically-oriented subjects. This is in part because it would yield a piece more unwieldy than it already is, and also because this change in paradigm in which we have engaged in since *Invasor* and *Nishikado* left their mark on our world has many unresolved aspects that we are tackling as fast as we can, with the available resources.

This being said, I will only limit myself to talking of aether and chi and will withhold my efforts to explain other aspects of the physical universe for some other occasion. One of the benefits of being attacked by the unexplainable is that it led us to overlooked or ignored frameworks that offered a conceptual richness that was mostly rejected due to it not fitting in with the existing scientific narratives.

A very long time ago, there were several theories in physics that attempted to explain the propagation of electromagnetic or gravitational forces in space. The concept of aether (from the Greek word αιθήρ) states the existence of a medium or a substance of sorts that carries out that function. Since the development of relativity, these theories fell into disuse, but now, we are giving them a second lease on life.

In developing aether, one of our points of departure is the notion that atoms are made of 99.99999% empty space and are kept in a coherent form by virtue of electrostaticity. However, this idea is somewhat misleading because although all particles are point-like—that is, they have no volume—it does not mean that they are entirely empty space. On a nanoscopic scale, all particles have a wave function that describes where a given particle is as probability. When an electron is in an atom, its wave function is spread out over that volume; the electron has no volume, but is spread out over a relatively big volume. The same can be said for protons and neutrons inside of nuclei, and quarks and gluons inside of protons and neutrons.⁵³

However, this spreading out is not total and thus, what flows between it is the aether. The latter is a medium for propagation, electromagnetism, gravitation and—some say—other unaccounted physical influences. It fills the “vacuum” of space, but also goes through the “emptiness” of matter, and thus helps the propagation of the basic forces of nature and holds the universe together. The existence of aether also gives us some notions on the nature of space: the latter is not sheer emptiness, but rather is filled with this transparent conductive substance.⁵⁴

2. *Qi or Vital Energy*

We have accounted for the role of aether in permitting the transmission of the basic forces of nature through space and matter, but we have only done so by accounting for what is inert. When aether flows to, through and from living systems, there is a mutual affectation taking place. Part of the energy that living systems possess is derived from metabolic processes that change matter taken from the environment into their own components in order to continue existing as a self-referential entity, but some of that energy derivation takes place by absorbing what is transmitted through aether and changing it into energy. This is partly what *qi* is.

The notion of *qi*, or vital energy, is derived from the ancient Chinese culture of Gaia-Earth, and pertains to the acting element that is an essential part of any living system. It has been understood in many ways: as

⁵³ J. A. Pacheco Alcazar, *Teoría del Eter Relativístico*, pp. 25-30, Universidad Autónoma Peruana, 2000.

⁵⁴ *Idem*.

“vital energy,” a “flow of energy,” “life force” and a “stream,” and it has equivalents all through Eastern and Western cultures and belief systems of the ancient Earth.

Through the seminal work of Constantini we came to understand that qi, otherwise known as vital or spiritual energy, is a mixture of energy generated by the organisms and energy captured from aether. These two flows of energy, which unify into one, possess an intimate interrelation: you need to generate organic energy in order to capture and bind aetheric energy, and you need the latter in order to carry out life processes in an orderly manner.

Qi also has a close relationship with the circuits of consciousness, as greater awareness of the universe increases aetheric energy retention. Thus, Spiritnauts are people who have a natural talent and disposition for retaining and wielding spiritual energy by means of their body and the natural energy pathways that everybody possesses. This is all very similar to the popular concept of “The Force,” save for the fact that it has no light or dark nature, but rather is a reflection of the person who wields it and how they make use of their spiritual energy and circuits. Also, further research has revealed that the two quartz-like moons that Paris-Earth possesses resonate in an unquantified manner that allows for the easier usage and manifestation of the spiritual.

iii. Thoughtforms and Spiritual Projections

In Indian and Tibetan Buddhism there have been mentions of the capacity for projecting energy into a reflection of oneself or into the creation of other entities. The *Samaññaphala Sutta* talks about it as *manomāyakāya* (mind-made bodies).⁵⁵ It has been stated by many texts and commentators to be the consequence of leading a contemplative life, which is why some attributed to Gautama Buddha the ability to travel into heavenly realms using the *bodhi*. The multiplication of his *nirmita* (emanation body) into countless others was also explained in this way.⁵⁶

Nirmitas were attributed to a psychic power developed through contemplative and concentrative discipline; buddhas and other higher beings could project several *nirmitas* in different forms and realms. In Tibetan Buddhism and Bon, these manifestations were defined as *tulpa* and were considered to be hallucinations, as all reality was; these were later defined as “thoughtforms” in Western mystical traditions of Gaia-Earth.⁵⁷ In some strands of Tibetan Buddhism and in Western mysticism one could even create *tulpas* not as manifestations of oneself, but rather as separate entities either by individual or collective effort.⁵⁸

⁵⁵ R. Kidder Reynoso, *Interpretaciones del Patisambhidamagga y Visuddhimagga*, Universidad Autónoma Peruana, p. 54, 2400.

⁵⁶ *Idem*.

⁵⁷ R. Kidder Reynoso, *Budismo Tibetano, Zen y Bon*, Universidad Autónoma Peruana, p. 35, 2400.

⁵⁸ *Ibidem*, p. 62.

In studying these ideas, Constantini posited the possibility of thoughtforms being a form of holographic information processing, which would be something intermediate of the processing of information by living systems and the universe with its archetypes. Constantini pioneered the creation of the Spiritnaut system, in which people could condense their spiritual energy into a projection of their own body that has a spiritual form. Because the thought monsters are condensations of energy with a specific form and purpose (whether they are projections is something that is still being ardently debated), the only form to countervail them adequately was fighting monsters with monsters, and thus there was the need for spiritual projections.

3. The Spiritnaut System

a. Overview

Spiritnauts are people who have a natural proclivity towards the usage and collection of spiritual energy, and are trained to project said energy into a thoughtform that can change density in order to affect matter or go through it. This physical form is called “corporeal” to denote the fact that said energy is condensed into a coherent projection of the body that wields it. These tend to be around 40 meters in size and to acquire a coherent form they need what we call an imaginative prototype: a fictional design used by the pilot in order to shape the energy. All of the cosmological and cognitive explanations given to the reader so far coalesce into this whole process.

Spiritual energy has several properties: form, intention and emotional content. Energy projection is a dynamic in which collected energy is channeled by a subject through an idea and machinery into a corporeal form, and thus requires clearness in the three elements. The process of projecting energy is physically and psychologically taxing for the pilot and thus, a corporeal form can be maintained for no more than 30 minutes. This is because the pilot strains his or her capacity for collecting energy and projecting it into a coherent form.

Furthermore, a pilot can also project their energy and condense it into a weapon, in order to increase their chances of effectively attacking and neutralizing thought monsters. Because they are not part of the human body, weapons present a particular series of obstacles: first, a weapon form needs to be created in addition to a corporeal form, but this process requires a weapon prototype, a physical replica of the used weapon made out of materials that can conduct this type of energy.

This means that a weapon has to be designed and the pilot needs to be very proficient in its handling, but it also means that he or she has to imbue it with his or her own energy in order to make it possible to project spiritual energy. Weapon form echoes corporeal form in the sense that both require a physical element: the weapon prototype in the former and the body of the pilot in the latter. However, the former aspect is simpler in its implementation than the latter, as the human body presents a series of spiritual and physical intricacies that a mere weapon does not possess.

b. Pilots

i. Type

As far as the development of the Spiritnaut system has taken us, weapon and corporeal forms are untenable without a secondary energy source that comes from a type of pilot called the *support*. Thus, pilots are grouped in three's: two *strike pilots*, who engage in offensive action against thought monsters, and one *support* who stabilizes their energy form and provides the surplus needed for weapon form.

Psychology plays a strong factor in piloting and also in the nature of the pilot: Supports usually have a stable personality that is both extroverted and introverted, creative and analytical, while offensive pilots are either centered on a strong-willed, emotional personality or a cool and controlled one. Teams usually have an analytical pilot who provides structure, an emotional one who gives proportion to the structure, and the support who harmonizes both as they have elements of both. This is called the Order-Balance-Harmony principle.

The support pilot usually adheres themselves to the back of one of the strikers in a corporeal form that is of a much lesser size than that of the strikers. This routine is colloquially called "Riding Backpack" (*Andar de Mochila*). The reason why support pilots must have a corporeal form is that the simplest and most efficient way to regulate the energy flow of other corporeal forms is to do it with a model of the form to be regulated—that is, to solve a problem, the answer must have a model of the problem within itself. This is an extension of the Good Regulator Theorem.

In regulating their energy flow and that of the offensive pilots subject to their charge, support pilots set a series of parameters that involve personal knowledge of the pilots involved, but also a series of measures derived from experimental data and performance footage from pilots of the first and second generations.

Every support pilot has to establish a stable state (homeostasis), a state of dynamic equilibrium where there is fluctuation but form is tenable, and a state where there is too much fluctuation and corporeal form is untenable. Once these parameters are set, the support pilot has to give (positive feedback) or take (negative feedback) the energy of the fighters in order to keep them in a variation of stable and complex states.

ii. Training

When not in active rotation, pilots have to follow a rigorous physical routine to ensure they are in peak condition, as well as a detailed, customized nutritional regime, both of which maximize the energy-capturing capacity of the pilots. Mental health is constantly monitored, and a strict meditative regime in which every circuit of consciousness is adequately exercised is also in order.

Furthermore, pilots are constantly engaging in combat training with other pilots, as well as with thought monster simulations made of AI created from existing footage and condensed energy, in order to

maximize their response capacity, reflexes, teamwork and improvisation. Each pilot specializes in a different array of martial arts in order to develop a style and techniques of their own, attempting to change constantly so as not to be predictable and vulnerable to enemy strategy and adaptive behavior.

Retired pilots tend to be involved with the training of new ones, as well as their daily workout and maintenance. They function in both a consultative capacity, and as a sparring partner, whenever health permits.

c. Equipment

The equipment used by the Spiritnauts consists of 1) a thin, membrane-like suit that possesses circuitry that helps channel spiritual energy, and 2) an internal robe made of silk from some native worms of Paris-Earth. There is also 3) a suit of armor similar in design to that of ancient samurai warriors', made of light, transparent plates of resin encased in a silver-like substance that weighs around 4 kilos. The latter two layers function as protection.

To manifest corporeal form, the pilots use a spherical mechanized unit that contains a quantum computer, a crystal that stores spiritual energy and another that helps refract energy into corporeal form. A chamber contains a throne-like seat for the pilot, where they enter a deep meditative state where energy is produced and channeled into shape. When weapon form is used, the required weapon is levitated from a nearby rack by the pilot to their side and is used with the extra energy of the support pilot.

d. Combat Situations

When fighting, a strike pilot has to be mindful of many things, both internal and external to themselves. Internally, one has to focus on the form, the fluctuation of the energy flow and the energy remaining. All pilots have a limited energy reserve that translates into a certain number of minutes in corporeal form. If there is a strong fluctuation in energy and the pilot loses either corporeal or weapon form, part of the overall energy is spent reestablishing form and thus, precious minutes are lost. Here lies one of the most important functions of the support units, as they give or take energy to and from the strike units in order to keep levels and forms stable.

Emotional distress can lead to loss of form and thus, pilots are trained to be intense in their energy channeling, but at the same time to give no emotional content to the latter, so as not to lose oneself in a tide of emotions and lose focus. Loss of shape, be it corporeal or weapon-based, can be total or partial.

Externally, pilots have to be mindful of their surroundings in order to keep the fight away from populated areas; the protection of human life is paramount and it must take place at all costs. Another thing to take into consideration is the number of hostiles, as sometimes attacks take place in small groups. The classification of the thought monster is also important: they can range from Type 1 (25 meters) to a hypothetical Type 5 (50+ meters), and with height there is also variation in the energy density of each hostile.

Finally, the offensive features of the monster have to be taken into account, as they might be vulnerable or strong against one's specialty as a pilot. For instance, a heavily armored thought monster is going to be effective against a pilot who specializes in concussive or slashing weapons, but has no way of going through the thick plating without getting hit.

e. Spiritual Injuries

Of course, when one pits in battle two masses of condensed spiritual energy, injuries are abound, even though the notion seems somewhat counterintuitive at first. On the side of thought monsters, they are highly condensed spiritual energies that apparently come from Paris-Earth, that also *think* themselves into the shapes they take. This concentration inhibits them from regenerating their form easily and because they are based on lifeforms, they follow the same rules in combat and thus can be "killed," which in reality means that they lose their condensation and disperse back to the planet as aether and information.

