

Breadworld

Chapter 1

“Earth: land of many breads... home to us all... well, perhaps not anymore.”

Psychus rode along with his eyes closed, the transport pod whipped along the perfectly straight surface road. After being briefed the previous night, he had boarded the pod without eating breakfast. He was in transit from the Andaman Islands to Ulan Batar to meet the Devil’s Advocate, Eduardo Soto.

The nearly 4,000-kilometer trip had been uneventful, with the enormous towers passing by in seconds. At 2200 KPH the central Ulan Batar tower was only minutes away.

The pod began to rapidly lose speed as the deceleration process began. It pulled up smoothly to the pod intake zone, the vehicle rotated and advanced toward the wall of the tower which opened to swallow it, closing quickly behind. The pod opened, and

Psychus felt the hot air from outside that had come in with the vehicle and the heat that radiated off the surface of the pod. He could smell the distinct and horrible aroma of stinkmelons on the air as well. He took a few steps through the dimly lit intake zone to the entrance to the building proper and stepped through the door as it automatically opened for him.

This lobby was red. The walls and floor were painted and carpeted in the same deep crimson.

Across the room and to the right next to a door stood a short fat woman, perhaps 1.84 meters, she had a caramel complexion and a gap between her front teeth.

“Hello!” she chimed.

“Greetings, I’m here on council business,” Psychus responded while approaching the Kiosk.

“Great, well let me just orient you and scan you into the tower,” she said

Psychus pulled his phone out of the pockets of his shorts bringing up his personal information scannable from the blockchain using a quick biometric scan.

“Through this door is the main first-floor concourse,” she said, scanning the phone.

She pointed to a slice of paper laminated onto the desk of the kiosk. “This is the map.”

Psychus looked at the map for a fraction of a second, and also saw the black-and-white scannable. The map was broken into zones, the first floor of this tower was commerce zoned, with a food court only a few steps outside of this lobby

“Thank you, Have a nice day,” Psychus said, as he began to walk to the door.

“Sir, don’t you want to get a digital copy of the map on your phone?” she asked.

“No thank you, I’m quite hungry and I saw that the food court is just through here,” he responded.

“Oh, sure thing. You have a nice day too.” she said.

Psychus walked through the doors out of the lobby and into the first-floor concourse. The air was cooler here, and rather than the oppressive scent of stinkmelons, the concourse had a faintly oxidative aroma, like hydrogen peroxide, or ozone. Looking over toward the food court, Psychus ignored the throng of humans passing each other in the concourse. He waded through the loosely packed crowd to the dining area of the food court. Sitting down at an empty table, a holographic scannable projected from the center of the table.

He ordered a classic breakfast through his phone interface and is immediately served two medium pancakes with whip cream and strawberries, three slices of bacon, a fried egg, and orange juice

through a mechanical flap on the table. Psychus noted to himself that these foods, the wheat for the flour, probably from Breadworld Beta, The Bacon certainly came from Breadworld Nu, the only breadworld that produces swine products, The orange juice would be from one of the tropical fruit Breadworlds, maybe Rho or Psi, The dairy for the whip-cream came from Mu, and the sugar in it from the corn of Breadworld alpha, and the egg from one of the two poultry Breadworlds, the strawberries would be from Eta. Doing a quick calculation he believes the food has traveled at least 3700 light-years collectively to reach him. It never ceased to amaze him how the speed the food travels at causes it to experience relativistic effects and in concordance with it being flash-frozen before launch, its fresh, and delicious, and it only cost thirteen sats.

After eagerly eating the breakfast, he pushed his plate, silverware, and cup into the flap they came out of, and they returned to the automated kitchen. Having eaten, his focus returned. The sounds of the people around him became more apparent, he heard snippets of conversation, and seeing people do their daily dance always brought him a gentle pleasure. Flashing the map through his conscious mind, he saw the nearest bank of elevators were through the other side of the food court and across a small indoor courtyard. He walked away from the table and into

the courtyard. It was adorned with a fountain and landscaped with plants. People sat on faux stone benches talking as groups, and reading alone, some had brought their food to this area. He took long strides and walked through the humid garden to a bustling crowd of people waiting for the next elevator tram.

As Psychus reached the edge of the group a pleasant ping played from above the doors to the tram and they opened. A few dozen people poured from the doors, and the crowd parted in places as they bustled past. Psychus followed the waiting passengers into the elevator tram and grabbed a hold-bar toward the back. Once everyone was inside the windowless tram began accelerating upward through the labyrinthine set of tracks that traversed the tower.

It rose slowly at first, taking a few sloping turns to reach an empty track before opening up. Within seconds the tram was going over 400 KPH, Psychus felt his knees flex as he absorbed the force of the acceleration. He looked around the tram to see people idly checking their phones, or chatting with their companions. The tram began to slow as it approached the first junction floor. Psychus had been asked to meet Eduardo at his personal apartment on the 1379th floor but the junction was only halfway up that far, he would need to board either a premium pod or a standard elevator to make the rest of the trip.

The tram stopped, and the doors opened allowing the passengers to spill out into the airport-like elevator junction floor. The surrounding area was semi-circular with several personal conveyor belts leading to and from this tram bay. Each of the belts leading away had a holographic projection coming from the floor that indicated the floor ranges available at the elevators in each direction.

Psychus glanced across the array of belts as he stepped out the doors and past the boarders.

He snaked his way through the scrum to the belt that presented “floors 1000 - 1500” and stepped firmly onto the quickly moving belt. He slid and walked along to the next elevator bay, it was about two kilometers away but the belt was moving quite fast, the collapsible segments stretched in the middle as the belt was faster in the center than the loading and unloading gaps. Psychus reached a circular section of track, which intermeshed with each of the connected belts, allowing for continuous transport without the passengers being required to react. Psychus stepped off the circular section onto the track presenting “1350 - 1400.”

It continued a short distance to the elevators and he stepped off.

In front of Psychus was a small set of elevators, mostly standard, but one had a small scannable and a screen on a stand next to it.

The screen said “Current bid max: 0.4 sats, Next pod: 0.18 sats, Average: 0.065 sats”

Psychus wasn't in a hurry enough to bid on an express pod, so he walked to the nearest free elevator and stood on the passenger sensor. A holographic display projected from above the elevator doors showing its predicted path and time until arrival. Psychus had a few minutes, so he pulled out his phone and opened his news feed.

The first few headlines were about famous people Psychus had never heard of, but one article stuck out to him. Apparently, a scout ship had returned this morning from its decades-long journey to a distant life-bearing planet, which was designated as ‘PMO-17’. The ship had brought back several thousand kilograms of samples, both living and preserved holotypes from the various inhabitants of the planet. The pictures were interesting enough, but without context from the forms of the creatures, it was difficult to interpret what they were analogous to from the Earth biosphere if they even were analogous. The elevator pinged and the door opened.

Psychus arrived on the 1379th floor in the district he had meant to reach. The room number was C-227, the C district of the 1379th floor was centered around a small common area. The elevator opened up at the edge of this area. Psychus walked past the holo-television, some food automats, and a few couches, chairs, and tables. It was early morning and only a pair of people were sitting watching a projected beast fight with some mugs. Psychus preceded to the room, following markings on the high grip floor. Eduardo's door has a projected plaque stating "Eduardo Soto: DA, Open".

Psychus scanned a scannable on the holoplaque and a signal was sent through the tower's network from his phone to Eduardo's.

The faint sound of footsteps could be heard after a time, and the door slid into its socket as Eduardo answered it.

"Hello, Psychus Timba here," Psychus greeted Eduardo.

Eduardo stood almost perfectly still in the unlit entryway, unblinking for an abnormally long time, but Psychus knew to expect this. He took a moment while Eduardo processed what was happening to survey the two-hundred-year-old man. He was of average height, perhaps 1.92 meters, smooth tan skin with a faint shine and wavy thick white hair, and a short beard in the same shade. It was clear from his apparent health, that he had like

virtually everyone else, opted in to a program of tissue renewal and replacement. The white hair happened naturally over time but could have been prevented or reversed if he had chosen to. His arms and especially his hands were disproportionately long, and his legs were short.

Eduardo raised one arm suddenly and waved slightly, "Hello Psychus." he responded.

"Come in," he said quietly while leaning to one side to allow Psychus inside.

The door closed behind them, "Should I take off my shoes?" Psychus respectfully asked, waiting in the entryway before walking into the room toward the end with white light and with orange and green shadows on the pale blue stucco style wall.

"No need," replied Eduardo momentarily. They walked together into the bright room and Psychus saw the reason for the colorful shadows.

Eduardo's room had several plants and animals from the colonies, an Adobrasigian Snail terrarium and low growing orange foliage to support it, A dwarf garlic tree, and A pot containing a large Mother of thousands with many babies on the phylloclades. The source of the light was a large panel on the far wall that produced an almost blinding amount of photosynthetically-viable broad-spectrum white light, the room was cut by the light in an

almost surreal way, with the shadows being sharp, and the panel producing a deep contrast from one side of the room to the other through the waist-high life-covered platform in front of it. In the center of the room was a pair of burgundy leather armchairs suspended by magnetic stands and a simple holotelevision which was on mute playing a report about the scout ship. The subtitles read “-mospheric conditions make it unsuitable.” and a commercial started. Psychus looked away.

“Sit.” Eduardo insisted, as he himself sat down in the chair facing the panel with his feet together and his hands on his thighs. Psychus sat with his back to the terrariums and plants and leaned back gently as the chair slightly reclined in response.

“Thank you for having me on such short notice,” Psychus said.

Eduardo stared like an owl. “Yes,” he answered.

The commercial ended and the report resumed on the holotelevision, an interview was beginning with the head xenobiologist that had led the expedition.

“So about the incident, I’ve read the report and seen the capture, as well as studied the simulation they performed based on locally recorded magnetic and gravimetric data...” Psychus paused, unsure how or if to continue before Eduardo had a chance to respond.

The holotelevision projected some 3D scans of the life from the planet over the interview.

Eduardo pursed his lips. “I’ve given my explanation to the best of my ability, if you doubt the veracity of my perspective, you aren’t alone,” he said.

“It is not a matter of my personal take, honestly I’m not sure what to believe. But I was assigned to learn from you until the phenomenon is understood.” Psychus replied.

“Phenomenon... is that what they’re calling it?” Eduardo asked coyly.

Psychus shifted slightly forward in his chair. “Well, sir, what do you call it?” he asked in rejoinder.

The holotelevision interview continued, the white-haired woman with blue lips was now almost giving a lecture about a specific creature from the planet. “...insectoid creature only lands to lay its eggs” the subtitles read.

“Portals, wormholes, folds, we have records of these from deep space. I believe what I opened was one of these. In the conventional sense.” Eduardo suddenly said.

Psychus looked up from the holotelevision which was displaying a microscopic biopsy of a sort of translucently green webbed wing. “I agree. Based on the gravitational anomaly that was detected, this explanation fits. But you insist that you opened

it? The report says the energy released was equivalent to several grams of nitrogen fusing into silicon.”

Eduardo looked at the terrarium briefly as a soft hiss was heard from it.

Psychus glanced back to see the small shelled creature deflating a tiny vocal sac under its eyes. When he looked back, Eduardo was already staring at him again. The holotelevision had moved on to another commercial.

“I’ll tell you something I don’t think they know yet, I’m certain I could do it again. Not only am I certain the wormhole came from me, but I can do it again,” Eduardo said.

Psychus was unsurprised. “The briefing I received stated this, as well as the fact that you are under the impression that this is unknown,” he said.

Eduardo frowned after a moment and nodded. “Well it is for the best that they believe me anyway, but they could have just let me know.”

Psychus nodded “It wasn’t my call, I apologize.”

Eduardo smiled shortly after a while.

“I was granted access to the readings, I read them myself,” Psychus said.

After a pause, Eduardo nodded. “And what do you think of it? I’ve also read them,” he asked.

Psychus looked at the holotelevision for a moment, the body of a strange animal was undergoing dissection. “I can’t see any other explanation than you being the origin of the... hole,” Psychus admitted.

After a much longer pause, Eduardo nodded again.

The subtitles on the holotelevision read “...although they primarily bask for prey, their skin is also photosynthetic...”

The white-haired man tilted his head to one side, and then the other. He seemed to be trying to decide.

Psychus noticed, but waited.

Another quiet hiss from the terrarium interrupted the silence. “Those readings... am I correct in thinking that you saw the one they did with a 3D map of the forces up until the hole opened?” Eduardo asked.

Psychus nodded, “Yes, I found that one particularly interesting, like watching dominoes fall, an uncontrolled chain reaction.”

Eduardo responded almost immediately this time as if he had planned for a yes. “I think I learned something from those readings. When they first interviewed me after the fact I hadn’t seen them yet, I only had a feeling as to what had happened, after all, the force put me fifteen meters down the hall on my back. I

was previously indisposed when they asked me what I had done,” Eduardo stood up as he spoke.

Psychus watched as he crossed the room and put his back against the wall.

“Please hold onto the chair,” Eduardo said.

Psychus gripped the arms and pushed back into the padding, he didn’t know what was about to happen but having seen the readings, he was justifiably scared.

Eduardo’s shoulder twitched slightly and suddenly a perfectly circular projection of Eduardo’s face was within a meter of Psychus’.

Psychus flinched.

“You see, what had happened is I had done this on accident, and I was so surprised I allowed it to close, releasing the potential energy,” Eduardo said looking through the hole between them.

Around the hole things seemed off, the air was shimmering symmetrically as if lensing or of increased density around the edges. Eduardo raised his hand, and Psychus could see it around the hole, it was distorted and stretched. Eduardo moved his arm and put it through the hole.

Psychus watched as this all unfolded after the initial shock, it hit him in waves, with the realization creeping over him slowly. Within seconds his schema for reality had been forever altered.

Eduardo retracted his arm from the hole and twitched again. The hole began to constrict, and the edges began to loudly arc to the metal parts of the holotelevision. Hot air rushed out from around the edges and the arcing stopped. The hole constricted to nothing but edges and the lensing became less and less as the hot air flowed into the room.

Psychus could smell something like the dusty air of a high desert. The holotelevision had been turned off by the electricity, or perhaps it was broken. He witnessed the hole close completely as a belch of much hotter air pulsed through the room.

“It was a simple misunderstanding,” said Eduardo.

Psychus did his best to remain composed, succeeding. “And the misunderstanding was?” he asked, trying to keep Eduardo on his track.

“I just needed to focus, it is for the best I tried it in that hallway, nobody was injured and a dry run with no fatalities is a win in my book,” Eduardo continued.

Psychus saw what he meant, “So you can control it now?”

Eduardo waited a moment and gave a half-hearted nod, “Well better than before that’s for sure. It doesn’t blow up anymore.”

Psychus had to know more but decided he would need to pace his questioning. “How many times have you done this?” he asked.

Eduardo looked slightly cowed, “counting the hallway? Two.” he said quietly.

“Two?!” Psychus said incredulously. Psychus put his hands on his temples and took a deep breath. The holotelevision flickered for a moment and he exhaled. “So you’re telling me you just made me a participant and party to an experiment?” Psychus asked calmly once he had composed himself.

Eduardo walked around his chair and sat down again. “Yes, I believe so,” he answered.

They sat in silence for a time, the holotelevision turned itself back on. A commercial was wrapping up. Eduardo suddenly changed his demeanor, “I’m sorry, I shouldn’t have done that. That was needlessly reckless.”

Psychus found himself nodding. “It’s fine, you didn’t even break the TV,” Psychus said with a weak chuckle playing off the momentary chemistry.

The little creature hissed again. The holotelevision presented a big colorful graphic of the planet with a few labels.

“Honestly this means we can skip a few steps,” Psychus remarked. “Our goal collectively should be in this direction after all.”

The holotelevision showed a cross-section of the planet, with its enormous molten core, a thin mantle, and a thin crust, two of

the outer layers were labeled “atmosphere one” and “atmosphere two.”

“Are you seeing this?” Eduardo asked acknowledging the holotelevision with a gesture.

Psychus was still a bit rattled, but he accepted the change in topic, being in that the revelation Eduardo had provided put them firmly ahead of the estimated timetable. “Yes, it’s quite strange,” Psychus said.

Eduardo and Psychus watched as the projection zoomed into the division of the atmospheres, swapping seamlessly from procedurally generated planet-scale diagrams to drone footage from the surface. A barely swirling pink fog that rose only to a certain height, and above its surface, small plateaus of stone.

The subtitles read “The tidal effects of the largest moon are responsible for the daily rising and falling of atmosphere one.”

The drone rose away from the threshold of atmospheric division and turned upward as it flew it zoomed forward toward a large indistinct green cloud against a pale yellow sky that was almost white, as it approached the cloud it became clear that it was actually composed of small insectoid creatures, they floated almost still in the air. The drone zoomed in on one. Its wide, rounded, and flattened body was covered in tiny green fibers.

Eduardo turned on the volume.

“Using its trichomes this creature increases its surface area. Its water retention is high, and it is able to collect the required water for carbon capture through condensation on its surface. This high surface area also decreases its terminal velocity by a significant magnitude. Their place on the food chain is that of a producer, with their photosynthetic tissue and the sessile niche they form the link between atmospheric carbon and organic carbon in the food-chain of atmosphere two.” The holotelevision announced.

“A sessile flying organism? that’s nuts.” Psychus said.

The drone had moved on to a solitary flying creature with bright blue waxy skin, and eyes on both the top and bottom of its poorly encephalized neckless head. “Being an intermediary predator, this creature feeds upon the photosynthetic insectoids in a manner similar to whales feeding upon plankton. The shot continued to follow the strange bird as it swooped downward and its mouth opened, unfolding a large pink weblike structure that quickly captured several dozen of the small green insectoids.

Before the creature could finish swallowing however a large white creature crashed through the frame and knocked it off of its trajectory. A second of the white creatures swooped by underneath and caught the blue creature as it fell. It seemed to hold its catch in hands at the end of its legs, its body was almost like a bat, but with long legs tucked underneath it as it flew. The two creatures flew

into within a few meters of each other and began to fly off. The drone followed them. “Forming the top of the food chain is this creature, pack behavior and communication are core characteristics of its hunting strategy.” The holotelevision continued.

A commercial started. Eduardo continued to watch, Psychus looked at the plants as it played out loud.

“Too many vices? Not enough time to play? Why not split, today? With GeminAye you can experience twice as much, or more, in the same amount of time! The process is proven safe, using the same medical technology that has surely already been a part of your life! With latency caps of only 1 millisecond, what are you waiting for? Our automated system can have you walking home as two cyborgs in less than five minutes, click now!”

The expose continued, “With atmospheric pressure forty times that of Earth, and a gravity of .71 times that of Earth, flight is a ubiquitous trait in the lifeforms of atmosphere two.” As it showed images of various similar creatures with body plans that differed only slightly. “The biodiversity is high, although the same niches are filled by creatures of the same class across all sampled populations.” The image changed, It showed drone footage from above the pink fog, the drone swept low over the stones, small

sparkling structures could be seen nestled into the surface convolutions.

“Perhaps more noteworthy than the life of atmosphere two, are those of atmosphere one” the narration by the woman continued as the drone suddenly dove beneath the fog. For a short period, the drone’s footage was simply a pink wall. The drone continued downward, passing the side of one of the rocky structures as it loomed out of the fog. The drone broke below the fog and the air became clear but wavy.

“Due to the greenhouse effect of the upper layer of atmosphere one, the temperature within atmosphere one ranges from 340 kelvin to above 400 kelvin.”

The drone continued downwards, beneath the fog were long canyons running between the tall stone pillars. “The dust layer that makes up the upper layer of atmosphere one comprises primarily of Lithium Fluoride crystals ranging from one-half to five micrometers in diameter. As well as trace ionic manganese impurities”

Psychus couldn’t believe what he was seeing, his mouth fell open as he continued to watch. “The crystals are suspended above an atmospheric layer of primarily Sulfur Hexafluoride, Nitrogen Trifluoride, Fluorine, Nitrogen gas, and Xenon, as well as various fluorocarbons.”

The drone reached ground level and zoomed through the bases of the stones. “The lifeforms of atmosphere one is unlike other cataloged life seen so far, in that the core metabolism of the creatures is fluorine driven, with the terminal electron acceptor being fluorine. The drone continued, lighting struck near it. The drone continued down a rocky slope in the canyon it was traversing and its view came upon what looked like a patch of mushrooms. “The chemotrophic producers of this ecosystem derive their biomass from volcanic vents which release gasses continuously.” The drone came close to them, the air was very wavy around them, shimmering from both heat and the differing density of the gasses being released to those of the surrounding air.

A commercial began. Psychus returned to himself and sighed inwardly. He looked at Eduardo, who stared unblinkingly at the projection. “Looking to reduce? Take some time away? File yourself with Synflow. Only ninety-nine sats per day!” The projection showed a human nervous system being lifted out of its body like a ghost by a surgomat with angel wings. Psychus scoffed.

The report resumed, the drone followed the patch of mushrooms along a gradient as they became thicker and more densely clustered. It passed some which were easily a meter tall, with a fractal structure emerging as they grew, branching like a

flowering plant. “The ambulatory lifeforms of atmosphere one are poorly understood at this time.” As the narration stated this, a scaled stalk-eyed creature with a metallic sheen to its carapace came into view. It appeared to be grazing upon some of the mushrooms.

“Although specimens were found weighing roughly 1200 kilograms. When fleeing our drone this individual reached a speed of forty-eight kilometers per hour.”

The creature turned toward the drone and let out a deep guttural hiss and a plume of pink fog from each of the vents on the side of its head. It took a step backward and suddenly started running away. The drone chased it as it scurried up the side of one of the pillars on its four pairs of short legs along its long body. It forced its way into a crack in the stone and appeared to flatten as it slipped deeper in, and into the shadows.

Eduardo looked up as the footage cut and another commercial began. “I’ve never seen anything like this, and I know you haven’t either,” he said as the holotelevision advertised a new video game

“9000 levels, seven play-styles, grapple and swing your way to victory! Grappler, now available, click now!”

Psychus nodded, “It's true, I have not.”

Eduardo looked at him piercingly “How old are you?” he asked after a while.

“I’m eighteen,” Psychus answered.

“I was told that you also have BN-EHH type three as well,” Eduardo said, referring to their shared brain abnormality.

Psychus nodded.

“You know, the training they put you through, I helped to design it,” Eduardo said. “Do you have any thoughts on your experience?” he asked.

Psychus thought for a moment, allowing his memories to fill his consciousness, his field of vision filled with images of a projection, it progressively advanced through topics, categorized and timestamped for easy recall. Psychus pushed his memories back. “Yes, I think it was quite good,” Psychus replied.

“Do you mind if I test you? You’re the first person to be trained by my program.” Eduardo requested after a moment.

“Sure.” Psychus acquiesced.

Eduardo turned off the holo television. “What is the first Feigenbaum constant?” Eduardo asked.

“Four point six six nine,” Psychus replied, reading the truncated number from the image of the projection in his mind.

Eduardo seemed to be checking himself before speaking.