On the side of the humans, because the nervous system is used to project the spiritual form, any damage sustained by the latter reflects upon the former. To some extent, damage can be rehabilitated, but as age and wear settle in, such impacts ultimately reflect on the body's capacity to retain and project spiritual energy. Also, if the thoughtform has a limb severed in battle, it cuts off the flow of energy and begins a process of atrophy. Furthermore, "death" in spiritual projection leads to that of the subject.

In the case of nerve damage, spiritual energy condensation can be fused to the nervous system with the purpose of rehabilitating it, but at best, limited sensation and mobility are achieved.

CONCLUSION: THE BURDEN OF BEING A SPIRITNAUT

Spiritnauts are subjected to immense amounts of stress: failure or mistakes can have a life toll, which is hard to get over and affects oneself emotionally and thus affects future performance. Constant physical training and work also tend to burn pilots out. We are taught to operate on deficits: when we start as pilots we are in the best physical and spiritual shape we will ever be in, and from there a process of decay and wear will take hold and by the time you retire (if you manage to get there) your health is in a very diminished state.

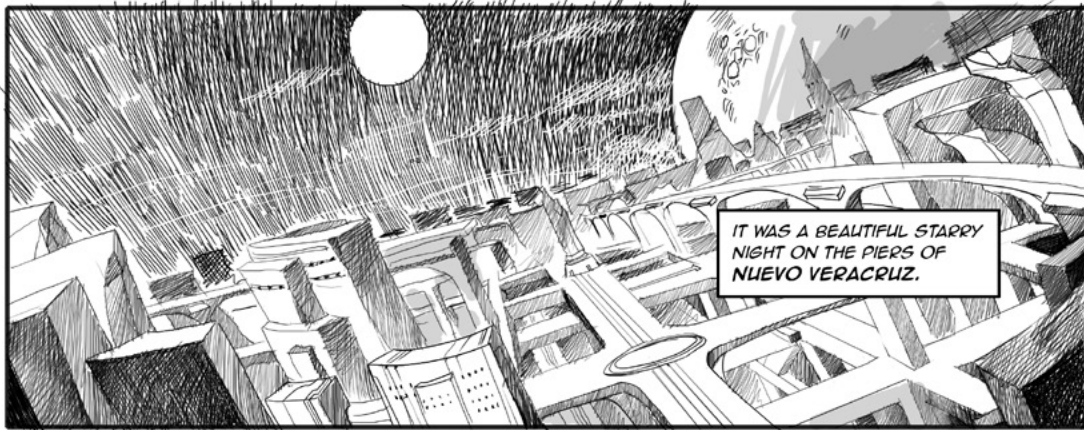
In forming teams, we create bonds of friendship with our fellow pilots and losing one of our brethren is never easy. Some of us, like myself, have family who are also pilots: my maternal uncle was a first-generation pilot who died while on a joint mission, and my youngest brother is a third-generation support pilot. Like a matchstick, we shine brightly, but we burn out fast.

Finally, spiritual injuries not only leave a lasting physical effect, but also have psychological implications. There has been a correlation between an amount of injuries with the onset of depression, dementia, schizophrenia and other forms of mental illness. One of the most notable examples of this came with a first-generation pilot who lost his right hand in combat and despite efforts to treat him, he felt that his appendage was “no longer his” and decided to amputate it. Later this year, after two years of harsh depression, he succeeded in taking his life.

These are the woes of the Spiritnauts, which I am stating here not to inspire pity or to impress the population, but to express on behalf of the whole Division and the people involved, the extent of the sacrifice we are willing to make for the benefit of the millions of persons who form a part of the United Republic.

Personally, notwithstanding these difficulties, if presented with the chance of repeating this course in my life, I would gladly do it again.

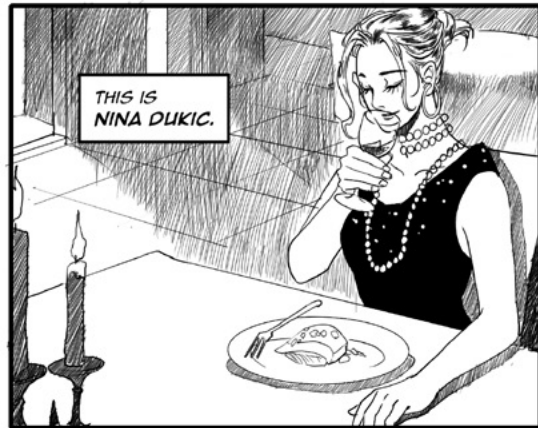
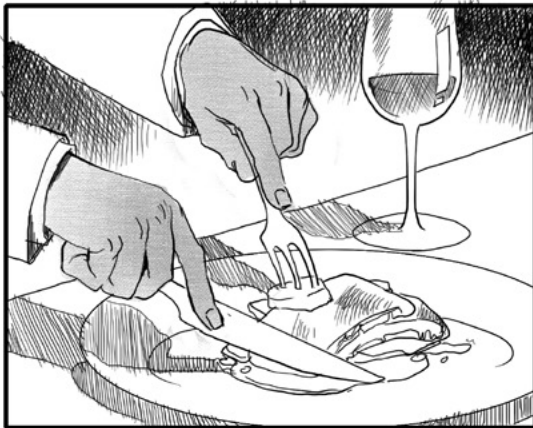
BEASTFIGHT AT DINNER TIME



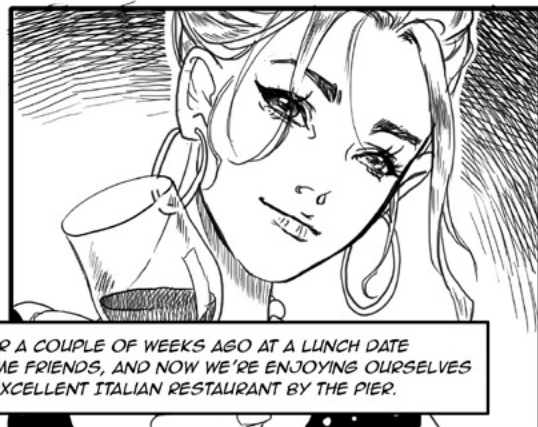
IT WAS A BEAUTIFUL STARRY NIGHT ON THE PIERS OF NUEVO VERACRUZ.



THERE WERE NO CLOUDS IN THE SKY AND BOTH MOONS WERE SHINING SPLENDIDLY, VYING FOR OUR ATTENTION, JEALOUS OF ONE ANOTHER AND OF THE STARS.



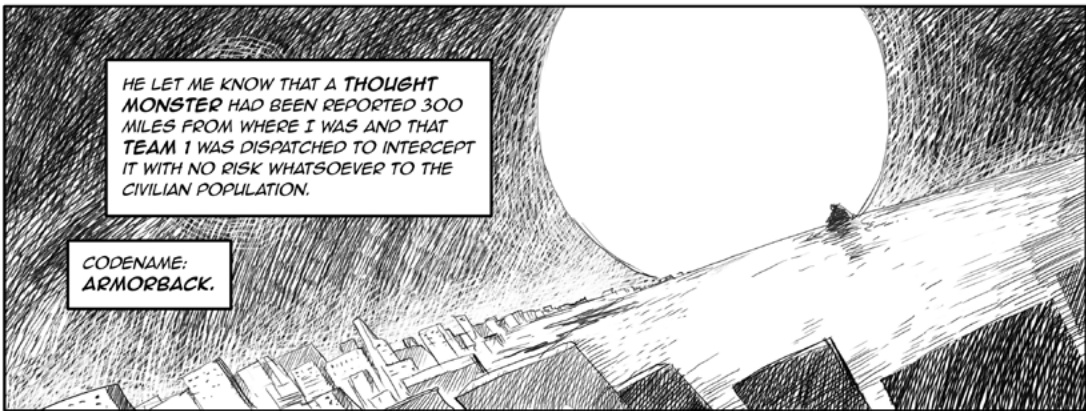
THIS IS NINA DUKIC.



I MET HER A COUPLE OF WEEKS AGO AT A LUNCH DATE WITH SOME FRIENDS, AND NOW WE'RE ENJOYING OURSELVES AT THIS EXCELLENT ITALIAN RESTAURANT BY THE PIER.



TODAY WAS MY DAY OFF AND BUCHI -- MY SECOND-IN-COMMAND AND BEST FRIEND -- WAS MANNING THE OPERATIONS ROOM.

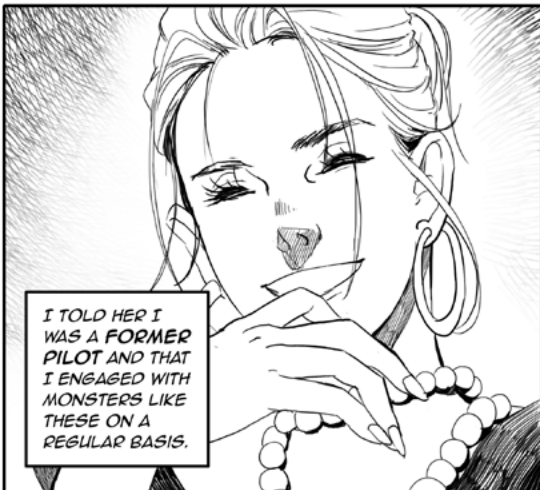


HE LET ME KNOW THAT A THOUGHT MONSTER HAD BEEN REPORTED 300 MILES FROM WHERE I WAS AND THAT TEAM 1 WAS DISPATCHED TO INTERCEPT IT WITH NO RISK WHATSOEVER TO THE CIVILIAN POPULATION.

CODENAME:
ARMORBACK.



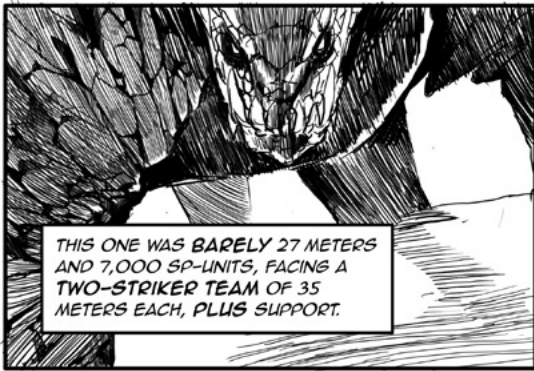
FROM THE COORDINATES THAT BUCHI GAVE ME OF THE MONSTER AND ITS DIRECTION, I REALIZED THAT IT WOULD BE IN THE HORIZON BEFORE US -- ALTHOUGH AT A GREAT DISTANCE.



I TOLD HER I WAS A FORMER PILOT AND THAT I ENGAGED WITH MONSTERS LIKE THESE ON A REGULAR BASIS.



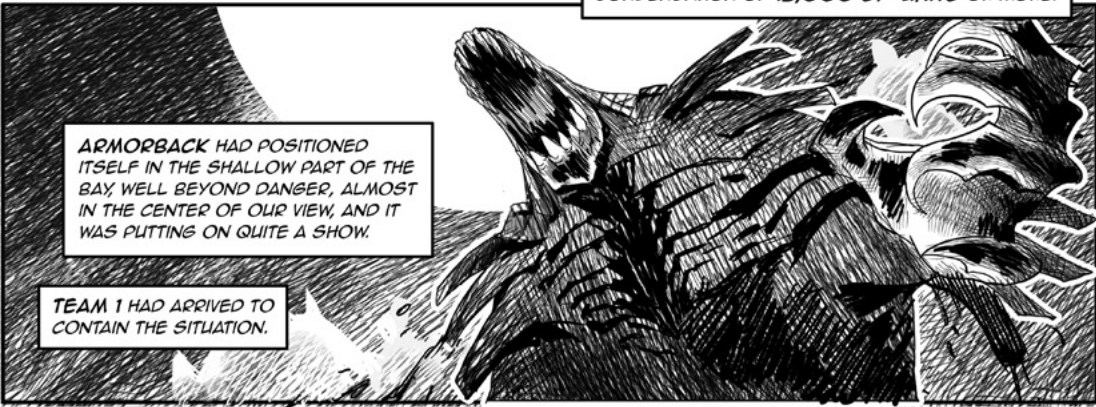
I WAS EXPLAINING TO HER MY WORK AS THE HEAD OF THE SPIRITNAUT DIVISION...