“Excellent, how about some facts about Potassium?” he requested.

“Potassium: symbol K, atomic number nineteen, alkali metal, standard atomic mass 39.09, highly reactive,” Psychus said, smiling playfully.

Eduardo smiled too. “What is pasteurization?” he asked. “Pasteurization: a process of food preservation using heat to kill microbes,” Psychus replied.

“In what year did the first colony ship leave Earth?” Eduardo inquired.

“2169, The Seed exited the Earth atmosphere as seen by more simultaneous viewers than any previous televised event.” Psychus recited.

Eduardo continued grilling Psychus on minutiae for a long time enough to go through a large pitcher of water together including bathroom breaks. Psychus answered every single question correctly and quickly, while Eduardo took several seconds to ask each question and receive each answer. Eventually, Eduardo sat back and grinned placing his hands behind his head with his elbows aloft.

“Well, that’s fantastic!” Eduardo said. “Your recall speed is quite fast. I have trouble with that,” he added.

Psychus acknowledged this, “Yes, the organizational structure of the data was great.”

Eduardo nodded after a few seconds, "I really wish I had had my own training." he said with a chuckle.

Psychus felt privileged in having not been the first person with BN-EHH type three and felt a pang of dread for the life Eduardo must have led.

"Well, it's about time for my walk," Eduardo said, checking the time on his phone. He stood up. "Let's take a walk," he said.

Psychus stood up as well, and they walked into the entryway and out the door which closed behind them.

The plaque above the door changed from blue to red and read "Eduardo Soto, DA, Closed".

They walked in the direction of the central area of district C, Eduardo taking long steps with his short legs, and Psychus taking short steps with his long legs.

"A fluorine metabolism..." Eduardo mused.

"Yes, it's truly bizarre," Psychus replied.

As they reached the common area there was a crowd of men and a few women standing around the holotelevision which was projecting high in the air, the full-color 3D HD footage was showing a beast fight about to begin. The footage was edited live using procedural analysis of the shots from the many drones around the arena. The people were making small bets on their phones with their UBI stream as a male announcer trumpeted their

stats “Architect’s avatar Xaltaxis! Weighing 1200 kilograms, speed like a piston, and with three wins in this tournament so far...” he said as the footage zoomed in on a huge spherical tank made of a clear material, A large bright-green tentacled form could be seen floating inside. “...against Garlito’s avatar Centiclak! A 1400 kilo powerhouse, also with three wins this tournament.” The tank holding Centiclak was bigger, and Centiclak was dark blue, almost black, its form was unclear.

“Do you watch these?” Asked Psychus, standing next to Eduardo at the end of the hall before entering the area.

“Not typically, I’m not often a fan of the brutality,” Eduardo responded turning to look Psychus in the eye.

Psychus nodded. “I’ve never seen one,” he said.

Eduardo thought for a second, “Well they’re worth seeing once in a while, take a look if you want while I grab a snack from the automat.” He walked off toward the automat and left Psychus standing at a distance from the projection.

Psychus approached the holotelevision and pulled out his phone. “I may as well try my hand at sizing up,” he thought as he downloaded a gambling app and connected it to his account with a biometric scan. He navigated to this fight by the name of the first competitor. “Architect huh? Kinda pretentious I guess, but maybe he knows what he’s doing.” Psychus reasoned as he flashed

through his training on game theory. The training was comprehensive over mathematical theory but he found nothing relevant to this except some references to gambling strategies and vocabulary.

The announcer began to count down from ten, and steam blasted out of the seams of the tanks which ran along the length and over the top. Psychus placed a 10 sat bet on Xaltaxis and put his phone in his pocket so he could watch. The two creatures appeared to unfold out of their tanks, as the steam cleared the two creatures were in front of their tanks. The tanks submerged into panels on the floor of the arena and the announcer reached three. "... Two, ... one!" With the announcement of "one" a blaring low-frequency tone played within the arena.

Xaltaxis rose up onto the tips of its tentacles and dodged as Centiclak lashed out with a large pincer on a thick multi-jointed appendage which looked like a scorpion's tail. Following up the whiffed attack, Centiclak charged, its four muscular legs thundering on the synthetic soil. Xaltaxis scuttled around behind it, its speed was surprising considering its size, curved spines assert from the ridges along the top of its tentacles. Centiclak lashes out again without turning and lands a glancing blow on Xaltaxis.

At that moment Psychus felt a tap on his shoulder. It was Eduardo, he was holding a partially eaten hot shawarma. "How's the fight?" he asked.

Psychus glanced back to see Xaltaxis rip off its own injured tentacle and throw it at Centiclak with another functioning tentacle. "I think it's going alright, but the guy I bet on is losing I think," Psychus said.

Eduardo watched for a moment. "The big blue one?" he asked. Psychus looked back and saw that the tentacle was hooked into the grooves in Centiclak's carapace. Centiclak was seemingly unaware and kept fighting. Xaltaxis dodged around as Centiclak rampaged through the large arena.

"No, the green one," Psychus responded.

Suddenly Centiclak seemed uncoordinated, it lashed out in the wrong direction, one of its legs buckled and it fell. It began to twitch. Xaltaxis sat back. Centiclak was laboring to breathe, for the first time the arena was quiet except for the breathing. Centiclak went still. Xaltaxis slithered up to it and came around to what appeared to be the face. Xaltaxis Raised a tentacle and a long thin spike extended from the tip. Xaltaxis lunged forward and pierced the shell of its face with a snap, the tentacle pulsed down the length and the spike retracted back in. Then Xaltaxis crept around to each of the points where the legs met the body, and

where the pincer had met the body and repeated the process with a different tentacle in each spot.

“And the winner is Architect’s avatar Xaltaxis!” The announcer shouted. A screen popped up showing the tournament bracket. A thick red X slammed over an image of Centiclak and a green circle over Xaltaxis as its display box slid into the next position on the bracket.

Psychus’s phone buzzed. “You have won your bet: collect 19.99 sats!” he clicked through the notification to the app and transferred the winnings to his account. “Well that was fun,” he said smiling.

“Sure, want a bite?” Eduardo asked gesturing with the shawarma.

“No thanks I had a pretty big breakfast,” Psychus said over a commercial that had started playing. “-two thirds more volume than other leading feather conditioners, with no residue!” The commercial concluded.

An interview with Architect began over footage from slow-mo of different angles on the fight than had been shown before.

“As an up and coming gen-en, what would you tell your younger fans?” Asked the interviewer, a female voice.

A high-frequency snide nasally voice replied “I’m just happy to be following in my father's footsteps, perhaps this came

naturally to me, I believe anyone could do it though! With my protopet and the new gene kits, you can make your own battle beast at any level of skill!”

“And what do you credit the potency of the venom of Xaltaxis to?” The interviewer asked.

“Ah, I can’t tell you that. You know anything I say will be used against me within a week!” The voice of Architect responded.

“Well, you’ve got me there! ” she joked. “How about your upcoming match? Depending on the elimination you will be facing either OttoTheMendacious’ Giteriglia or 2-bit’s Weeliosbop.”

Architect chuckled “Well, to be honest, I’ll be surprised if OttoTheMendacious can beat 2-bit, but for Giteriglia, he’s kind of a one-trick. I wouldn’t expect much action. Weeliosbop though, I honestly give him a fifty-fifty shot against Xaltaxis, I know 2-bit has put a lot more thought into his metabolics game than OttoTheMendacious, it would be bad if he cracked the nature of my venom enhancements since last tournament, but even if he has, Xaltaxis still has a few tricks.”

“Well you heard it here first folks, Architect still has some moves we haven’t seen yet.”

A commercial started for the protopets Architect had mentioned. “Would you like to keep walking?” Psychus asked Eduardo, seeing that the shawarma was gone.

“Just a sec, I’ve never seen these things before,” Eduardo said, staring rapturously at the advertisement.

“Protopets-protopets made from flesh, but no mess or wet! Change the parts, as you see fit, breed and fight, that’s the fun bit!” The jingle went, images of a small round creature in various colors with spots of all different color combinations along its body. The images flashed through a few of the potential traits for the protopet. “Tentacles, wings, or spines, any way is fine! Splice and make, as you create, they love despite your crimes.” The jingle concluded, ordering information flashed across the projection. “Click now.”

“I think I want that," Eduardo said.

They walked out of the central area of district C towards the center of the 1379th floor, they passed through a large series of halls and past residential offices like Eduardo’s into a sort of main street. Many more people were here than the few that had passed in the halls. This area was a large commerce node about halfway between the center of the floor and the center of the C district. It was the border town of the C district and the F district. Many hangout areas were located on this hall-street from bars to

childcare. Restaurants with tables and chairs outside their front door sat under a low projected banner that said “C-F Junction.”

As they passed under the sign he turned to see that from this side it read “F-C Junction” they walked through a medium-small elevator bay into a much more expensive set of office-homes than Eduardo’s on the outskirts of the F district. The homes’ value was increased solely by the fact that they lay between 1379th Central Park and the junction.

As they continued onward Eduardo spoke. “Sorry, I don’t have much to say, I’m thinking about that protopet thing,” he said.

“No worries!” Said Psychus, “I was thinking about the fight.”

They walked into an area where the hall widened sharply on each side and gave way to a grassy park.

In the park, there were people jogging, a cyborg giving a public performance of poetry with a scannable projected from his chest for tips. “...muscles, heat, wires and meat, I was dropped, now I’m the beat, daily grinds, hybrid minds...” Psychus heard through the warm humid air as they passed.

A couple was arguing on the grass on a blanket, the very tall woman stood up and stepped back, turning away and crossing her long skinny arms. She began to walk away. The man stood up and followed, he had a multicolored mohawk of thick fleshy tendrils. “Wait!” he yelled after her.

Eduardo chuckled.

Psychus smiled, he found it amusing vicariously hearing Eduardo chuckle.

They walked along to an empty bench and Eduardo sat down, Psychus followed. “On days when the council is out of session, I usually come here during what would be the meeting hours,” he said.

Around them were bushes and short trees that nearly reached the ceiling. Eduardo pulled out his phone and started browsing. Psychus did the same, he looked up beast fighting in his search bar. The top hits were for local stables and the central Ulan Batar tower beast-fighting arena. Down a few was an advertisement for protopets, and after that were more hits, some for gambling, some for how-to guides for specific traits.

“Dang, one-hundred-and-ninety-nine sats for a starter kit?!” Eduardo said.

“What's that?” Psychus asked, looking up at Eduardo.

His screen read “Order Confirmed!”

“These protopet kits are almost two-hundred sats each!”

Eduardo continued, “But that’s not the punchline!” he said. “You gotta get two, you just gotta get two, they set it up so you can’t really play without two.”

Psychus watched Eduardo put away his phone and stand up before agreeing “Right, I see,” he said.

“Come on, I want to go check them out!” Eduardo said, walking back the way they came.

Psychus jogged a few steps to catch up. “Ok, yeah that sounds like fun,” he said.

Eduardo was taking much quicker steps, almost power-walking. “So I got two starter kits, and one of each gene-stik,” Eduardo said with no difficulty despite how quickly they were moving. “We can check them out, I’ll let you pick first,” he stated as they entered the FC junction.

Stopping at the elevator bay, Eduardo walked over to the premium pod and bid. The pod appeared and they stepped in.

An advertisement played over the speaker for a new album by the band ‘Octondejacht’ a sample played; “What bridge if there is no gap?! What Bridge if there is no gap?! What bridge..? No gap..! No gap, no gap no gap” the deep repetitive voice played over a sort of slide-slap electronic techno beat. “With lyrics spanning the nature of life like ‘Why do the มดดำ and the มดแดง fight? why do the มดดำ and the มดแดง fight?! มดแดง! มดดำ! มดแดง! มดดำ!...’” A solo drum beat almost like a war march accompanied this one.