THIS ONE WAS BARELY 27 METERS AND 7,000 SP-UNITS, FACING A TWO-STRIKER TEAM OF 35 METERS EACH, PLUS SUPPORT.

THERE WERE A COUPLE OF STRANGE THINGS IN THE SPECS: A TYPE 1 MONSTER, ALL BY ITSELF AND WITH NO BACKUP.

OUR BREAD AND BUTTER AS OF LATE WERE TYPE 3'S, WELL OVER 35 METERS AND WITH A SPIRITUAL CONDENSATION OF 12,000 SP-UNITS OR MORE.



ARMORBACK HAD POSITIONED ITSELF IN THE SHALLOW PART OF THE BAY, WELL BEYOND DANGER, ALMOST IN THE CENTER OF OUR VIEW, AND IT WAS PUTTING ON QUITE A SHOW.

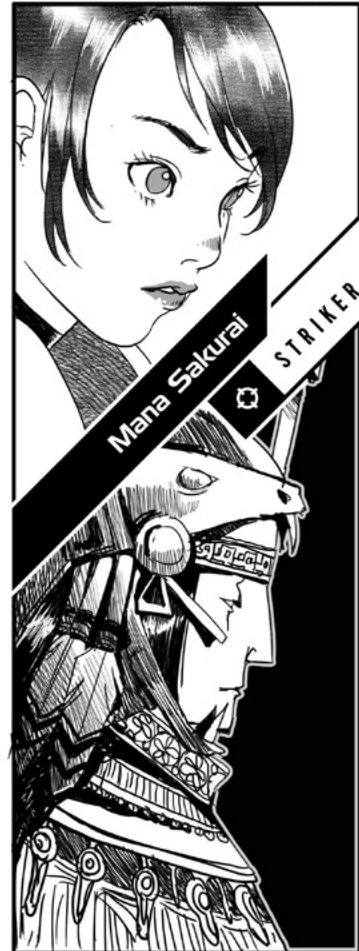
TEAM 1 HAD ARRIVED TO CONTAIN THE SITUATION.



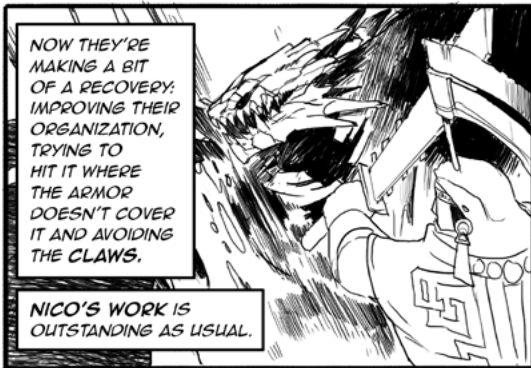
Meztl Texcatt Blanco STRIKER



Nicolas Armienta Palermo SUPPORT



Mana Sakurai STRIKER



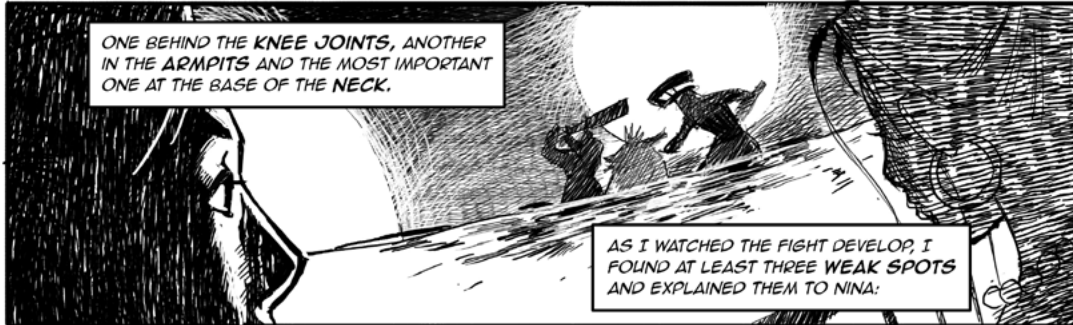
NOW THEY'RE MAKING A BIT OF A RECOVERY: IMPROVING THEIR ORGANIZATION, TRYING TO HIT IT WHERE THE ARMOR DOESN'T COVER IT AND AVOIDING THE CLAWS.

NICO'S WORK IS OUTSTANDING AS USUAL.



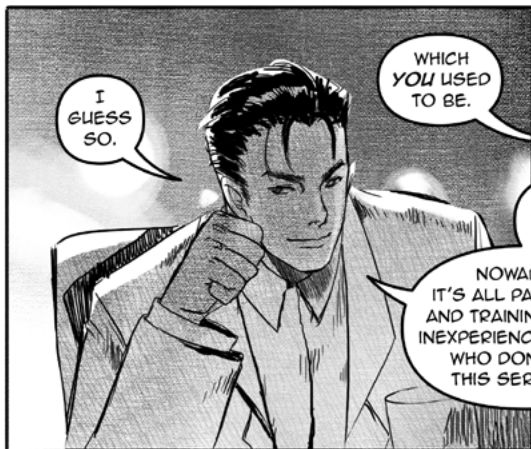
THE MONSTER DICTATED THE RHYTHM OF THE FIGHT.

MEZTLI GOT IMPATIENT AND RUSHED IN, AND MANA BACKED HER UP.



ONE BEHIND THE KNEE JOINTS, ANOTHER IN THE ARMPITS AND THE MOST IMPORTANT ONE AT THE BASE OF THE NECK.

AS I WATCHED THE FIGHT DEVELOP, I FOUND AT LEAST THREE WEAK SPOTS AND EXPLAINED THEM TO NINA:



I GUESS SO.

WHICH YOU USED TO BE.

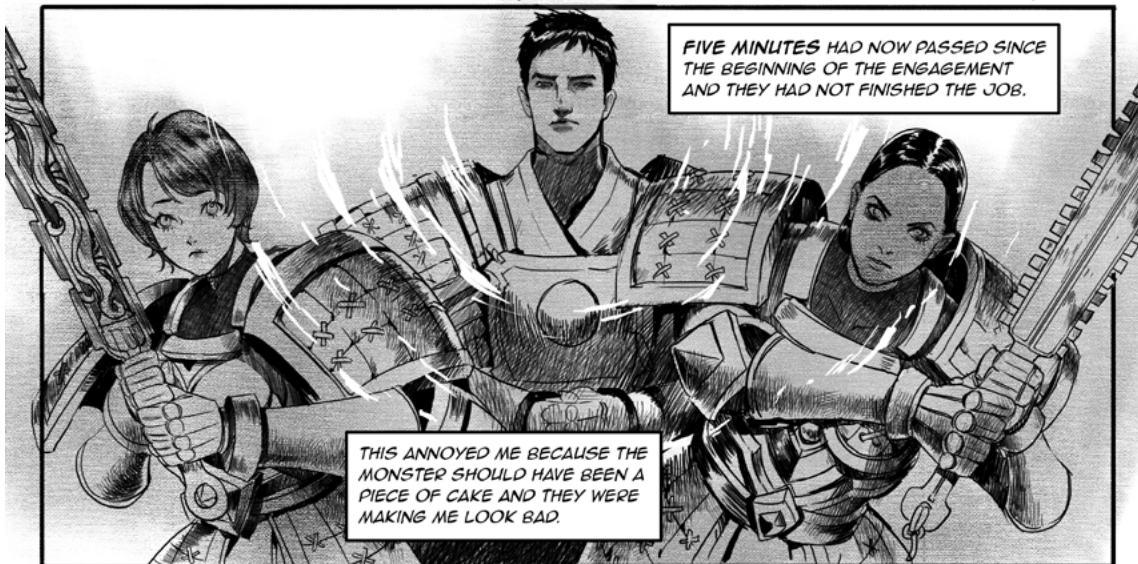
IT USED TO BE MORE EXCITING.

NOWADAYS IT'S ALL PAPERWORK AND TRAINING YOUNG, INEXPERIENCED PEOPLE WHO DON'T TAKE THIS SERIOUSLY.



YOUR LINE OF WORK IS SO INTERESTING, FIGHTING GIANT MONSTERS FOR A LIVING.

YOU ALREADY KNOW WHERE TO HIT IT JUST BY LOOKING AT IT.

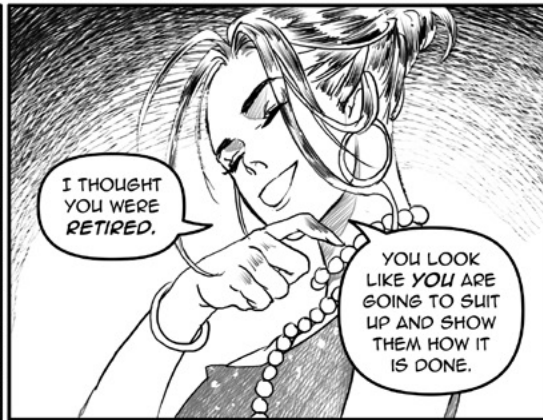


FIVE MINUTES HAD NOW PASSED SINCE THE BEGINNING OF THE ENGAGEMENT AND THEY HAD NOT FINISHED THE JOB.

THIS ANNOYED ME BECAUSE THE MONSTER SHOULD HAVE BEEN A PIECE OF CAKE AND THEY WERE MAKING ME LOOK BAD.



I KEEP UP THE EXERCISE REGIME AND THE DIET TO ACT AS A *BACKUP*, BUT I CAN ONLY PLUG IN FOR 13 TO 15 MINUTES, COMPARED TO THE AVERAGE 30 MINUTES THAT A STANDARD PILOT CAN.



I THOUGHT YOU WERE RETIRED.

YOU LOOK LIKE YOU ARE GOING TO SUIT UP AND SHOW THEM HOW IT IS DONE.



JUST BY DOING IT FOR A YEAR, IT TAKES OFF, ON AVERAGE, HALF A MINUTE OF PLUGGING IN.

FURTHERMORE, *INJURIES* IN THE LINE OF DUTY ALSO DEDUCT TIME.

PILOTING ITSELF IS A STRESSFUL ACTIVITY.

WHY IS THAT? YOU'RE STILL YOUNG.

SO, IF ONE OF YOUR PILOTS GETS INJURED IN THEIR *SPIRIT FORM*, IT REFLECTS UPON THEIR *BODIES*?

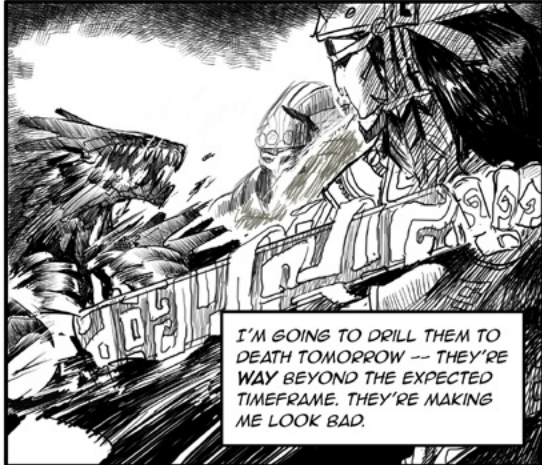
PRECISELY.



THAT, I DO. HERE...



YOU SURELY HAVE *YOUR FAIR SHARE* OF INJURIES.

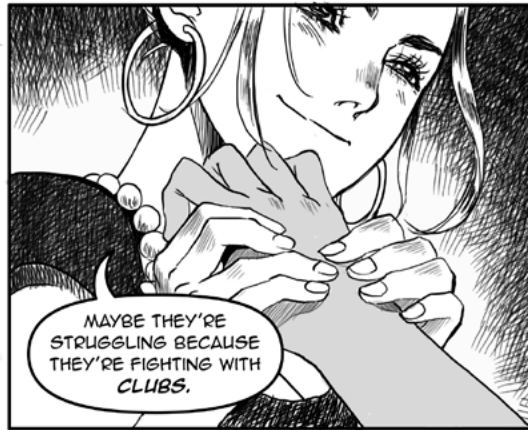


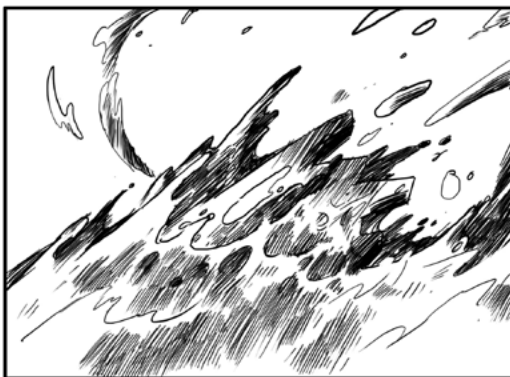
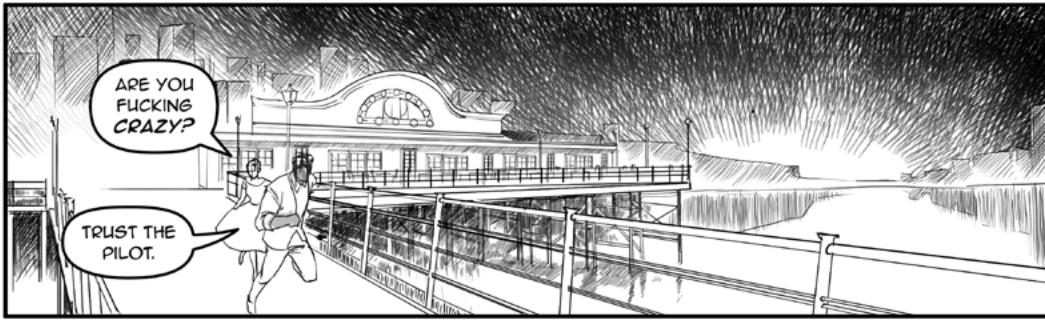
I'M GOING TO DRILL THEM TO DEATH TOMORROW -- THEY'RE WAY BEYOND THE EXPECTED TIMEFRAME. THEY'RE MAKING ME LOOK BAD.



IT'S A BIT *COLDER* THAN THE REST OF YOUR BODY.

YES, IT IS.

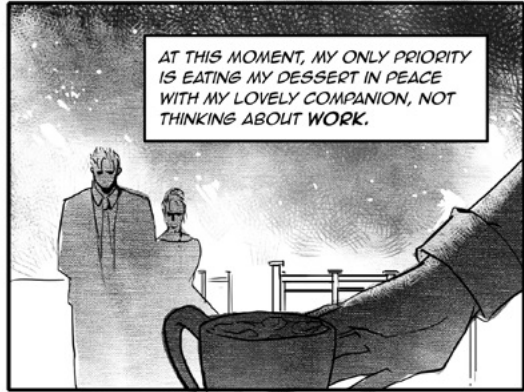
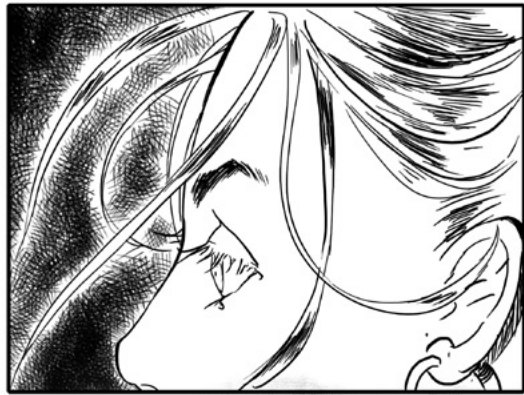




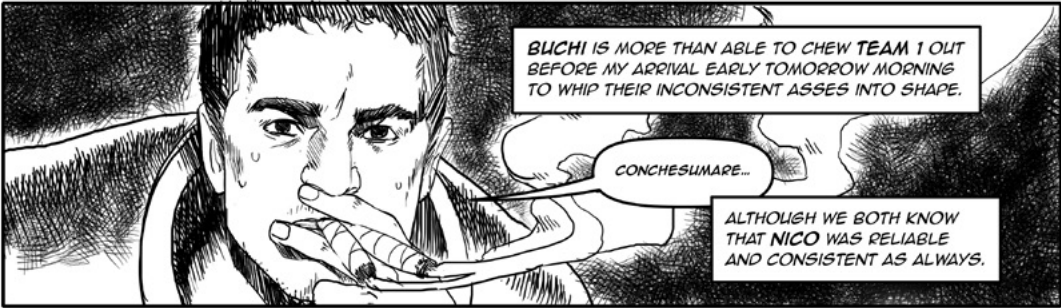




THAT WAS LIKE...
...WOW.



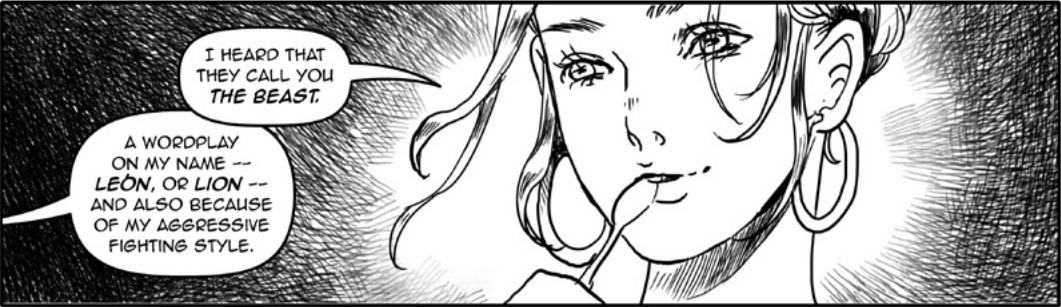
AT THIS MOMENT, MY ONLY PRIORITY IS EATING MY DESSERT IN PEACE WITH MY LOVELY COMPANION, NOT THINKING ABOUT WORK.



BUCHI IS MORE THAN ABLE TO CHEW TEAM 1 OUT BEFORE MY ARRIVAL EARLY TOMORROW MORNING TO WHIP THEIR INCONSISTENT ASSES INTO SHAPE.

CONCHESUMARE...

ALTHOUGH WE BOTH KNOW THAT NICO WAS RELIABLE AND CONSISTENT AS ALWAYS.



I HEARD THAT THEY CALL YOU THE BEAST.

A WORDPLAY ON MY NAME -- LEÓN, OR LION -- AND ALSO BECAUSE OF MY AGGRESSIVE FIGHTING STYLE.



I WAS TOLD IT WAS BECAUSE OF OTHER REASONS...

...IT'S A SHAME THAT YOU'RE ALWAYS SO BUSY.

WELL, TODAY'S MY DAY OFF

END

BUILDING STUFF AND SHIT

HOW TO READ

In this story, all of the characters involved have a typesetting of their own, in order to give the reader the impression of individual voices. Amporn is the narrator and the whole arrangement goes as follows:

Meztlí: Miller Text

Nico: Roboto Mono

Mana: **Trade Gothic LT**

Amporn: Proxima Nova

Gastón: **Futura Bold**

“Fucking *Buchi*, man. He ratted us out to The Beast,” Meztli growled in discontent. “Your brother almost killed us all with that workout.”

“It wasn’t him,” Nico said, as he fragmented bits of obsidian and made sure they were the right size. “He saw us from the harbor. He was dining with this girl Nina at his favorite Italian restaurant when the fighting took place.”

“He definitely fucked that girl,” she said while engraving a flat wooden club. “Your brother’s the Spiritnaut Division’s sex symbol.”

And he surely was: tall, with delicate but manly features, light brown skin (“café con leche,” as people would say), always dressed elegantly. He was a former pilot and now he was heading the Division with his former support José Buchowski, or “Buchi,” as his right-hand man. Nico and his team, comprised of Mana and Meztli, had fought a thought monster (designation: Armorback) very sloppily and León, Nico’s brother, ground them to a pulp with a rigorous training session as punishment.

“We weren’t that bad,” Meztli barked in her defense. “That armor was difficult to deal with given the weapons we have.”

“Well, I told your impatient ass that,” Nico said in a calm tone, “but you charged it head-on right away. We could have gone hand-to-hand and pinned it down. Instead, you destroyed two Maquahuitl and here we are, on a Saturday morning, having to build a couple of new ones.”

“**I concur,**” said Mana from behind with a tray loaded with cups of coffee.

She set one for me on my tool table, and gave another to Nico with a brief kiss on the mouth, then gave another to Meztli, who she kissed on the forehead.

“Where’s *my* kiss on the lips?” she said, half angry.

“**You’re grounded,**” Mana said. “**Because of you, I broke my favorite Maquahuitl.**”

Usually on Saturday mornings Meztli would roast coffee for the rest of the week in these big clay pots. She woke up today (or more accurately, Nico kicked her until she got up) at four o’ clock to work out for a few hours and then roast the beans, and now we were having this heavenly coffee. It was now eleven o’ clock and we were all building things: I was finishing a surfboard to replace the one I broke last week and Nico, Mana and Meztli were building new Maquahuitl from scratch.

A Maquahuitl is something like a wooden sword—it’s a flat club that has sharp shards of obsidian on the sides and is quite an impressive slashing weapon, although not very effective against armored opponents.

The art of making them was thought to be extinct, but Meztli's father, who was a first-generation pilot, was an Aztec warrior of renown and when he remembered details about his past life, this came back to him.

Meztli, Mana and Nico grew up together, and they learned the craft from her father, as they are all third-generation pilots, like me. Their team and mine are tasked with the defense of Nuevo Veracruz from hostile incursions by thought monsters.

Some Maquahuitl were very big and used as a two-handed melee weapon; others were small, meant for short-range action. Meztli lost a big and a medium one and Mana a medium one.

"Your sorry ass should thank me for helping you with this," Nico said. "I could still be sleeping comfortably."

"By the way," Mana said, **"did Buchi rat us out?"**

"No."

"No."

"And speaking of sleeping," Mana said, **"is Kowalski still dozing off, Porn-chan?"**

"He still is," I said.

Gastón Kowalski was my boyfriend. His team defended a city called Ciudad Gardel, which was on the northwestern side of the Trinity. He had combat training yesterday morning and after debriefing he came as soon as possible and was now sleeping here with us during his time off. Porn-chan was the curious nickname that Mana gave me, as my name was Amporn Nakatarn. My first name means "golden rain," derived from the rain on Paris-Earth, which is yellow.

"Ah, The Giant slumbers," Mana said. **"More coffee?"**

"Sure."

He was 1.95 meters tall and very well built. His fighting style, unlike mine, which was based on speed and precision, was built upon strength and damage resistance, and basically consisted of crushing things to death. His greatest influence in terms of combat was Salvatore Constantini, who after retiring as a first-generation pilot exiled himself to the wilderness. Gaston's spirit form took after his and some of his techniques were similar.

Like me, he was an avid surfer and couldn't be separated from the ocean for long. However, his patrol was in Ciudad Gardel, which was nowhere near the sea (or me for that matter) and every occasion we had leave, we tried to be with each other.

As I mentioned before, Mana, Meztli and Nico grew up together, but they were also involved in a poly-amorous relationship. It all started when they were teenagers: Mana and Meztli felt a mutual attraction and started a relationship, and at first they did it in secret with Nico as their keeper, but later came out.

As for Nico, he had some girlfriends, none of them too serious. His last two girlfriends got pregnant (by the immediate preceding boyfriends) and this earned him the nickname “The Fertility God,” which was also echoed by his spirit form, the Aztec equivalent of it. After those fiascos, he somehow drifted into a polyamorous relationship, with Mana always joking that she and Meztli were more than bisexual, but rather “Nicosexual.”

At first, this didn't fly with anyone's parents, although Meztli's were the first ones to join the fold, as she was already in a lesbian relationship and this gave them a chance for grandkids without surrogacy. Furthermore, Nico was already like a son to them and this obviously looked like something serious. Mana's father, a raging workaholic, thought her lesbian relationship was just a phase and welcomed the idea of her having a relationship with a man, while her mother kind of followed the logic of Meztli's parents.

Nico's mother and father were the last ones to take to the idea of their son dating two women who at the same time were dating each other. They eventually relented when there was a Type 4 thought monster attack where he got three of his ribs broken, and they realized that given their son being so constantly in peril, his dating choices were somewhat irrelevant, and it wasn't worth fighting with someone who you might not see the next day.