The pod stopped at the central area of district C and Eduardo headed toward the hall leading to his room, The crowd around the holotelevision had grown, a slimy purple lump was colliding with a strange hummingbird-shaped creature that exploded into a lightning ball. The crowd alternatively cheered or groaned “Looks like Kaheksaguge has exploded! Must have been a Sach’s organ internal failure on that hit! The force coming through Bongu’s non-newtonian body is staggering!” Psychus had to pull himself away and follow Eduardo.

They reached his room, and Eduardo scanned himself and Psychus back in. Inside sat a package about the size of a shoebox. Eduardo picked it up and they walked into the main room. Eduardo sat and pulled the package open. It contained two smaller boxes with clear biodegradable polymer across the front showing a small shriveled colored dot in each. The rest of the contents of the package were small objects that looked like narrow lip-balm tubes.

“Ok, which do you prefer,” Eduardo asked holding the packages up out of the shadows. Psychus could see that the dots were a different color and the boxes each said the colors as well

“Hmm, Red with green, or purple with yellow? I think I gotta go with purple and yellow, great taste in color man!” Psychus said.

Eduardo handed the package to Psychus and opened his own,

quickly pulling out the instruction scannable and scanning it into the holotelevision and his phone.

The holotelevision projected an EULA, Eduardo scrolled through it, Psychus scanned his scannable as he opened his package as well and quickly scrolled through the EULA before accepting. The instructions started thusly “Hello, Thank you for your purchase of a ProtoPet platform!” Psychus scrolled down to the index, and skipped to “Activation and first steps”.

“In order to activate your ProtoPet platform, you will need a small amount of hydration and five minutes,” it read.

“Can I snag a glass of water for this?” Psychus asked, picking up the empty pitcher from earlier and standing up.

“Sure, yeah,” Eduardo said absent-mindedly as he clicked accept. Psychus walked out of the room into the small kitchen and turned on the lights, he walked over to the sink and activated it with a foot pedal. Filling the pitcher with warm water, Psychus returned to the living room.

Eduardo appeared to be sucking on his pellet. “What are you doing?” Asked Psychus.

Eduardo pointed to the instructions, where he pointed it read “The ProtoPet Platform and all Gene-Stik components are non-toxic and edible.” he then pointed to another section which read

“Saliva can be used for initial hydration, and placement in the mouth leads to a high degree of initial imprinting.”

Psychus shrugged, “Ok, yeah that makes sense, but I’m still gonna use a cup.”

He poured his glass halfway full and placed his pellet into the water after carefully removing it from its packaging. It quickly began to swell, within fifteen seconds it rested at the bottom of the glass with four short limbs. Its color was much more vibrant now that it was hydrated. Its eyes rested on spots on its small rounded neckless lump of a head. Eduardo fished his pellet out of his cheek with his index finger and placed it on his leg.

Psychus pulled his out of the cup and placed it on the rim of the holotelevision. It sat blinking, it seemed to be looking at him.

Eduardo dried his off with his shirt and placed it on the rim of the holotelevision as well. He scrolled the section of the instructions on basic commands.

Psychus scrolled through his to “Using a Gene-Stik”.

The section read “To apply a Gene-Stik simply smear a thin film of the compound onto one of your ProtoPet Platform’s spots, after a short period, the associated trait will be expressed.”

“Oh wow!” Eduardo said.

“Hmm?” Psychus said looking up from the diagram in the instructions.

“It says here they don’t experience pain, listen to this: ‘The ProtoPet Platform lacks a P-factor and cannot feel pain.’” Eduardo answered. Reading from the instructions.

“Well, that’s good.” Psychus remarked, opening a gene-stik labeled “Narwhal Horn” along the side. He picked up the purple protopet and placed it on the palm of his left hand. He picked it up between his right index finger and thumb. The little creature didn’t struggle but braced itself and turned its head slightly to look at Psychus’ face.

The protopet was surprisingly hard but springy, like a superball. Its surface was covered in very short bristly hairs, like a combination of velcro and felt. He pulled the cap off the gene-stik with his left thumb and gently smeared a dot on its forehead with a thin film of the balm inside the tube. He placed the protopet down on the rim again and put the cap back on.

He watched intently as the protopet looked around. Within a few seconds, the dot began to bulge, and a tiny horn grew out of it. The protopet didn’t seem to mind. The growth was smooth and non-disruptive and stopped after a few seconds.

The protopet now had a yellow horn with a spiral purple indentation along the length. “Wow, that was awesome!” Psychus said picking up the protopet and testing the horn’s tip with the tip of his finger. It wasn’t too sharp, but it was solid.

Eduardo was using a small device to shine a green light in front of his protopet, it walked along toward the light and Eduardo turned it off.

“What's that thing?” Asked Psychus.

“It's the command stik, check your box,” Eduardo responded.

Psychus looked in his box and saw a small folded cardboard holder retaining his stick. Psychus realized he hadn't thanked Eduardo for this. “Hey, by the way, thanks for this,” Psychus said.

“Think nothing of it, after all, I almost exploded us both a few hours ago,” Eduardo responded. he played a short beep from the command device and the protopet jumped from the rim to his hand like a frog. “Nice, the return command is working.” Psychus' protopet looked over at Eduardo but stayed where it was.

Psychus pulled out his command stik and looked at it. It had a couple of buttons on a small pad, a speaker, and a few lights. The symbols didn't instantly make sense to him so he scrolled through his phone to the section on the control stik. He looked over the pictogram key for a moment and pressed the button for a guidelight.

A purple spot of soft light beamed from the end of the control stik. The protopet walked toward it and off the rim of the holotelevision. As it fell Psychus caught it with his empty hand. The horn poked his palm and he winced.

Eduardo laughed “They will go to the light wherever it is! It says right here!”

Psychus looked up and saw the text.

“Ok well, what else do they do?” Psychus asked.

“Oh well the commercial said you could fight and breed them, and the site said they interact outside of those activities as well,” Eduardo said.

“Nice, yeah let's see how they interact,” Psychus suggested. He picked his up and placed it across from himself on the rim.

Eduardo put his down, “Ok Eddie, go meet your friend!” he said quietly as he put the protopet down.

“Eddie? Oh sure, a name! Uh, Yeah Psybie go meet Eddie.”

The two protopets walked towards and past each other, they walked around in a small circle together and stopped, rearing onto their hind legs and doing what looked like a little dance, they seemed happy.

“Oh that’s cute, how do you think they got them to do that?” Psychus asked.

“Well, I guess they have some sort of instinct set built-in, like the beast fights,” Eduardo responded.

“Do you want to battle?” Psychus asked.

“Not yet,” Eduardo responded. “Let's soup them up first,” he suggested.

“Ok yeah.” Psychus agreed. He picked up Psybie and looked it over checking all the spots, there were many, he thought about the form he wanted and started reading through the gene-stiks. He saw one labeled “Dragon wings” and stopped, handing the package full of the gene-stiks to Eduardo. He applied a tiny dab to each of the dots behind its head on its back and set it down. First, a small hooked claw bulged out of the spots, one then the other. Quickly the claw pushed out, and a long skinny purple limb grew out behind them. The limb flexed a little, and median ribs grew out of the two joints along the limb, and with them a film of furry yellow skin. Within seconds Psybie sat there on the rim with tiny dragon wings, Psychus looked over to see that Eddie now had a turtle shell.

“Nice choice, I love the turtle aesthetic,” Psychus said.

Eduardo pulled out another tube and handed the box back to Psychus.

Psychus looked through again and stopped on “Shark Fin”.

He repeated the process as he had twice before, and liked the little purple fin. He saw that Eduardo had turned the spots on the tips of its front legs into bird feet.

“Could you hand me the hooves tube please?” Eduardo asked.

Psychus fished around, all of the tubes were black with white text. He found the hooves tube and passed it over. He went back

in, he had seen a tube for a trunk. He applied the tube to the spot above where its tiny perfectly flush mouth was, it grew and protruded outwards into a spiraling trunk. Psybie let out a little trumpeting noise and jumped back and forth a few times.

“Looks like he likes that one” Psychus said watching Psybie experience the zoomies for the first time. He looked over and saw Eddie walking around wiggling each leg as it stepped. Eduardo was watching with a smile. Psychus dug into the box again and found “Compound eyes”.

“Could I get Prehensile Tail, please?” Eduardo requested.

Psychus handed it to him and rustled around in the package again, pulling out “Tentacle”.

He applied it to two dots on each side of the protopet and watched them spring out.

Psybie lifted itself on its tentacles and rose up onto the tip of just one, holding on with a tiny suction cup.

Psychus noticed its abdomen was looking slightly retracted, or maybe just smaller. “What do these things eat?” he asked Eduardo, as he pulled out his own phone to check.

After a moment of each man scrolling through the digital booklet, Eduardo answered. “Although the ProtoPet Platform can and will eat any food a human will, The ProtoPet Platform is able to survive on water and light alone,” he read.

“That's great!” Remarked Psychus as Eduardo continued.

“If denied water or light for an extended period of time, the ProtoPet Platform will return to a desiccated pellet form, and will survive like this indefinitely until rehydrated.” Psychus nodded. “If your ProtoPet Platform becomes injured or dismembered, place it in shallow warm water until a complete recovery occurs.” Eduardo finished with an appreciative facial expression.

Psychus applied the compound eyes tube to the dots around Psybie’s eyes. They bulged outward and became shiny, with tiny hexagons covering the surface. They became bulbous yellow orbs with a black stripe across whatever angle you looked at them, like a praying mantis.

“Hmm, I’m not sure I like that... crap.” Said Psychus.

Eduardo pointed to the box “Just use the trait remover.” He Prompted.

Psychus dug around and pulled out a tube labeled “Trait Remover”.

He gently applied it to the surface of the compound eyes and they appeared to deflate, the smooth surface pulled back into the spot and the tiny black-dot eyes returned to the places they had been.

Eduardo was dangling Eddie from his finger, its tail wrapped around the finger like a branch. “Want to battle now?” he asked.

“Sure, how do we start?” Psychus asked.

“Let's put them on the floor and play the fight sound,”

Eduardo said.

They placed the two protopets on the floor and stepped back.

“How about, whoever wins buys lunch for the loser.” Said Psychus. Eduardo agreed and played the low-frequency tone, it sounded just like the one from the beast fight earlier but it was coming out of a cheap tiny speaker.

Psybie Jumped into the air and spread its wings, gliding toward Eddie. Eddie turned around and Psybie collided horn first into its shell bouncing off in a comically anticlimactic way. Psybie flipped onto its feet using its tentacles as Eddie charged around at it. It swept its horn across Eddie and flipped Eddie over. Walking over Psybie placed its foot on Eddie and blew its trunk.

“I guess I win” Said Psychus.

“So About that lunch?” Eduardo said.

“Yeah, do you know a good place around here?” Psychus asked.

“Sure, there's a place on 1400 that specializes in seafood,” Eduardo answered. Eduardo scooped up Eddie and placed it in his pocket.

“Let's go!” Psychus agreed as he scooped up Psybie, and they headed out of the door again.

Everything looked dim after hours in the room with the panel. It took a second to adjust.

They headed out toward the elevators around the common area, as they approached Psychus could hear the sound of the crowd cheering and groaning again. A fight must have ended just now. As they got closer Psychus could hear the announcer say “TrogBox’s Hemtan takes the match! A real turn-around!”

They walked over to the elevators through the area. Eduardo stepped onto the passenger sensor and waited.