As I was finishing the last touches to my board, it was nice to see them all working on their weaponry, as it followed a completely different logic from that of the rest of the pilots. For one, everyone else's weapons were made of metal and also by Gastón, who was a blacksmith in two of his past lives: once as a monk who created Ubert swords and a second time as a smith who created katanas, tantos and nodachis.

He was the one who created weapons for most of the other pilots, and to see him work was breathtaking. For our weapons to work through the projection of spiritual energy, they needed to be imbued with it in the first place, and making a representation of this helped to give shape to the projected energy.

Matter is hollow—he explained to me once—and what flows through those cavities is “spiritual energy.” That is, non-physical energy that stems from consciousness and which humans have learned to harness to some degree.

As the metal was heated, Gaston imbued unto it his energy with every strike and movement, with each thought and breath. He flowed through it, leaving just a small trace of himself, which was used as a container for the essences of others.

Maquahuitl were hardly processed like the metal that my love made, as the materials were taken from the planet itself, lovingly worked and put together. Yesterday, Nico went to the forest and cut a slender tree

that provided wood very sensitive to spiritual energy, from which the three Maquahuitl would be made. After asking for forgiveness from Paris-Earth, he started to give shape to three pieces, imbuing his energy into it with every layer of wood he peeled off, with a specific rhythm and breathing pattern.

This morning, Mana took two of those and kept working on the wood. Meztli took the other and did the same. Nico took the obsidian-like stone, which was also good for channeling spiritual energy and started to peel off some of the chinks that would then be put into the sides of each club by means of a gum collected from another tree. Finally, with some plant pulp that would be dried, weaved into a rope and put together to form a handle, the wooden sword would be perfected.

The beauty of this whole ceremony was that Nico and Mana did the weapons for Meztli, and Nico and Meztli did the ones for Mana and they all gave them as gifts, hoping that the instruments that they crafted would serve to guard and protect the people they loved the most. This meant that the true purpose of these weapons was not to partake in aggression, but rather to guard the user and fend off threats, and thus they always insisted that they were creating spiritual tools and not spiritual weapons.

As they continued with the whole process, Nico told us about his last technical challenge: the diary of his maternal uncle, first-generation pilot Antonio Palermo Ruiz. He had stored memories and teachings on the craft of being a Spiritnaut, as he had foreseen that the oldest and youngest sons of his eldest sister would be pilots like him and that he would never get to see the youngest in person.

Palermo had been renowned for his predictive dreams and visions, and was a young man who had an uncanny resemblance to Nico—both in his demeanor and physique—to such a degree that people nicknamed the latter “Palermín” or “Palermito” and said that he was “the second coming of Palermo.”

Nico was 19 and had almost three years of service under his belt as a third-generation pilot of the Spiritnaut Division of the Republic of Paris-Earth. León had recently passed this journal on to him, which was very different from a regular journal. The artifact in question was a quartz sphere encased within a cube of the same material and suspended by nearly invisible threads that made it look like it was floating.

“So,” Nico said, “it’s not like he deposited his memories in the crystal. Rather, it possesses the coordinates of their location and the specific vibratory frequency needed to access them.”

The universe is a massive information processing system that observes itself by means of humans who act as observers, and also experience otherness by means of social interactions between animals and humans. This is done through mutual observation. Every physical interaction in the universe is recorded on a nonlocal plane—that is, a plane outside time and space. Memories thus exist outside brains and can be accessed by means of meditation and vibrations of consciousness of a specific kind.

As I understood, Palermo meditated and reflected in such a way that he would be able to interact to some degree with his nephews, teaching them his ways, despite his physical body not existing anymore.

The cube held instructions on how to access his memories, in a specific order, and which ones were exclusive to Nico or León, as the former was a support pilot and the latter a striker.

I wondered how it must feel to experience someone else's memories and to converse to some degree with someone who you barely remembered, but loved you so deeply that they went through so much pain to give you as much preparation as possible, and at the same time laughed at such stupid concepts as time and space, which could not hope to contain his love, or for that matter, his genius. How did León and Nico feel about this?

"Because he had the same fighting style and was a striker pilot, León inherited my uncle's sword," Nico said. "He told me that after using it for some time, he was able to access some of his movements and techniques by means of muscle memory and reflexes."

"So," I asked, "he basically learned his uncle's fighting style by means of repeated usage of the sword on top of his own, right?"

"Exactly," Nico said, pausing to give Mana a peck on the mouth. Meztli looked starved for love.

"You're still grounded," Mana said to Meztli.

"So," I said, "objects are hollow and you can infuse them with spiritual memories, but you can't integrate memories through them. Rather, they serve as reference points that lead you to the plane of memories, which you can later experience."

"Much like a bookmark," Nico said. "So, some of the memories that he has, he's overlapped them with others in which he dissects and makes analyses of his fights, to let us know the right and wrong and how he could have improved them."

"That would be useful to watch," said Mana.

"I guess I can ask permission from León for you guys to see a couple of things, 'cause most of this is personal. It's been very useful for me, as I now know more about the needs of striker pilots and how to complement them in combat. He makes observations on what his support could have done better, or rather, what he needed from him at that moment."

"I can imagine," Meztli said, "how weird it would feel, being lectured by your doppelganger."

"Well, he was the original, and I'm the doppelganger. Besides, his voice is more like León's, but stronger in tone. But yes, we almost look the same."

"It's a shame that you don't have his fighting style. You could have had the sword for a while."

"Well, we were trained by your dad, who was a first-generation pilot and taught us to make and use a Maquahuitl. I wish I could have met the man, though. My brother was very little when Uncle was alive. He was like 29, 30 when he died—seeing all these memories, I can't help but think that he was almost expecting this to happen. His predictions were amazingly accurate. Almost all of them came true, including my birth, which was delayed compared to my brothers'. Mom thought he had finally missed one."

"Unexpected, but not unwelcome," said Mana, **kissing him in front of Meztli, almost like waving a bottle of water in front of someone who was very thirsty.**

Meztli looked a bit annoyed and was about to say something but chose not to. The house we all lived in had a huge garage, large enough for all of our tools and also Nico's doctoral thesis, which he was building along with his brother.

They were trying to reconstruct a car from the Earth-That-Was, but instead of furnishing it with a fuel engine, they were refurbishing it with a spiritual engine. It was slowly taking shape and both were very happy to be working on it- it was a sports car, and he told me he would ride his dissertation and defend it by the end of the year. Nico was quite a gifted engineer, and put together a motorcycle for his master's thesis, which he gifted to Mana, who loved those things. He also built one for Meztli in order to appease her.

"Who's going to keep the car?" asked Meztli. "You or The Beast?"

"Probably me," he said. "I guess we'll negotiate that when the time comes."

"You better keep it. That thing took up a whole room of the house just for all your tools."

"So did building your bike," he said, "and you didn't complain."

"It's also a noisy project. It woke me up the other morning."

"Meztli, you snore like a freight train. You're the heaviest sleeper I know. Mana and I have had very loud and bouncy sex on the same bed as you and you've never woken up."

"And you never invited me in on the action?" she gasped, and I wasn't sure if she was feigning offense, or actually offended.

"We did try," Mana said. **"A lot. Only because you're an early riser, but if you were lazier it would be torture to wake you up in the morning."**

"Your dad said the same thing."

“Fine, it’s true,” she said, laughing. “I once slept through the only earthquake Nuevo Veracruz has ever had.”

“Speaking of sleeping,” Nico said, “do you think Kowalski is up?”

“It’s almost 1,” I said, looking at my watch, “so he might be. Besides, it’s his day off. Let him sleep. Tomorrow we’re all going surfing, so we’ll be up early.”

“I know,” a grave, thick voice said behind me, **“but it’ll be worth it.”**

“The Giant rises,” Mana said. **“Let me get you a cup of coffee.”**

“Thanks,” Gastón said. **“What are you guys up to?”**

“Building stuff and shit,” said Meztli as she continued to work on the wood.

THE STRANGE LABORATORY OF M. FUKASAKU

“Let me start the conversation, and then you can chime in, Valentina.”

“Sure,” I said.

We were walking towards the laboratory of M. Fukasaku, the head scientist of the United Republic of Titan-Earth, who in the course of the war had invented several valuable upgrades for spaceships, including crystals that stored projections of spiritual weapons, which avoided the need for a physical weapon in space combat, which my mother and Harry’s father had to deal with.

Fukasaku was as mad as a bag of cats, but it was a very intelligent bag and useful for the war effort, and therefore, he got all the pilots he wanted to test out his contraptions.

We were summoned by the man himself to his laboratory in order to talk about the testing of several of his new contraptions on our space ships. Harry and I were part of the **Crimson Cadre**, the elite fighting force of the Space Force of the Republic. He was my partner and his best friend used to be Fukasaku’s favorite pilot until something happened to him, which he was never willing to talk about.

The laboratory was located in the basement of the National Research Institute, in the heart of the capital of Titan-Earth. Well, to be more specific, his laboratory was the whole basement, which consisted of five floors and a staff of 25 people.

“I brought the man a gift,” Harry told me. “It’s his favorite.”

I saw in his right hand **a whole brick of marijuana**.

“It helps him relax,” he said, “and you can only get this kind in Cydonia.”

Cydonia was the habitable moon of Titan-Earth, rich in minerals and certain plants. It had desertic weather most of the year and was known for its sand dunes, very frequented by those who love desert surfing. Harry and his family, most of whom had a military tradition, came from this moon.

The corridors that led us to the laboratory were made of **Cydonian marble, white in color, which refracted light in such a way that a small bulb could be used to light 10 meters of space,** which was very useful for underground levels. The architecture was practical and simple, unlike the outside of the building, which meant to embody the endless and intricate search for knowledge in the Republic.

Before us there was a guard who wore the uniform of the **Special Forces**.

“Windsoar,” the guard said, “it’s been—”

“Too long, I’m afraid, Rodríguez.”

“Indeed. That must be Oleviskaya. Let me open the door—the old man is waiting for you.”

He moved to open the door, which was a massive vault that was operated manually and looked very, very heavy. This meant that to get to this guy, you had to get past a trained killing machine and then maneuver a giant and impossibly heavy door.

As we entered, I saw a massive floor filled with a dozen people going about testing several things, artifacts that I didn’t understand, and other things that were spaceship components that I knew perfectly and that he was attempting to optimize.

“Windsoar,” a voice said.

Before us was a small old man with big grey eyebrows, who was balding, but had a very messy tuft of white hair between the bald parts that looked like a mohawk. He couldn’t have been taller than 1.60 meters, and unlike most people here, he didn’t wear glasses. He was also a bit fat, and had grey, inky eyes that looked like those of a hermit, filled with knowledge and insight.

“I brought you a gift, Grandpa Scientist,” Harry said, extending the arm that held the brick of herb.

He took it and gave it a whiff.

“Ah, my favorite,” he said, and then he looked at me. “This must be Valentina Oleviskaya... rumors of her temper and skill have reached these lonesome walls, but no one mentioned she was so beautiful.”

I blushed a bit, as I wasn’t used to hearing about my looks. Usually my name was related to a string of curse words or something. I never considered myself beautiful—I had pistachio-colored eyes that I did like, but a broken nose that I kept refusing to fix, which many men didn’t consider palatable.

“She’s okay,” said Harry, unimpressed.

I punched his rib cage instinctively.

“Fuck off! I’m pretty!”

“Fine,” he said, slightly beat and breathless, holding his ribs.

“Temper indeed,” said Fukasaku. “Come,” he said, “and have a seat.”

Out of nowhere, in the middle of the lab, a couch appeared (or maybe it was there all along) upon which we sat, while he grabbed a chair and sat in front of us. He produced a bong and started to put some of the weed in it. He lit it and started to smoke, then offered us some.

“No thanks, man. We’re on duty.”

“So am I,” he said.

“Yes, but nobody cares about *your* tox screens as long as **the chicken lays golden eggs**. They do care about ours,” said Harry.

“Fair enough,” he conceded.

“So, what did you call us for?” inquired Harry.

“Now that you’re on the **Crimson Cadre** and also fully recovered from your injuries, I want you and Valentina to be my main test pilots.”

Harry had a very interesting history: his sister Alexandra was the best pilot of the **CC** and he himself was a candidate, being one of the star pilots of the Leviathan. The Leviathan was one of the fleet’s most distinguished flagships, and was commanded by his father Augusto Windsoar Delevsky, also known as Papá or Pater, for his impressive skill in developing pilots and for the loyalty that he inspired in people.

His sister was killed by Angelis, the best pilot of the Nugard Federation. Both swore revenge and studied the enemy’s methods thoroughly, and surely enough, when there was a chance to face her together, Harry knocked his father out, and disobeying orders, engaged with the enemy alone. It led to one of the most renowned battles of the war: The Battle of St. Quentin Tarantino. It was known as such because the action took place around the cruiser St. Quentin Tarantino, named after some weird mythical figure of the past.

He almost succeeded in killing her, but completely injured his right arm, as its spiritual form was ripped off. Somehow, he rehabilitated it, but he got demoted to the **Reserve Corps**, lost all chance for pursuing vengeance, and was forced into a mediocre career until he killed five Omegas (enemy elite pilots) and gained the right to audition for the **CC**. Killing five of those shits usually gained you immediate entrance to the **CC**, but he had to go through extra testing due to his history of disobeying orders.

“We’d like that very much,” he said. “I’m sad that our initial relationship got truncated by my desire for revenge and my subsequent injuries.”

“You deserved to be in the **CC** way sooner,” Fukasaku told him. “The higher ups will never admit it, but they were very happy that you took Angelis out of the picture. She was killing too many people and when your sister died it was a huge blow to pilot morale. But now that the pleasantries are over, let me show you a couple of things I want you children to test.”

Without him making any signal, a small, elfish girl, wearing an oversized lab coat and big glasses walked in with a small purse. **She was carrying it with a lot of difficulty**, as it was many times heavier than it

looked. She managed to put it on a table, **which strained under the weight**. She was very cute, which appealed to Harry. He relaxed his posture a bit when he saw her, although she did not look happy with the attention, as she was probably hit on constantly because of her looks.

“Thank you, Cassie,” Fukasaku said. “The first device I would like you to try is what we have been calling a space amplifier, which basically expands the dimensions of a set spatial extension. For example, this bag, which looks minuscule, can now hold 45 times its own space. Here, Valentina. Open it up and have a look.”

I did.

<ul style="list-style-type: none"><i>*4 books</i><i>*1 football</i><i>*1 electromagnet</i><i>*a big rubber ball</i><i>*1 stamp of our lady of Guadalupe</i>	<ul style="list-style-type: none"><i>*3 large quartz crystals</i><i>*a crossbow</i><i>*a hockey stick</i><i>*a chain</i>
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“My god! This is amazing!” I said. “I’m surprised that someone so small can carry so much weight.”

Cassie blushed a bit.

“Let me make another demonstration.”

They had Harry and I face each other, and between us they laid a set of rectangular, black porcelain tiles that formed a line and which were connected to an electronic device that Fukasaku was operating.

“Very well, Valentina, I want you to punch Harry in a—”

I immediately punched Harry in the nose and he doubled over, holding a hand to his face.

“—moment,” Fukasaku finished.

Cassie went over to Harry to tend to his nose, which did not appear to be broken, but was **bleeding quite a bit**.

“This time,” Fukasaku said, “wait for my command.”

“You phrased it wrong,” I said in my defense.

“You were too eager to comply,” said Harry, a bit cross.

“Okay, Valentina, do it again.”

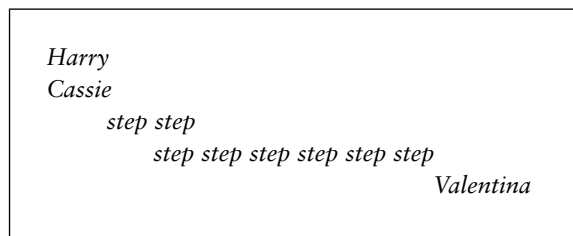
I did and the strangest thing happened: I didn’t connect with his face like I had the previous time. Harry was a bit surprised as well.

“Cassie, hold him down. Valentina, punch him again.”

Cassie hugged him a bit too happily and I tried to punch his smug face again. The movement was right but it was as if I was hitting an empty space.

“Now, cross the line and touch them,” he ordered.

There was a distance of two or three steps between us, yet it took me six or seven steps to get to them.



“How does this thing work?” I asked.

We all went back to the couch. Harry was sitting to my right with the elfin girl, who was hitting the bong with enthusiasm. Fukasaku sat on a chair in front of us and relaxed a bit before giving his explanation.

“Boss, this is some really good weed,” Cassie said as smoke came out of her mouth.

“Thank our friends here,” he said. “Now, as you know, the universe is made out of consciousness, so when it is observed consciously, it collapses from potential (or a “wave”) to actuality (a “particle”). This also means that the way in which the universe is observed ends up altering it.”

“Yes,” we both said.

“Another useful way to understand it is to conceive it as a melody, played on numerous instruments. What we do is give a command to expand space in the same way one would hold a note in the overall melody. This command is given to a specific extension and is supported by an energy source. It is proving to be quite useful in mass and medium-level storage, but not so in personal storage as a bag too large is also burdened by all of the accumulated weight. This leads to our second project. Cassie?”

She quickly put a badge on me and when she did I felt a massive pull, and next thing I knew, I was lying with my back to the ceiling, and then standing on it.

“Anti-gravity generator,” Fukasaku said. “It follows a similar principle: it gives a command to the universe through an act of consciousness and such order is maintained through a spiritual energy-based source. We are going to use it to balance out weight disparity brought by the spatial expansion.”

“This is all very interesting, man, but how the fuck do I get down?” I said.

“Don’t worry, my dear. Cassie here is laying down a mattress that will break your fall.”

“What do you mean, break my fall—?”

—a la verga!

I started to drop and indeed there was a mattress to break my fall, but I fell on the left edge of it and thus bounced and

landed face first on the hard floor.

“Whoops,” Harry said very casually. “What a miscalculation.”

“*Hijo de puta*,” I said, “you moved the mattress!”

“You have no way of knowing!” he said as I chased him through the lab holding the right side of my forehead, where I could feel a bump forming.

After a short while we calmed down and Cassie brought me some ice and ointment for my bruise, and also gave Harry more tissue for his nose.

“Now, children. These two devices will be incorporated into your spaceships, so we can have a 3-meter spherical ship instead of the regular 6.5. Come look at the specs. We’ll have some three or four months of

standard testing on the base that is outside Nuevo Nuevo Veracruz, which if I'm not mistaken is your hometown, Valentina. And then we'll incorporate you back into regular combat."

"Yessir."

"You have five days of leave and you are to report for duty on Monday."

"Yessir."

"Fine, dismissed. Cassie, see them to the exit, and again, thank you for the weed. That shit is dank."

"Sure," Harry said. "Let me know when you need some more."

Cassie was chatting with Harry as we headed to the exit and after signaling Rodriguez to open the door, very discreetly gave Harry her phone number.

Rodriguez saw us **bloodied** and **bruised** when he opened up, with our uniforms all messed up, and couldn't help but say, "Just another day at the office, huh, Windsoar?"

"Yeah," he said.

"It's good to have you back."

"Thanks," he said. "I had forgotten how much fun this is."

"Are you going to visit your parents in Cydonia?" I asked.

"No. Dad got recommissioned to the Leviathan and Mom is visiting my Aunt Lola in Nuevo Nuevo Veracruz. I might go see them for a couple of days, but today I'm staying at José Camacho's apartment. He loaned me the keys for a couple of days. You?"

"Mom's still on duty, so I'm staying home alone, which is great for me, because Mom stresses me out."

"I'll call you later for dinner at my Aunt Lola's. We'd love to have you over."

"Okay."

We continued walking to the exit and in the courtyard of the building we said goodbye.

"Well," he said, "I've got to get this nose fixed. I have a date in six hours."

“It surprises me how you always get their phone numbers. How do you do it?”

“I don’t know, *I just bend like a reed in the wind.*”

“You’re always courteous and gentlemanly, but tell me, have you *ever* gotten the girl you actually want?”

“I always want what I can’t get, I always need what I don’t want,” he said cryptically as he left.

THE LONG EXILE OF M. REYNOLDS

HOW TO READ

In this story there are a set of pixel art animations that need to be clicked on in order to see them unravel. These are best viewed in the latest version of Adobe Acrobat.

I was waiting for my food at the Terrace of Tlapalería de la Tía Ana—probably the best Mexican restaurant in the Caliphate of Awal-Earth—while smoking a hand-rolled cigarette with fresh tobacco. I usually had three or four a week, because smoking and space travel tended not to get along. I was also waiting for my crew to come back from refueling the ship, so I had to order for them and push a bunch of tables together. It was a very pleasant day in the port city of Salalah, on a planet widely known for its forests and jungles (and awesome fucking seafood).

From this terrace you could see the sea, which was a beautiful emerald color, and unlike other planets, it was made of sweet water. From afar I could see a blue-grey pincer, that of a King Lobster, a creature native to this planet, which looked like a lobster from the Earth-That-Was, but tasted more like an Earth crab, and which could measure up to 50 meters. Unlike the sea dragons of Cydonia—the main moon of Titan-Earth and my home—the King Lobsters didn't fuck with fishing boats.

“The Feast of San Jacinto is approaching, Reynolds. Be sure to come by and we'll serve you some King Lobster.”

“Thank you, Romelino,” I said to the waiter. “And I'll help you guys kill it. Before being in the Space Force I was in the Navy for a year, and I helped kill Cydonian Sea Dragons, which are almost that big.”

“I'll tell the priest,” he said. “Your order will arrive soon.”

Even though the Caliphate is predominantly Islamic, there are some Christian and Catholic provinces on Awal-Earth. Every five years, the natives of San Jacinto province kill a King Lobster and cook it in celebration of the saint of the region who granted the miracle of having one of these creatures wash ashore to feed the starving people after a long period of empty nets. So for the feast, they killed one, and since it was otherwise prohibited by law to hunt them, their population was not diminished.

My crew started to arrive: Steve, one of my pilots, a muscular redhead who always dressed like a biker and looked like Robert Redford in that ancient movie *Big Halsy and Little Fauss*; Susan, a strong and muscular man who identified more as a woman and tended to dress in drag and a blue máscara de luchador (one that resembled Huracán Ramírez's); Farida, a tall, beautiful young woman with pistachio-colored eyes and wavy chestnut hair that she kept in a plait; and Tobi, my mechanic, who was thin, spectacled, had light brown skin, a long nose, and short, messy brown hair. All of them were in their early 20's.

Then there was Abdallah, our 45-year-old resident doctor, who was a notorious surgeon who decided to travel the universe and write novels, while still practicing his craft. He had a long bushy beard, a hooked nose, dark olive skin and a delightful sense of humor. Finally, we had Sabrina, who was our navigator—she had pale skin, blue eyes, black hair, and was very tall and slender, like Farida. But unlike her, she had a very nasty smoking habit.

“Who's guarding the ship?” I said.

“Camacho,” Farida answered.

Camacho was our dog, a big ass blonde labrador that although was quite friendly, was not to be fucked with. Last time someone tried to break into the ship, they lost a few fingers.

“Food should be here any time now,” I said.

“Good,” said Sabrina. “I’m fucking starving.”

Everyone took their seat. Sabrina reached into her pockets for cigarettes, but must have forgotten them back on the ship. She asked me for one and I complied.

“You roll them so nicely, unlike Doc here who never learned properly.”

The doctor feigned offense and the food arrived. For starters there were some *tlayudas* in the center for everyone to pick from, some shrimp tamales and three very big fish wrapped in tropical leaves.

It had been almost four years since I was forced by circumstances to defect from the Republic of Titan-Earth, and leave my home, friends and family. Even though things were quite good for me at the moment, I was longing to return home.

“Is everything ready?” I asked Susan after finishing the *tlayudas*.

“Yes, boss, the ship’s ready. I ran a system check twice and when we get to space we can run some more tests.”

“Good.”

“I’ve made the necessary maps. We can run through them after dessert, so let me eat in fucking peace,” said Sabrina before I asked.

“Okay.”

Although they weren’t willing to confess it, there was an air of tension surrounding our table. This job was very important and the stakes were Bob Marley high. After all, it was the first time a lowly mercenary was invited to the long distance cosmic race that the Caliphate of Awal-Earth and the Maharajate of Nadu-Earth held every year to foster cordiality between nations. With the Second War raging between the Alliance of the Republics and the Nugard Federation, (whom we fondly called the Plagues), this cooperation was needed more than ever.