When the elevator arrived Eduardo pressed the panel for 1400 and the elevator began to rise. It stopped shortly afterward however and the doors opened.

The panel read 1384. A woman climbed aboard, quietly talking on her phone as she entered her destination. She had long pointy ears and a tattoo of an eye on her forehead. “Look, we can talk about this when I get home, don’t worry where I’ve... ” she paused as an inaudible response came through her receiver. “Ok, I love you too... See you in a minute,” she said as she hung up. The elevator stopped again, the panel reading 1390. She climbed off.

The elevator continued to 1400 after that, and they disembarked into a section of the floor, unlike the ones Psychus had seen so far in this tower. It was like the inside of a steakhouse, dimly lit and with ornate wooden paneling. “This way,” Eduardo

said, gesturing loosely and walking down a hall to the left. They walked a ways and took a few turns past several other restaurants and bars, a liquor store was doing great business as they passed.

Finally, Eduardo stopped in front of a door with a holoplaque reading “Lemonfish”. He pushed the door open and walked inside, Psychus followed.

There was a holographic maitre d’ standing behind a wooden lectern. A low din of tipsy diners could be heard behind a separating wall “Hello Eduardo, your usual table?” It asked.

“Yes please,” he answered. “And who is our guest this evening?” The projection said turning to Psychus.

“Psychus Timba,” Psychus said in response.

“Hello, welcome to Lemonfish, Mr. Timba.”

The maitre d’ pointed toward the inlet to the dining area and spoke again. “Your table is ready.” It said, gesturing slowly with a projected arm.

The two men walked into the restaurant, Eduardo in the lead. He brought them to the table, which was a small booth in the back corner near the kitchen.

“So you come here often?” Asked Psychus picking up a menu and glancing at it before putting it back down.

“Maybe once a month,” Eduardo replied, picking up his menu and reading.

After a short wait a mechanical rectangle rose out of the floor next to the table, “Hello good sirs, can I take your order?” It asked in a synthesized female voice.

“Yes please.” Said Eduardo.

“I’ll have a bowl of the lobster chowder, an order of calamari with garlic aioli, sweet potato fries, and a Caesar salad to start,” Eduardo said.

“And to drink?” Asked the robot waitress, flashing drinks across her projected screen. “How about a tall rum and coke,” Eduardo replied.

“Make that two.” Said Psychus, he had never had alcohol before, but having turned 18 earlier this year it was something he had been looking forward to trying.

“And for you sir? ” she asked.

“I’ll have a salad as well, but for the main, I would like the beer-battered ‘Atlantic’ cod.” Psychus said, emphasizing ‘Atlantic’, knowing that the fish could only have come from Breadworld Gamma. “Oh, and a plate of fried oysters too, please,” he added as an afterthought.

“Coming right up, thank you for visiting Lemonfish.” The rectangle said and retracted into the floor.

“Friendly staff.” Joked Psychus. Eduardo stared at him for a moment before laughing.

“Well there is only the two guys who run this place really, and they aren’t here very often. “The Pangonis brothers. Their family has run this place for 1600 years. 900 of it under their primary supervision.” Eduardo said. “Dennis is 960 this year, and Pedro is 1041. Nice guys, maybe you can meet them some time.”

Psychus knew of course that people lived to be that old, and older, but being only eighteen he had a hard time wrapping his head around someone fifty times older than him.

The rectangle rose out of the floor again and a hatch opened on the front presenting two beautiful caesar salads with croutons and shaved parmesan cheese. As well as two tall glasses with brown liquid and ice floating in them, and a half-loaf of hard crusty bread. They each grabbed a plate and a drink and placed them in front of themselves, Eduardo placed the bread in the middle of the table.

Eduardo raised his glass, “To a long friendship.” he said, toasting Psychus.

They both drank a gulp. Psychus noted the taste and his mental state as he tried alcohol for the first time. Eduardo set down his glass and began to greedily devour his salad, taking enormous mouthfuls and barely chewing. He grabbed the bread and ripped off a chunk, then ripped it in half. He scooped the salad up

between the pieces of bread and began to eat the salad like a sandwich.

Psychus looked away and repressed a smirk. He carefully cut his salad with a knife and took small bites. Either way, the two men sat with empty cups and empty plates after a few minutes.

The waitress returned. "A fresh pair of drinks while you wait?" she asked.

"Yes please!" said Eduardo. Psychus was beginning to feel something. He thought for a second about how he was going to end up paying for this, but felt fine about it, as all of his expenses were being covered by the council balance.

The drinks arrived and shortly after the calamari and oysters. "You gotta try this aioli." Said Eduardo, pushing the ramekin of white paste toward Psychus.

"Can I try it with the calamari?" he requested.

"Of course, let's share," Eduardo replied pushing the calamari closer to the center of the table while Psychus did the same with the oysters.

Psychus took a large drink from his glass. He stabbed one of the rings with a fork and dipped it in the sauce.

"The strips are better than the rings, to be honest, and the tentacles are the best part. But this place gets calamari right." Eduardo said as Psychus took a bite.

The calamari was crispy but not too stiff or crunchy and didn't taste or feel greasy, the sauce was cold and the calamari was hot. The slightly sour tangy garlic taste of the aioli was excellent. "Do I detect lemon juice?" Psychus asked after swallowing.

"Yes, I think they put it in most of the sauces," Eduardo answered. Psychus added lemon and garlic to his running mental calculation of the distance the food had traveled. He looked up to see Eduardo taking a large bite of several rings off his fork. He took another drink.

They ate the fried seafood and drank. Before long they had finished another round and the plates were empty again. The waitress returned from the ground with another pair of drinks and the main dishes. Eduardo carefully picked up his large shallow bowl of chowder, and Psychus extracted their drinks and his cod. The sweet potato fries had come with this batch of food and drinks.

Psychus was feeling strange. The pit of his stomach was hot, he began to sweat and he became more talkative. "So, I'm sorry to ask, but your childhood, I can't imagine." He tried to ask a question but failed.

"Slow down buddy," Eduardo said after a moment noticing that his new friend was intoxicated.

“Yes sir!” Psychus said before plowing forward. “I mean, without the training, I just don’t know how you made it this far!” Psychus continued loudly before taking a handful of sweet potato fries and shoving them into his mouth and washing them down.

“Well if you’re genuinely curious, it’s a very long story.” Said Eduardo.

“When I was born, there was BN-EHH type 1 and type 2.” Eduardo began. “When my condition was named, it was tentatively called “Soto syndrome” after my last name,” Eduardo recalled, pausing from his ravenous consumption. “I didn’t learn to speak until I was seven years old, and my conversational skills were comparable to a young child until the age of twenty-one,” he said, his face wrinkling at the thought.

Psychus dipped one of his strips of cod in the aioli and began to eat as he listened.

“I wandered the roads for years, facing abuse and use, I was an odds calculator for a decade.” Eduardo continued. The waitress brought another round of drinks and the cheque. Psychus scanned the cheque, scanning it lazily to see the total “134.65 sats” before paying through his phone. He took the drinks out for both of them, he was feeling abnormally strong and flexible, he finished the previous drink with a swig.

“I saw my own mother become a mental patient,” Eduardo said calmly, but with a frown as he took a spoonful of the thick chunky orange soup. “Her life was ruined by my disability... it ultimately drove her insane, and eventually to her death in 9693.” Eduardo paused, pulling out Eddie and feeding him a small amount of the soup off the tip of his finger. Psychus didn’t think to pull out Psybie.

“That’s terrible.” Said Psychus, trying to empathize with what had happened to Eduardo, but failing. Psychus’ parents had given him to the government to be raised in the Sentinel Island School for Savants before he was even born.

Eduardo nodded absentmindedly as he took another slurp of soup. He chewed the lobster and potato for a moment before remarking “Overall, it was, but what happened after that is another story.”

“Why do you say that?” Psychus asked, already halfway through his drink. Eduardo chuckled before answering, taking a moment to think as well. The gap was disconcerting. Psychus swallowed his current bite with a bit of strain and stared at Eduardo.

“When I was thirty-two I was well-out, no family, no phone, no access to my UBI. I fell out of the system and started walking. I would beg outside towers, I had seen someone do it as a child and

I never thought to beg indoors. I traveled from Buenos Aires to Ulan Batar before someone took me in.” Eduardo recanted.

“Unbeknownst to me, one of the universities in this tower was studying my genetic structure. I was picked up by a researcher because the DNA in my waste triggered a response on a local search query in the HMC.” Eduardo picked up his bowl and slurped from it as Eddie watched from the table, its tail swished back and forth.

Psychus absentmindedly drank his glass dry and continued to listen, he took another large bite from one of his large cod strips which sat on a bed of dark green lettuce.

“The researcher brought me to a place where I could sleep and bathe and eat in exchange for being part of the research into my abnormality,” Eduardo said, wiping his mouth with a cloth napkin and taking another drink. “Within a week the researchers identified my ability to remember, and in another week they were testing my simultaneity,” he said flatly.

“What happened next?” Asked Psychus, enraptured.

After a moment Eduardo answered, “Well they worked with me, took samples, ran tests. Over the course of about twenty years they brought me to the functional level I operate on today.”

Psychus was blown away. Suddenly he realized how inebriated he had become. “It may be the alcohol talking, but that's the craziest story I ever heard,” he said.

They talked for a short while more before standing up with some effort.

Eduardo slipped Eddie back into his pocket.

They staggered out of the restaurant and into the dimly lit floor.

Before he knew it, Psychus and Eduardo were back on the 1379th floor. The crowd around the holotelevision had abated, for the most part, perhaps two dozen haggard men remained. “Coming up next, Xaltaxis versus Weeliosbop!” The announcer yelled before the projection cut to a commercial.

“You seemed to be enjoying this earlier, if you want to stay and watch I’ll be back at the room reading the rest of the manual for Eddie” Eduardo offered.

Psychus nodded and staggered toward the holotelevision.

Eduardo walked off down the hall and Psychus came to the edge of the circle. The men around the projection mostly had drinks. Psychus realized the automat also served beer and he wanted to keep this feeling alive. He fumbled with the automat and ordered a pint of cold beer, it cost three sats.

Psychus carried the drink haphazardly toward the projection and heard two men talking “If Xaltaxis doesn’t win, I’ll eat my ass.” The shorter man said. “Well You know I’m not gonna eat it.” Said the taller man. Psychus walked around to a gap in the crowd and saw the end of the commercial, it was the same protopet commercial from earlier.

The program resumed with a shot from above the two tanks containing the beasts as the announcer read the stats. Psychus pulled his phone out and rushed to make a bet. “Xaltaxis, I saw him win, probably a good bet.” Psychus vacantly thought as he pressed the buttons to present a bet to the server.

“Four... Three... Two... One...” The announcer screamed, and as they hit “one” the tanks finished releasing and the low tone played, Xaltaxis scurried out of the tank and began to move away from it. Before Psychus could interpret what was going on, and before the tanks could retract, Weeliosbop rolled across the arena in a fraction of a second and collided with the tank, shattering it into jagged crystals around the floor of the arena.

“Oh shit.” Thought Psychus. Weeliosbop unfurled, revealing its form. Its coiled form was like a pill bug, but with large nodules extruding from its shell, and a pair of strangely shaped appendages protruding from the center of its coiled body. While unfurled,

Weeliosbop stood only a meter tall, but it scurried fast. Xaltaxis slunk around the arena like a coward.

“Come on Xaltaxis!” Psychus thought as Weeliosbop charged again, scuttling forward into a full roll. It crashed into the wall of the arena and the crowd cheered, both in the projection and around him. “It seems these goons bet on Weeliosbop.” Psychus thought.