Sometime ago I was a space pilot in the Crimson Cadre, the elite flyers of the Space Force of the Republic

of Titan-Earth. One day the Plague attacked a military convoy and captured my father, my only living relative (Mom had passed away when I was 8) and the General of the Armed Forces. The High Command refused to trade him or negotiate and thus I made a plan to get him back by using a prototype ship that was entrusted to me to break into the prison that held him and get him out. I was branded a deserter.

However, when we got to a safe haven I realized that I was too late: three months of captivity and torture had hurt him beyond repair. He barely recognized me and in a moment of lucidity, acknowledging the love I held for him despite years of mutual contempt, and choosing not to be a burden to me, he took his own life.

Hunted by my own country, I requested asylum with the Caliphate, which was granted to me on the condition that I train a series of mercenaries, the Arkūš Irregulars, in order to defend the territory from occasional probing and reconnaissance work. This was so because the Caliphate was still under the terms of the Treaty (it was not under attack by an external threat) and thus could not develop a military, but mercenary forces were an exception. Also, they promised me they would negotiate an amnesty against my defection, and now I was representing them in the Space Race.

“Gentlemen... behold!” said Sabrina, interrupting my thoughts. “The Raijnikanth Nebula, also known as the Clusterfuck Nebula: 60,000 light years of strong winds, and a series of stars that exert a great gravitational pull, making navigation a fucking hell. In these adverse conditions, a small ship could do better, but the distance alone can kill an inexperienced pilot, which is why there’s a 40% mortality rate in the race. The record is 2 days and 20 hours to cross from one side to the other, and it takes an average of 20 jumps, but I managed to cut it to 15.”

“The doctor has prepared a nanite serum that will keep you alive and fed for three days,” she added.

“I got this shit,” I said. “I was trained in long distance runs by *el Papá*.”

A dead silence filled the room.

“That’s the only outsider who’s competed in the race...” said Steve.

“...and the current record holder, with 2 days, 20 hours. He’s like a father to me.”

Everyone looked at me with mild surprise.

“No wonder you were in the Crimson Cadre,” said the usually quiet Farida.

After further analysis of the Clusterfuck, we returned to the ship and found Camacho waiting anxiously for our return. We gave him a big slab of meat in recognition of his dutiful watch. Steve took us to space and I headed to my spacecraft, my trusty prototype, and did some test jumps before tomorrow’s race. I then went

to my quarters to take a quick nap. I dreamed of my basic flight lessons from Augusto Windsoar Delvesky, aka *Páter*, or Papá, my surrogate father, and father of Harry, my best friend.

Remember that all the fundamental forces, their transmission through the aether, cognition and information processes at all levels are condensations of consciousness and yoked by consciousness. That is, consciousness made by consciousness for consciousness. Time and space are degrees of consciousness, like you are, and because of this, the spacecraft allows us to materialize in different points of space. It is not making a hole or a tunnel or whatever the fuck in time and space; it is simply moving from one point of consciousness into another.

The nanoscopic scale, the scale of classical physics, the realm of relativistic physics, they all feed back into each other. Everything small is just a small version of something big.

The observer and the universe are recursive for one another: if you understand yourself, you understand your surroundings, and vice versa. Remember the wisdom of la Bestia: The mind organizes itself by organizing the Universe/The Universe organizes itself by organizing the mind...

I'm proud of you, my boy...

“I miss you too, Papá,” I said as I started to remember the dream upon waking.

I thought of him, Mom (his wife), Harry, the General, Mom (my blood) and my beautiful Nadya, the love of my life, who I married before attempting to rescue my father and whose ring I still had on my hand. I longed to see her, smell her raven black hair and see her cat-like eyes. Sometimes Sabrina reminded me of her with her black hair, pale skin and loud demeanor, and other times Farida reminded me of her because of her intelligence and intense eyes.

“Boss,” said Susan over the intercom, “come to the hangar. The ship’s ready.”

Military-grade hunter-type spaceships were spherical, measuring 4 meters in diameter. They were equipped with a quartz crystal terminal that channeled spiritual energy, a small fuel cell and a quantum computer for space calculations.

The act of travelling through one point of consciousness to another was usually called a “space jump.” These were very rigorous and put the body under severe stress, and they required elaborate breathing exercises, meditation and concentration. Because their culture was a bit more akin to those activities, the Maharajate had the best couriers and long distance runners, followed closely by the riders of the Caliphate.

Sometimes, the stress of the voyage was such that the pilot (even with a set course) started hallucinating and tripping, because the levels of DMT production spiked in those moments. The most important thing becomes emotional stability—a bad trip could steer you off course and kill you by crashing you into a star.

Testing went fine. Everything was ready and everyone was trying to give me advice, even Camacho, who barged into my room before I slept and barked for a couple of minutes before leaving. I slept soundly and dreamt of Papá again:

We were at his house's backyard in Cydonia staring at the sky. Harry was still on tour and bound to arrive the day after and Páter was telling me about how he crossed the Clusterfuck. He told me about the grueling effects after the first 24 hours and how, no matter what preparations you made, you would start hallucinating.

“However,” he said, “the crucial moment is when you see it.”

“See what?”

“Everything.”

“What do you mean?”

“It is something that I cannot and should not explain—a thing to be felt, and to say more would be polluting your experience and hindering your development. In time, you will understand, and after you travel such a long distance, no matter what nebula or galaxy it is, you and I will have a drink and talk about it. Remember that I love you like a son. I have great faith in you and your skill.”

“Thanks, Dad.”

Everything else was a blur: taking the nanite sustainment serum, talking to people, prepping the ship and taking my place in the inauguration ceremony. This year, the Maharajate were the hosts of the race, and in an unusual move, the Maharajani herself was here and not some delegate. She was the moral leader of the nation and the political and administrative coordinator of the realm. She could not possibly be older than 25, and she had beautiful wavy hair that was let free, delicate features and deep inky eyes that exuded intensity. She was wearing an orange and navy sari, which seemed a bit outdated now, although it was a popular style back on Gaia-Earth. She also had a delicate veil of the same colors, made of Parisearthian silk, which barely restricted her hair. She had almost no jewelry on her hands or anywhere else, although she did have a small golden ring in her nose.

In a more unusual turn of events, my “boss” the Caliph was also present. He was a tall, imposing black man of great dignity, with a slight beard that had some gray hairs in it. His clothing was plain, just simple silken robes, orange in color and oddly matching the color of the Maharajani. As per his vow of humility, he had no jewelry and was not wearing shoes; his only accessory was a small, dark orange fez.

Every rider took their place at the starting line. Some minor final fixes and preparations were allowed. The green light was given for the start of the race, and as per usual nobody moved: this type of flying was

made solely in jumps and to do so, you needed to be completely still, doing breathing exercises and focusing. Because of the structure of the Nebula, the first three jumps were small, but then, everybody else found their rhythm: some did very long jumps, others medium-sized ones, other a large series of little ones, and every iteration in between.

I started with my breathing. Little by little my body numbed and I started to become aware of the spiritual energy and presence of my competitors—they were balls of light shining like little stars and people started doing their first jumps. When I felt ready I started my run. You felt a pressure all over your body (despite the numbing) when you took the jump, but then the pressure relieved and you felt lightness, until you finished your jump, for that pressure returned and ceased.



My second and third jumps were considerably slower than everybody else as I was planning to do very long jumps, with a planned route that was divided into 15, many of which were successive, and thus I had to calculate many of those ahead. The rhythm of my jumps would be divided as follows: after the initial three, I would do three consecutive ones, stop for a long time and do a record of six straight jumps, take a long pause and then move on to the final three.

My second group of jumps was not difficult, as I had a lot of experience with long jumps. You learned how to “read” the pressure and lightness intervals to make sure you didn’t veer off course. Another problem one had to deal with regarding this type of travel was time decompensation: a jump took several hours and although your conscious self registered them as only a few minutes, your body felt the rigor. This meant that your body had to keep up with two completely different temporal rhythms, attempting to conciliate them into one narrative.

That’s another thing that made long distance travelling so difficult. It was like some sort of temporal schizophrenia. The first jumps took me 10.8 hours, when everyone else did them in 10.6. When I started planning the second group of jumps, the rest of the competitors started jumping again. However, when I finished my second set and started to plan the six jumps, I was in third place.

My second set took me 14.1 hours, which was great progress, as they had encompassed almost twice the distance as the first three. I had travelled for 24.9 hours so far and my body was starting to feel the drag: my state of numbness was beginning to subside and I started to feel like I had run a marathon. I felt hungry and thirsty despite the fact that the nanites were keeping me alive and nourished. This was perfectly normal during this type of space travel.

I was almost done with my calculations and realized that the more I thought about my progress compared to everyone else's, the more liable I was to commit a fatal mistake. I had to trust in my capacities and let go of my desire to win—I had to embrace the opportunity to prove myself and that I could cross the Nebula.

My ego puts me at odds with the universe. I must flow with it and not against it, ridding myself of the artificial distinction I create between myself and everything else, and rely on feeling alone. I must be like the reed that bends with the wind.

I did the first jump and my hunger increased. I felt feeble and weak, but I couldn't stop now. During my second jump I felt thirsty and weaker still, as if I had been wandering for days in the desert, lonesome and despairing, and on my third day... I mean, *jump*, I felt old and shriveled, as if I was on the verge of dying alone and far away from home and those who loved me, and who I cared for.



I felt like I was about to die. Great fear overtook me, but I knew that if I stopped I would probably end up in the middle of a star or a gravity trap. The abundant DMT that the brain generated in these situations was kicking in full force: I started to see weird colors and my nose started to register odd scents like wood, the sea of Awal-Earth, Cydonian jasmine. I was about to let go when she appeared before me: Nadya, my love. Her hair was bright pink, and shimmering in its tones; her eyes lit up like strobes and had these bright colors in them, and her skin changed colors, from orange to yellow to green, like the citruses of Nuevo Veracruz. So maybe it wasn't exactly as I remembered her.

“Why the fuck are you stopping?”

“I'm tired, thirsty and old.”

“No, you're not. You only think you are. Your body is being fed, but not your spirit- you're travelling the universe without feeding from it.”

“Then how do I feed from it?”

“You should know that by now, *pendejo*.”

“I really don’t.”

She was cursing me and visibly angry. Definitely my Nadya and not a mirage.



“Okay, here’s your clue, you fucking moron: practice what you preach, and *be* like the reed that bends with the wind.”

“I love you.”

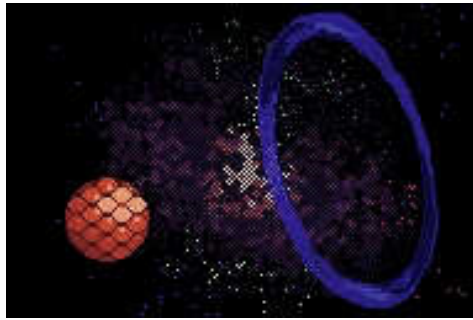
“I know! So come back to me. Gotta go, bye.”

The reed does not think about bending, it just does. If observing the universe changes it and I traveled through space by moving from one point of consciousness to another, the more I thought about it from the viewpoint of the individual ego, the more difficult it would be. I had to feel the universe from a larger perspective- ego was just an artificial construction that stemmed from biological interactions reinforced by culture.

I had to *see* everything, like Dad said, and to do that I had to *feel* everything and *be* everything. With this realization, the universe unfolded before my eyes.

It was all an application of the Good Regulator Theorem: the most simple and efficient way to answer a problem was to build a model of the problem within the answer. The key had to have a model of the lock within it. This meant that to travel through the different layers of condensed consciousness that comprised the universe, one had to build a model of it within oneself, which at the same time was a reflection of oneself. This is what Dad meant—it all made sense now.

The universe presented itself to me as a ring of flowing water that shined and sparkled, and flowed in all directions and forms. What I needed to do was to move to parts of that ring in compliance with my flight plan.



This struggle happened as I finished my third jump. As I did my fourth, my strength returned to me, my thirst and hunger subsided and I felt renewed and completely calm. The more I jumped the easier it got and with the visualization method my calculations were minimal. I only had three jumps left and I didn't even care to see my physical location or my standing in the race. What came to me and what I learned was something that went beyond any race or competition.

I breathed and numbed my body again. I visualized the universe again and finished my remaining jumps. As I stopped and docked at the finish line, I realized that I had finished first- but something was strange. There weren't many people in the celebration and again, not many people cheering.