The force of the impact on the wall of the arena seemed to daze Weeliosbop momentarily. In the resultant period, Xaltaxis slipped up to Weeliosbop as it unrolled and stabbed a spine into its underbelly with a loud crack. Weeliosbop seemed to recoil as the blow was struck but slammed back into a coil, ripping off the tentacle of Xaltaxis in the process.

“Ok, now for the venom...” thought Psychus as the fight continued, the tentacle dangling out of the carapace and flailing. Xaltaxis seemed to be thinking the same thing, it dodged around as if waiting for the collapse. Weeliosbop showed no signs of stopping however, it propelled itself forward with its muscular hammer-ended appendages at immense speed.

The announcer spoke, breaking the tension, and adding more of his own. “It seems Weeliosbop has neutralizing enzymes to the venom of Xaltaxis!”

Psychus began to sweat, “How much did I bet?” he found himself asking. He decided not to check, he didn’t want to jinx the

fight. Weeliosbop spun on the spot, flinging particles of the soil away from itself. Suddenly taking off, spinning and moving even faster than before.

Xaltaxis didn't have time to dodge, it was flung far, and fell with a loud thud on the loosely packed synthetic Earth. "Oh, shit..." Psychus thought again. Weeliosbop unfurled and scuttled quickly on its dozens of small legs over to Xaltaxis. It opened a sort of mandible sideways and a multi-jointed spine extended from the back of its esophagus. Xaltaxis lay still. "Oh, Shit, it's not getting up from that," Psychus thought.

Xaltaxis twitched, and without warning a tentacle whipped up from beneath the others, its spine fully extended. The spine pierced perfectly through the appendage Weeliosbop had been extending, and into what appeared to be its head. Weeliosbop dropped to the ground with a low roar. Instantly Xaltaxis had turned the fight and dealt a fatal blow. The crowd around him groaned.

Psychus felt a buzz in his pocket and pulled out his phone.

"You have won 49995 sats, Collect your winnings!" The screen read brightly.

"Oh," Thought Psychus.

"Xaltaxis has turned the tide!" Yelled the announcer.

Psychus sat down and nursed his beer as a commercial played. He Transferred the winnings to his account and felt his heart rate return to normal, he hadn't realized how much he bet. The fight had gotten his pulse up, and his head was starting to hurt.

He finished the drink over a few minutes, thinking recklessly and slower than usual. Psychus walked away from the common area and toward Eduardo's home. He struggled to scan the plaque above the door which read "Eduardo, DA, open" and after a while, Eduardo let him in.

"Thank you," Psychus said.

"Welcome back," Eduardo replied. "I made up the guest room," he said as they entered the main room.

Psychus sat heavily in the chair he had taken before. The holotelevision was off. His head was beginning to throb. He put a hand to his forehead and rubbed it.

"Here, drink this," Eduardo said picking up the pitcher and forcing it into Psychus' spare hand.

Psychus began to drink the water. Eduardo sat down and sighed. The creature in the terrarium hissed.

Psychus finished the pitcher shortly, he was surprisingly thirsty. His head calmed down a bit, but now he needed the bathroom.

“I’ll be right back,” Psychus said heading to the bathroom. Eduardo had pulled Eddie out and was preparing a plate with water on it in front of the light panel for it to rest on. Psychus had trouble staying stable and had to sit. He ended up taking a shower and sitting down under the running water for a long time. He let the water run into his mouth and he drank as he sat.

When Psychus was dry and dressed again, he walked out of the bathroom with a few thin wisps of steam. He was tired, checking his phone he realized he had been awake for more than sixteen hours. He momentarily thought about the bet he had made and felt conflicted.

Eduardo wasn’t in the room, but the holotelevision was on and paused on a projection of Eduardo’s head. Psychus pushed play and the recording began to speak. “Please make yourself comfortable in the guest room,” the head said, gesturing to the door. “I have gone to sleep, I will wake you up tomorrow.”

The recording ended and the projection went dark. Psychus turned off the holotelevision and went off to bed. He fell asleep in his clothes as soon as he laid down.

Chapter 2

“At last! At last! At long last! I have succeeded... a portable hole!”

- Professor Calculus, The Hole Idea.

“I sent for your things,” Eduardo said.

Psychus woke up to these words. “Right, great, thank you,” he said as he rolled over and a soft artificial light filled the room as if through a window in the early morning, but this room was a long distance from the outer walls of the tower.

“They will be here in a minute or two,” Eduardo told him, wandering out of the room.

Psychus got up and noticed that he slept in his shoes. His long legs dangled off the end of the bed as he slept. Shaking his head and blinking he ran through the night before over a few seconds and smiled and then winced. "Oh my goodness!" he thought, "I've been a boor to Eduardo." he realized.

He pulled the bed back in to order, it didn't take much effort as he had slept on top of the made bed, and walked out into the main room.

Eduardo was eating out of an enormous green bowl full of colorful cereal and milk.

Psychus saw Eddie sitting in the shallow plate of water and pulled Psybie out to place it in the water as well. He took a moment to inspect it as it walked around on his hand. It seemed active, but maybe a bit dry.

When Psybie entered the water its color became deep again, its body plumped up like a sponge, it spread and retracted its wings and it began playfully splashing around and spinning in a little circle with Eddie.

"I'm sorry about last night..." Psychus started, waiting for Eduardo to process and respond.

"Why's that?" he asked, "You got me dinner, that was a good night."

Psychus felt better knowing Eduardo wasn't bothered.

The holotelevision was on, it was playing a channel showing a lecture from a local university in the tower. Eduardo took a large bite of cereal with a loud crunch and a slurping noise.

The lecturer on the projection was discussing topology in front of a projection of their own. Several corrugated 3D models were twisting and untwisting on a loop as the lecturer described the process.

“Help yourself to anything in the kitchen,” Eduardo said as he watched.

Psychus walked into the kitchen, his arms and legs felt heavy. He opened the fridge and glanced across the large collection of ingredients. The crisper drawer was almost overflowing with jalapeños.

He pulled out a carton of eggs, a tiny projector on the carton displayed images of cooked eggs. The carton felt light but strangely balanced. Psychus set it down next to the stove and opened it. There were six eggs inside, but they seemed to have been organized into a placement where they balanced the carton. Two eggs on each end, and two in the middle.

Psychus looked through the cabinets for a skillet and pulled one out. Placing the skillet on the element he turned the knob to bring the heat to high. He waited a moment before placing a dab of

butter onto the skillet, he waited a bit more watching the metal heat up as the butter slid to one side. He opened the fridge again and pulled out a bag of shredded sharp cheddar cheese and a mostly empty bottle of ketchup.

“Your stuff arrived!” Called Eduardo from the living room.

“Thanks, I’ll come to grab it in a minute,” Psychus answered, cracking three eggs onto the buttery parts of the skillet, each giving a loud sizzle as they settled, their edges already turning white and bubbling.

Psychus broke each yolk with a tap of a flat metal spatula and stirred the eggs as they cooked. Quickly they became scrambled eggs. Psychus sprinkled some cheese into the eggs as they cooked and stirred less as the cheese melted. He turned off the heat.

After the cheese had melted he scooped the cheesy eggs onto a plate and squirted a zig-zag pattern of ketchup on top of them. He made sure to get every scrap of the eggs and cheese before putting away the other food he had gotten out and placing the tools into a flap at the back of the counter, they would return clean shortly.

Psychus walked into the living room, eating the eggs with a fork, pausing his gait as the fork entered his mouth each time.

“Your stuff is in the entryway,” Eduardo said, watching the presenter manipulate their projection.

Psychus put down the partially eaten eggs and walked toward the entryway. “Thanks, one sec,” he said.

The large pill-shaped package contained his personal belongings, he hoisted it and carried it to the guest room bed. He returned to the eggs and sat down. He started eating again.

Eduardo had finished his cereal and the bowl sat empty on the rim of the holotelevision.

As Psychus ate, Eduardo fiddled on his phone. He finished what he was doing and put the phone back down. The ketchup had cooled the eggs, and the eggs had warmed the ketchup, it wasn't as good without the contrast. The cheese was starting to stiffen.

Psychus hastened to finish his breakfast, then poured himself some water from the pitcher on the platform next to him. The water was warm, but it cleared the salty tanginess of the ketchup from his pallet.

The lecture finished. “Ok yeah, I think we should book a squash court,” Eduardo said turning off the holotelevision. Just then there was a soft thump that came from the entryway, Eduardo got up and went to go get the package.

When he came back he had already pulled out the contents. It appeared to be a bag of small metal coins. In his other hand, he was holding a pair of mechanical shears. He sat down and pulled

out one of the coins, "1992, wow." he remarked as he inspected the metal disc.

"The year?" Asked Psychus, curious. "Yes, this dime was minted in 1992," Eduardo answered as he closed one eye and brought the dime close to his face with one hand, and raised the shears with the other. He began to clip the dime, stopping just short of shaving off the clipping, leaving it curled off the edge of the coin.

"What are you doing?" Psychus asked, not quite sure what he was looking at.

"I'm altering the superficial topology of these coins," Eduardo said as he continued to clip the dime. He made about a dozen curled clippings around the dime of various lengths and with differing thickness and direction.

Eduardo set the dime down, standing it on the tips of the clippings. He pulled out another coin, this one had a perfect hole through the center. He gave it two curls, one from each side, about the same size but going in opposite directions. He set it down and pulled out another. Working quickly he clipped almost all of the coins in the bag into little starburst patterns, with the clippings extending like rays.

Psychus watched for a moment but ultimately went to brush his teeth and change his clothes.

When he finished Eduardo scooped the coins back into the small dusty polymer bag and put them back in his pocket.

Psychus returned in a different outfit than yesterday.

Eduardo picked up his phone and gestured for Psychus to follow “Let's go to the gym.”

They walked out of unit C-227 and Eduardo headed down the hall as Psychus followed. “You, know I’ve never played squash before.” Psychus said as they walked.

“Played squash? Oh right, yes, me neither.” Eduardo said in reply after a moment.

They walked a few blocks through the residential area and reached a widening hall and an elevator bay.

“These things are kinda hurting my leg,” Eduardo said shaking one of his pockets which gave a small rattling chime.

“Let's take a pod,” Psychus said.

They walked to the pod, passing a woman and her children, the pod door read “Current bid max: 0.49 sats, Next pod: 0.21 sats, Average: 0.035 sats” on its projected screen.

Psychus bid 0.07 sats and the pod approached shortly.

The men climbed in and sat down on the ring-shaped seat, facing inwards. The advertisement for Octondejacht began to play as Eduardo punched in the destination and the pod zoomed away.

Stepping out of the pod Psychus looked around as Eduardo walked down a hall. Psychus followed a short distance and Eduardo stopped at a door with a projection reading “Fitness Center, Open.” and presented his phone scannable to the projector which scanned it. The door opened, and Eduardo stepped inside.

Psychus copied the steps and followed Eduardo. When he came through the doors the atmosphere he had been experiencing changed from plain halls to a large lobby with a smooth marble floor, a few chairs on a carpeted section around a holotelevision, and a staircase going up to another layer. A hologram of a woman with her hair pulled back in a sporty way was talking to Eduardo at the front desk.

“...for the session, rackets, balls, and the room will be sixty sats, including deposit.” The hologram said presenting a scannable. Eduardo scanned to pay, and Psychus followed him up the stairs and into the fitness center. “Feel free to enjoy the complimentary showers and steam room when your time is complete.” The hologram called after them.

They walked a short way to the court Eduardo had rented and went inside. There were no windows, just a huge white room with some lines and with a slightly scuffed polished hard-wood floor with some other lines.

Eduardo pulled out the bag of coins and got one out of it, tossing the bag on the floor gently.