When I was approached by my crew, Sabrina had the kindness to explain things to me: I had finished the race in 2 days and 9 hours, 11 hours before Papá. The following three places were still two-thirds into the race and on average the race took 72 hours to complete, not 57. I had finished the race so quickly that people couldn't help but see me as something unnatural and freakish, instead of the rightful victor of a long race.

Sabrina retrieved the travel log and we analyzed it together: the first six jumps were okay, although the last one of the second set was a bit inconsistent; the seventh and eighth were increasingly erratic and in the ninth I almost landed within the lethal gravity boundary of a star. Suddenly, I got my shit together and did the most efficient and beautiful jumps she had ever seen. The eeriest thing, though, was that there was a perfect mathematical correlation between all jumps, stable and unstable.

I grabbed a couple of beers and separated from my crew for a while. I went to a balcony in the space station while I waited for the rest of the competitors to finish the race in order to have the closing ceremony and receive honors from both the Caliph and the Maharajani. Nadya had saved me, but I think that rather than her individual consciousness, it was the collective human unconscious manifested through her. However, as I gazed at the stars and nebulae, for one moment I felt that we were both watching the same cosmos.





M. Fukasaku and Augusto Windsoar. Photography by Patricia Roaño de Windsoar.

FUN TIMES WITH GRANDPA SCIENTIST AND EL PAPÁ: THE GOOD REGULATOR THEOREM EXPLAINED

Ten no Itami brings us the wisdom of the universe with their debut, *The Good Regulator Theorem*.

by Roberto Elford | Gala Magazine

What do you get when a retired Space Force Admiral and a semi-retired military scientist get together to record music? *Pain of Heaven* is your answer. This strange phrase is the translation of *Ten no Itami* (天の痛み), the name of the musical project by renowned scientist M. Fukasaku, known colloquially as Grandpa Scientist, or Ojīchan kagaku-sha

(おじいちゃん科学者), who has made vast technological advances in favor of Titan-Earth, both inside and outside the war effort, and Augusto Windsoar, Admiral First Class (ret.), known all over as a commander with a penchant for developing the best pilots and a human quality that earned him the nickname *Papá* or *Pater*.

This project came about one day over a casual lunch they shared at Windsoar’s house, through boredom and spare time. Windsoar—once commander of the mythical vessel *TE Leviathan*—had long been retired in order to help rear his grandchildren. His son Harry (known as *Hijo del Papá*) holds his old commission and is now in charge of the whole Western Third, and his daughter-in-law is the commander of *TE Amaterasu*, one of the giants of the Eastern Fleet. When his children entered the Academy he found himself with too much spare time, which made him restless and drove his wife mad. Fukasaku, on the other hand, was semi-retired due to suffering from a stroke, and was in charge of supervising projects, working only six months a year in his department, which he later passed on to his protégé, Cassie Brooks.

They were old friends, as Windsoar was his first test pilot, and his son, in fact, was also a test pilot and the one who unwittingly coined the “Grandpa Scientist” moniker that stuck with the people in his laboratory. They had played music together many years before, and decided to turn this idea into a full project, just for the fun of it.

After some back and forth on what instruments to use, and being dissatisfied with the overall quality of the instruments that could be procured, they decided to create the necessary instruments themselves. Fukasaku moved into the empty nest, and much to the horror of his wife, established a subsidiary laboratory in one of the guest rooms. One would think that Fukasaku would be the one engaging in the brunt of crafting the instruments, but Windsoar was an electromechanical military engineer before becoming a pilot and commander. They built two guitars, two basses, analog synthesizers, all their microphones, several amplifiers, a bunch of pedals and a strange innovation: an electric shamisen.



Although at first his presence was a small nuisance, Fukasaku soon earned his keep by creating intelligent robots that helped with cooking and with the cleaning of the house, easing the burden of housework for Doña Patricia, a renowned painter and plastic artist, which earned her endearment and gave her much more time to dedicate to her art. She designed the artwork of the album in appreciation.

As for the name of the band, Fukasaku was raised playing the shamisen, a traditional Japanese instrument, and when he came up with the idea of an electric shamisen and added distortion pedals to the mix, he felt that it was offensive to tradition. He came up with the phrase *Ten no Itami* when on the first day of band practice, it rained in Cydonia for the first time in sixty years. “The heavens wept,” said Fukasaku, but despite this, practice lasted a record fourteen hours, and during that time, they composed the structure of half the album.

These gentlemen had the kindness of not only granting me an interview, but also hosting me during a *carne asada* night in Windsoar's house, where he prepared a meal large enough for an entire army: prime steak, Sea Dragon steak, salmon and swordfish, along with plenty of mezcal. Fukasaku made some mochi and sesame seed ice cream for dessert. If only work was like this all the time.



RE: So, gentlemen, please elaborate on the concept behind your debut, *The Good Regulator Theorem*.

F: *The Good Regulator Theorem* was created by a couple of cyberneticians from the Earth-That-Was: Roger Conant and Ross Ashby. It states that under very broad conditions, the simplest and most effective approach for a controller is to be isomorphic with the controlled. In short, the best solution to a problem must be a representation of it.

W: Let me put it in simpler terms: every good regulator of a system must be a model of that system. For example, a key must be a model of the lock it opens.

RE: And why the fixation with this concept?

F: Well, it's been something that has influenced us both. For example, my theory on spatial and gravity manipulation was a result of my realizing that I had to have a model of the universe as consciousness in order to be able to manipulate it.

W: In my case, I won the space race that the Mahajarate and the Caliphate hold every year by using this theorem. When you use spatial jumps by means of displacing yourself into consciousness, the most efficient way of traveling is by creating a model of the universe as consciousness that is also a model of the way in

which you understand it. I later developed this into the technique all long distance pilots use, but before it, long distance travel required more stamina out of riders, and was a very perilous thing to do because of the resulting hallucinations.

F: We basically relate the parts of our lives where we had these great struggles, both physical and creative, that were partly solved by understanding how to apply this theorem to our understanding of the universe.

W: It's an intimate set of autobiographical vignettes united by a scientific concept.

F: We had a lot of family support: some of my crazy children in the lab helped me out with some ideas for the equipment, and Cassie did some work directly for the album on the drums. Windsoar's kid played some of the rhythm guitar parts in his spare time (of which he has close to none) and his wife took most of the promotional pictures, and also did the album cover.

W: Some of my children in the Leviathan have written me emails to tell me how much they've liked the album and how much they relate to it. And it's been playing nonstop in Fukasaku's lab.

F: Not my lab anymore—I'm learning to delegate.

W: You're right, Patricia says that our garage is your domain now. (laughter)

From afar his wife bellows: *No seas cabrón!* (Don't be a dick!)

(more laughter)

RE: What are your influences?

W: You mean musically?

RE: I suppose.

F: We didn't necessarily get inspired by music while crafting this album. Some of my influences were the scholarship of Emily Eckhart, Heinz von Foerster, the Spiritnauts, Kurosawa, Anamanaguchi, Bach...

W: The Mars Volta, Buddy Guy, Salvador Dalí, Heinz von Foerster, Edgar Morin, Jorge Luis Borges, Federico Fellini... I'm a very outdated man, I suppose, liking things from the wasteful people of Gaia-Earth.

F: Dude, we should do an album about the fall of Gaia-Earth.

W: Totes.

(They fistbump, and Windsoar grabs a notebook and writes the idea down.)

F: Maybe we should research the blues. The waste of a beautiful planet is a sad thing.

(Windsoar scribbles furiously)

W: Shamisen... blues... got it.

RE: Any plans to tour?

W: Yes, we're in the midst of planning a small tour on Titan and Paris-Earth, and if things go well we might play at the Maharajate in a year. People have responded very well to this album. My grandkids actually wrote me to tell me how much they liked it and how they're always telling their friends about their Grandpa Admiral and Grandpa Scientist.

F: Unexpectedly well.

W: So surreal.

F: I know.

RE: Thank you for your time.

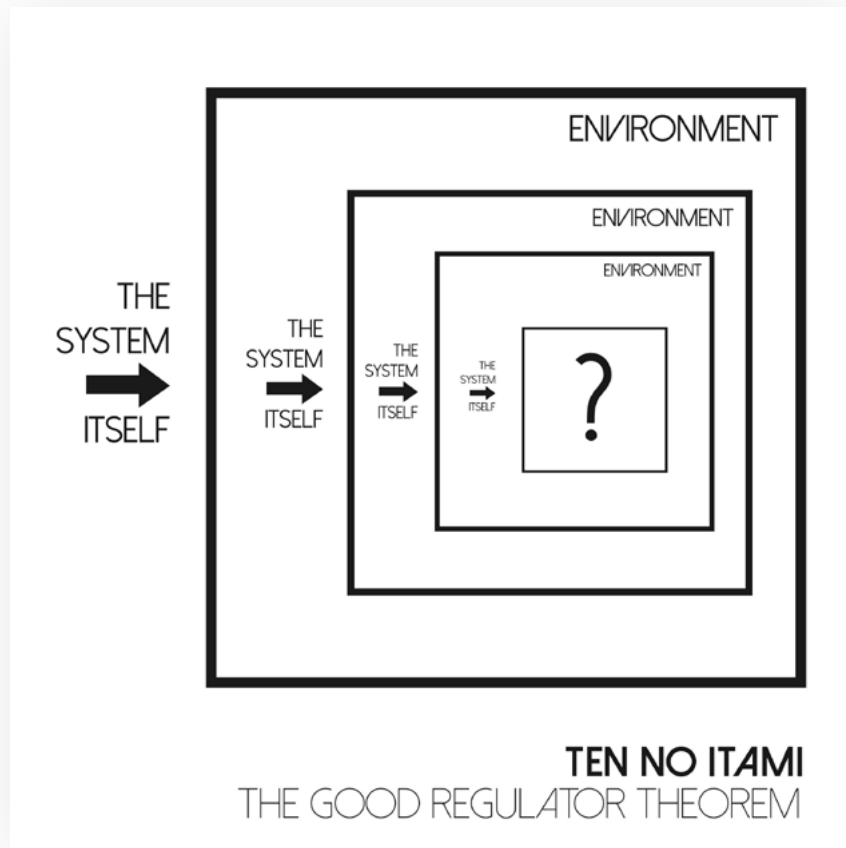
F: And now, more mochi and mezcals.

TECHNICAL INFORMATION

PERSONNEL

- Bass: Augusto Windsoar Delvesky
- Rhythm guitar (2,4,5): Harry Windsoar Roaño
- Keyboard/synths: M. Fukasaku
- Electric shamisen: M. Fukasaku
- Vocals: Kassia Hess
- Drums: Augusto Windsoar Delvesky (1-5)/Cassie Brooks (6-9)
- Producers: M. Fukasaku, Augusto Windsoar Delvesky, Kassia Hess.

NO.	TRACK LISTING	WRITERS	LENGTH
1	“Self-Reference Is Key”	Fukasaku	5:32
2	“Everything Small Is Just a Small Version of Something Big”	Fukasaku/Windsoar	4:25
3	“Caught Up in Dreams of Concepts”	Fukasaku	6:11
4	“Whatever It Takes”	Fukasaku/Windsoar	3:45
5	“Understanding”	Fukasaku/Windsoar	3:55
6	“War and Struggle”	Fukasaku/Windsoar	5:20
7	“Ode to My Children”	Fukasaku/Windsoar	4:59
8	“The Race”	Windsoar	6:00
9	“The Veil”	Windsoar	8:12



THE GOOD REGULATOR THEOREM

BY JELENA MANDUZIC

★★★★☆ | ★★★★★

Here comes a rare jewel: men of science and war telling their lives in a very personal way through art, the lyrics and their emotions conveyed perfectly by the luscious yet potent voice of Kassia Hess of *Los Jodidos*. How did they get that kind of firepower on their side? Beats me.

These are lives well spent told as music. Instrumentally, the way that the shamisen is used with the effects pedals (which were made in-house) and the way in which the bass fills the gaps and pushes back on the shamisen keeps the listener guessing. One does not know what to expect and it is a fun state of mind. A classic for the times to come.

RECOMMENDED TRACKS: “Everything Small Is Just a Small Version of Something Big,” “Self-Reference Is Key,” “Caught Up in Dreams of Concepts,” “The Race,” and “The Veil.”