“Heads up this time, by the way,” Eduardo said turning to Psychus for a moment before turning back. His body tensed a little and he twitched. A hole appeared halfway between Eduardo and the back wall of the court. Eduardo was focusing intently on the hole sitting silently in the air. There was lensing like before, but it was less acute. Eduardo allowed it to close. There was a burst of hot air and the dusty smell, but the edges didn’t arc.

He opened another, in the same spot. The lensing was gone. The hole closed, no arcing, no burst of air, no smell. He did this a few more times, getting faster between each hole.

Suddenly he threw the coin in his hand like a baseball pitcher and it flew into the hole. As it reached the threshold the hole collapsed back into normal space. The coin appeared to fall to the ground in two places, a few meters apart from each other.

Eduardo walked over to the nearer half of the coin and looked at the edge. The clippings and the internal structure had spaghettified. The coin was still one piece after all, but it was held together by an extremely thin filament of metal. Eduardo nodded, kicking the chunk of currency, it skittered across the floor. “Ok, I guess that makes sense.”

Psychus watched his technique through the process and tried to mentally map his behavior. He couldn't tell what Eduardo was doing to open the holes.

Opening another hole, Eduardo walked around to the area through which the hole seemed to pass and waved his hand through the space behind the hole. He gave a puff of air as he did, relieved. He closed the hole.

Eduardo walked back, picked up the bag, and pulled out a few of the mangled tokens. He opened a hole at waist height about thirty centimeters in front of himself with its exit directly adjacent. He dropped the handful of coins in all at once, and as they touched the threshold he closed the hole. The coins landed with one thump. They were each stretched like a cord and tangled together.

Eduardo pulled out two similarly clipped coins, each with a hole through them. He pushed the clippings together so that the coins hugged each other. He repeated the process of dropping the coins, but from only slightly above the hole this time. He closed the hole again.

The coins hit the ground interlinked through the holes in their center. The coins were bent to accommodate the interlinkage. Eduardo tried to pick them up but dropped them almost immediately. "Oh man, they're hot!"

Eduardo carefully pried and broke free a long segment from

one of the stretched coins in the tangle, using the cuff of his shirt as protection from the heat. He opened a tiny hole, smaller than a fist. He squinted a bit as he brought the skinny strip of warm metal into the hole, and attempted to push it through the edge of the opening.

Eduardo tried to force the stretched coin through the margins from the inside, and from the outside, but he was unable to force the solid material through the apparent perimeter of the hole. “Interesting. I expected it to cut, or melt, but it just feels like the edge has a field around it, I just can’t push any farther the closer I get.” he narrated.

“I have no idea what to expect, but this is very interesting indeed.” Psychus said.

Eduardo tossed the metal into the little pile with a clattering noise. He shook his head a bit before suddenly reaching out and touching the hole. He used all five fingers on his right hand and grabbed the hole. He gave a sigh of relief as he felt the hole simply resist his grip. His hand was intact. He gripped the hole and pulled. The hole stayed where it was.

“Ok, good to know...” Eduardo muttered. He touched the hole from the inside as well, and went so far as to lean his back on the hole, with the opening supporting his weight. He stood back from the hole a bit and closed it.

“Well, this is great progress!” Psychus exclaimed.

“Yes, this is fantastic. That lecture this morning really cleared some things up for me.” Eduardo replied pulling out a large unadulterated coin, a fifty-cent piece.

He threw the coin but as it flew, a hole opened right where it was. The coin seemed to stop in mid-air, it sat sideways in the hole seemingly held up by the preposterousness of the notion. Eduardo allowed the hole to close, and the coin fell to the ground. He walked over to it, and Psychus did too. They looked down and the coin and saw a thin line across the center where the hole had formed. The coin looked almost normal except for the thin line. The line had a texture almost like an arc weld as if someone had done a fantastic but not perfect job of welding two halves of the coin back into one.

Eduardo waited a little while and picked it up gingerly. Inspecting both sides he looked closely at the tiny seam. He slipped the coin into his pocket. Eduardo opened a hole to the other side of the room and hopped through it. It closed behind him.

Scooping up the rubble, Eduardo stepped through holes to cross the room. Soon he had cleaned up the coins and placed the chunks back into the bag.

“Let's get out of here,” Eduardo said.

Psychus agreed, “Where?” he asked.

Eduardo looked at him for a moment. “Anywhere, where’s someplace you heard of but never been?” he asked.

Psychus thought for a moment, he had only ever really been to two places, the Sentinel Island School, and this tower. “I guess, Breadworld Alpha,” Psychus said, remembering an early slide in his training about the Earth economy.

“Ok, let me think about this...” Eduardo said pulling out his phone, he searched up the current relative position of Breadworld Alpha to the Earth. The exact trajectory and distance were public data online due to the continuous transit of the large food canisters from its surface.

“Ok, here we go,” Eduardo said as he tensed. A large hole opened in front of the two men, and through it could be seen the edge of a gray building and a field of corn, the corn was dry and stood dead in the field. A harvesting vehicle came into view in the distance. “Looks nice, let's do it,” He said.

Eduardo stepped through the hole, and Psychus followed, the forty light-year journey was instantaneous. The smell of the air was new to them. The smell of a farm. The air was warm but much cooler than the air outside on Earth, perhaps 305 Kelvin. A breeze blew across their faces. The automated harvester was loud despite the distance.

The building standing next to them had no windows or doors but attached at the peak of the roof to a cable running up to a pole and branching out in several directions. The cables ran off on more poles. The nearest pole to the first one connected after a short distance to a large radio dish.

“This must be the housing structure for one of the communication nodes,” Eduardo said.

They looked at the corn, having only seen projections of things like this. A series of loud distant shortly-spaced blasts could be heard, and the corn waved slightly as the force of the sound blew through it.

“That's gotta be the canister launcher.” Said Eduardo after a moment.

“Alright, where to next?” Eduardo asked.

Psychus thought, the next slide in his memory was for breadworld Beta. “Beta?” responded Psychus.

“Alright, let me just get us back to Earth so we can check the internet,” Eduardo said, opening a hole.

Through the hole, Psychus could see the red lines on the white wall of the squash court. They stepped through and the hole closed.

Eduardo pulled out his phone again and started checking the position of breadworld beta.

“Why not check all the breadworlds, we can hit them in series,” Psychus suggested.

Eduardo nodded as he scrolled.

After a minute or two Eduardo put his phone away and opened a hole, they stepped through into a scene almost identical to Breadworld Alpha. The only noteworthy difference was that instead of corn, there were fields and fields of wheat.

“Hmm, and the whole planet is like this?” Psychus said looking out at a G2V class star over 100 light-years from Earth peaking over the horizon.

“Yes, most of the breadworlds are monocultures,” replied Eduardo.

“Not Gamma.” refuted Psychus.

“Right, well, Gamma coming up.” Said Eduardo after a pause, pausing again before opening the hole. The smell of the sea and the roar of waves crashing in the distance could be heard through the hole. The terrain displayed was a small rocky sea stack with a gray windowless building on it. They stepped through.

Psychus was cold here, the sea-spray flecked wind whipped across his face. He crossed his arms and started to shiver.

“This place has over six-hundred-gigatonnes of biomass at any given moment,” Eduardo shouted above the roaring wind, looking out over the enormous whitecaps and endless ocean in

every direction. The building they stood next to was tall, and the top section was a large radio disc antenna.

“Or so the website said, anyway,” Eduardo added.

Psychus was freezing, and wishing he hadn't worn shorts.

“Could we maybe move on to Delta?” Psychus requested, yelling to be heard over the crashing ocean.

Eduardo was looking at an automated harvesting barge pulling in a large chain with many shellfish cages attached to it in the distance.

A canister launcher fired in the great distance.

“Yeah, just a second,” Eduardo muttered, opening a hole in front of his face that was much closer to the barge. “Oh, it's mussels,” Eduardo said looking through the hole. “Right, ok, Delta,” he yelled closing the view hole and opening one to breadworld Delta.

They stepped through and into a much warmer climate. Around them were fields of green leafy plants, and a comms building.

“Another monoculture?” Asked Psychus.

“Depends how you look at it,” Eduardo answered. “The crops are cycled using a rotation that takes soil stability as the primary parameter, and on a planetary scale, Delta produces many species

of fleshy produce, but yes each individual field is a monoculture during any given part of the rotation.”

“Fleshy produce?” Psychus asked, not sure what he meant.

“Eggplants, tomatoes, potatoes, peppers, onion, you know,” Eduardo explained.

“Ah, I see.” Psychus acknowledged. “Well, this is a lot like Alpha and Beta,” he remarked. “Epsilon?” he asked.

“Ok,” Eduardo answered.

He opened a hole and instantly chickens started hopping through from breadworld Epsilon.

For the first time, Psychus realized this whole process may be a bad idea. “Should we...?” Psychus started to ask, not sure what he could do here.

Eduardo took a moment to react, but quickly opened a hole under each chicken and closed the original hole, dropping the chickens safely back on the surface of breadworld Epsilon.

Eduardo closed each chicken hole as the chicken fell through it. Shortly they were standing where they had been, commotion returned to calm. “Ok, let me try that again,” Eduardo said, opening another hole, this one a meter or so above the surface where the chickens couldn’t reach.

The two men stepped down and out of the hole, they landed on what appeared to be a mossy field full of chickens. Psychus

looked down at what he was standing on and saw that what had appeared to be moss, was actually an extremely low-growing forest. The tiny trees overarching into a canopy, their tiny limbs showing crown shyness. He looked down into the forest to see tiny burrow holes all around the roots of the trees.

As he looked a small creature poked its head out of the burrow he was looking at. It had a tiny head, and he couldn't detect eyes on it from this distance. It seemed to feel its way along with a few short bristles around its head, inching like a grub. The creature crept along on eight legs. It came upon a minuscule bush. It stopped and seemed to be eating.

Psychus pulled back out, Eduardo was also looking at the ground.

“Incredible,” Eduardo said.

Psychus looked around and saw only chickens and the low forest in every direction. “Where’s the comms building?” He asked.

“I think those chickens have had enough action for today,” Eduardo answered. “I’ve put us a few kilometers away.”

Psychus watched as a chicken plucked one of the creatures off the ground and gulped it down. Psychus turned in a circle and saw chickens eating everywhere he turned. “What's with this place?” Psychus asked, his training had described several things about the

breadworlds including their exports, but their ecology wasn't one of them.

“The native fauna on this planet was found to be ideal as chicken feed. None of the animals grow bigger than a pinky finger. The arable land was expanded with nutrient supplementation and increased water content.” Eduardo said, looking up. “So they just harnessed the ecosystem?” Psychus asked. “I guess you could say that, but they also changed all other types of biome into this low forest.”

As Eduardo said this, tiny sprinklers extended from the ground and turned on.

Psychus was glad he had worn shorts now as his shoes began to fill with water that ran down from where it struck below his knee. His socks were soaked in seconds. Psychus laughed, and the sprinklers turned off and retracted.

“I'm afraid to take a step.” said Eduardo, “I don't want to crush these trees.”

“Alright, let's move on then,” Psychus replied.

Eduardo opened a hole slightly above his head.

Above him was a red and orange sky standing out like a dot against the blue sky they were under. Eduardo reached up and pulled himself up onto the ground through the hole. He paused for

a moment before crouching and extending one of his long arms to help pull Psychus up.

The two men brushed off their shoes into the hole before Eduardo allowed it to close.

“Zeta?” asked Psychus.

The sun appeared to be setting over the horizon between a row of trees. Eduardo and Psychus were standing in the middle between two rows of trees and two columns of trees. The trees extended in every direction, shortly away from them, another gray building with no doors. “Yes, this is Zeta,” said Eduardo.

The ground was covered in a soft wet moss. Upon the trees hung hundreds upon thousands of small green fruits. The shadows played upon them, the sun of breadworld Zeta was setting quickly. Despite how still the trees stood, as the sun moved the fruits came in and out of the fading light.

“If this is Zeta, I guess that makes those walnuts,” Psychus said.

The sky had become a dark purple, the trees were almost completely in shadow. A few bright stars shone dim and pale through the darkening sky. Eduardo began to walk along the column away from the building, with the setting sun to his right.

Psychus followed, glancing up every few steps as the sky became black and speckled with the light of distant stars. Eduardo

stopped when the light became too low to see the trees and looked up as well.

They stared in silence at the stars for a while. The darkness was pristine, with no lights besides the stars for lightyears in any direction.

Gradually the darkness began to fade into dim gray. The sun was already rising. Eduardo started to walk again. They walked for a while, Psychus' feet were squishing in his sports shoes.

The grayness of the sky gave in to white and then pale blue. The stars were no longer visible. Psychus looked ahead where they were walking, and as the sky became brighter he could just barely see pink in the distance, indistinct at first. As they walked Psychus realized he was looking at the threshold between crops. The pink he had seen were almond trees, practically heaving with blossoms.

As they crossed the threshold of the orchards, they crossed what appeared to be a narrow dirt road. Honeybees and bumblebees buzzed between the flowers and the sound of their collective buzzing could be heard a short way from where they could be seen.

Psychus looked down the road and could see straight to the horizon in both directions, parked along the road there were a few small automated trucks carrying beehives. To his left, the sun

shone a perfect corridor through the dirt track, it was roughly halfway to its apex.

“Wow, can you smell that?” Psychus asked as they entered the almond stand.

“Yes, it’s quite nice,” Eduardo replied. The air was fragrant with the scent of almond blossoms.

“Wait, can we go check out one of those hive carts?” Psychus asked.

“Sure,” Eduardo said after a pause.

They stepped out of the tree line into the strip of dry treeless Earth. Walking away from the sun, it crossed directly overhead as they headed to the nearest truck, their short shadows disappeared into their footsteps and reappeared behind them.

The three hives were loud. The burgeoning colonies were stacked several boxes tall. The perfect white boxes were aligned with no gaps in the stack, and the front entrances had massive beards of bees with minor stains of waste and propolis around them.

Psychus hopped up to sit on the platform of the flat compartment bereft truck. He watched the bees spreading their homing pheromone and festooning for a moment before he carefully removed his shoes. He placed them on the platform and

pulled off his socks. Wringing them out, the water from the sprinklers of breadworld Epsilon formed a tiny puddle in a tire rut.

Eduardo stood watching the bees fly in and out of the entrances. Their pollen baskets were laden with light brown clusters of balled-up pollen as they flew in, some flying clumsily, others flying in quickly from afar, others still were orienting themselves with a weaving sort of lemniscate-figure-eight.

A solitary bee landed next to the puddle and walked to the edge, stepping in before stepping back. The bee began to drink and Psychus noticed it. He popped on his now only moist socks and shoes and hopped down, crouching to watch the bee. Its tiny pink proboscis extended into the meniscus of the puddle, as Psychus watched another bee landed near the puddle. The first bee was pulsing, its abdomen seemingly bumping to an allegro symphony only it could hear.

The tiny bee drank for a while, the second bee found the puddle and began to drink as well. The first bee turned to walk a few steps and another bee landed almost completely on top of it. She walked over the first bee and straight to the puddle. The first bee took off, first hovering for a fraction of a second before rocketing off. Psychus stood up and tried to track it, but it disappeared into the swirling cloud of bees.

The sun was casting afternoon shadows now, the hives and the men cast long shadows down the empty road. They were creeping longer. They continued to watch the bees as the sky became yellow, then orange, and then orange-red.

The truck turned on with a soft rev and began to slowly pull away from the grove and down the road.

“Perhaps we should move on,” Psychus said, watching Eduardo watch the bees leave, carried along or buzzing after the hive.

“Yes, ok,” Eduardo said, opening a hole. “This one is to way over there,” he said, pointing into the walnut grove and stepping through.

Psychus followed through. “What was that for?” he asked.

“I’m trying to leave the bees here,” Eduardo said, opening another hole and stepping through. Psychus followed again. The gray building from before stood next to them, a mild blue in the dusky light, the shadows were hard around the structural corrugation on the outer walls.

“Ok, so, Eta?” Eduardo asked, confirming with Psychus.

“Yes, it feels like we’ve been here all day.” Said Psychus jokingly.

Eduardo opened a hole light shone from it, daylight. The

bright light landed on the trees and moss around them and turned the blue look of the building to yellow.

Psychus looked through, holding up his hand and looking through his fingers as the light was almost blinding compared to the lighting of breadworld Zeta. He walked through the hole with Eduardo and it closed.

When Psychus could see clearly again, he saw that they were on a planet much like breadworld Delta. Fields of low tufts of green stretched out before them.

The sun of breadworld was hot on Psychus' face. He turned around and felt the heat on his back through his red exercise shirt. He began to sweat. A slight breeze picked up, rustling the tufts and cooling Psychus a little as it crossed over him.

Eduardo dropped carefully to his hands and knees, brushing a small amount of soil away from the base of one of the plants. "Carrots," he said. Suddenly Eduardo laughed hard, a single cackle, unlike how Psychus had heard him laugh before.

"What?" Psychus prompted when Eduardo stopped.

"All day!" Eduardo said, "That's a good one!"

"Oh, thank you," Psychus said, blinking.

Eduardo pushed the dirt back over the shoulders of the carrot. He stood up and looked around, squinting against the sun.

Eduardo turned slowly on the spot and stopped, facing Psychus. “Let us see what else this place has,” Eduardo said.

“Yes, let’s” Agreed Psychus.

Eduardo opened a series of holes, one after the other right next to each other. The men stood and looked through each hole.

Through the first, they were looking down onto a field, Psychus felt strange standing next to this hole, as if he may fall in, he could feel the pull of the gravity through the hole.

The field appeared to be for blueberries. “Can you close this one?” Psychus asked, “It’s giving me bad vibes.”

Eduardo closed it as soon as the question registered to him. The next hole looked out across trellises, upon them, the characteristic ridge-edged and pointed leaves of grapes and their curly tendrils covered the structures. For kilometers the view extended, until it was fully obscured at the vanishing point by vines crossing the row. Tiny green grapes with powdery bluish bloom on them sat in bunches on the plants.

A series of canister blasts could be heard behind them, and then through each of the remaining holes at different volumes.

The hole next to the view onto the vineyard was a field of short bushy plants with leaves in groups of four oval lobes each. Small bilaterally symmetrical orange flowers with yellow centers bloomed off the plants, and close to the ground.

“Peanuts,” Eduardo said, looking through at the plants.

The last hole looked out over a large mechanical platform, above it, and from a distance, but this hole was perpendicular to the surface of bread world Eta. Automated electric trucks were pulling up to a set of rectangular metal pits and their cargo cubes were lifted off by a series of mechanical arms and deposited down the pits.

The produce continued out of sight into the breadworld for processing. Eduardo closed the holes once both of them had had a look.

Another set of canister blasts rolled over them.

“Theta then,” Eduardo said, opening a hole. The men hopped through and it closed. The men stood at the flat top of a large tiered hill. Down the slope in every direction were tiny ponds with densely clustered green shoots rising out of them. Around them in every direction away from the hill were more hills just like this one. It was mid-afternoon here and the sun was low in the sky.

The heat and the humidity was intense and oppressive. Psychus continued to sweat, his shirt was becoming blotchy with dark moist spots. Eduardo took a deep breath and sneezed. He sneezed again right after. “Bless you!” Psychus said.

“Sorry about that, I always sneeze when I get hungry,” Eduardo said.

“It's too hot here, can we move on?” Psychus asked. “Yes, I’m getting thirsty too actually in this heat,” Eduardo said. “Let's pick this back up in a minute,” Psychus suggested. “Alright,” Eduardo said after thinking.

Eduardo opened a hole to the squash court and stepped through it.

Psychus stepped through as well.

The room was cooler and dryer than the air of breadworld Theta, but the bright fluorescent lights seemed dim after so much time in the sun.

The men looked over the room, it seemed almost surreally normal after the time away. They walked out of the door at the back corner and into the hall of the fitness center.

The two men were sweaty and thirsty, they headed back down the stairs and Eduardo scanned out at the hologram of a woman.

“Looks like you two had a good workout. Have a nice day!” The hologram said.

The men stepped out of the door of the fitness center and back into the hallway. Eduardo had scooped up the bag of damaged old coins of the world and was carrying them in his pocket again. A short-haired man passed them and entered the fitness center as they walked away from it.

The stretch of hallway they were in was out of immediate sight of anyone at the moment. “Give me a second, I’m gonna drop these off,” Eduardo said pulling out the coins. He opened a small hole and dropped the coins in, closing it. “Where did you put those?” Psychus asked. “Just back in my place,” Eduardo answered.

“How about we just take a hole there too,” Psychus suggested.

Eduardo paused mid-step, he seemed to be thinking hard.

After an extra-long pause, he replied “Oh of course!”

Eduardo opened a hole to his entryway and stepped through.

Psychus followed.

“Maybe we should take our shoes off this time,” Eduardo said, kicking his off.

Psychus removed his shoes with his feet and they walked into the main room. Eddie and Psybie bounced around in the puddle on the plate as the men walked into view.

“I’m going to take a shower,” Psychus said as Eduardo poured himself a glass of water and downed it, and poured another.

“Sure, me too,” Eduardo said, gasping slightly from drinking so much so fast. He burped quietly in his throat.

Psychus walked into the bathroom off the main room and began to undress as he turned on the water. He stepped into the

water and let it run cool over his short curly black hair. He sighed, flashing through what he had seen today.

Eduardo headed into his room and off into the master bathroom of C-227. He too showered, letting the water flow over his gritted teeth and swallowing as his mouth filled over and over again.

The two men finished showering and drying off at about the same time. Psychus came out of the bathroom carrying his clothes, wrapped in a towel. He entered the guest room. Psychus fished through his belongings and pulled out a white T-shirt and cargo shorts with many pockets, as well as a pair of clean underwear and white socks. He dressed himself, looking in a wall height mirror in the closet of the room. His dark skin was shining clean, he felt great, and thought that he also looked great, he smiled at himself.

He came out to the main room to see Eduardo had also chosen to wear an almost identical outfit, however, his T-shirt was red.

Eduardo was standing toward the entryway, scrolling on his phone.

“Let's go get something to eat,” Psychus said.

Eduardo looked up. “Curry?” he asked.

“Yeah, that sounds great!” Psychus said.

They walked to the entryway and reequipped their shoes. They left C-227 and headed toward the common area to catch an

elevator. The holotelevision was turned up and Psychus could hear it from farther than before.

He could hear a low thumping click, like a silenced pistol, it was almost rhythmic but changed to be faster and slower as they walked. As they rounded the corner, there was a large group of people quietly watching a beast fight, a woman was smoking on the arm of a large man.

The projection showed a low-slung four-legged creature with patches of hooked suction cups around the ends of each limb. Its body appeared to consist completely of a large almost ape-like mouth and a concave abdomen showing muscular tissue under the smooth cyan skin.

Across from it, a flying yellow creature, it had small flat membranous wings stretched between the two joints of its clawed arms but the primary source of its flight was a continuous jet of pressurized gasses expelling from between its two thick muscular legs which ended in sharp thick keratinized hooks. Its lower body was shaped almost like a cattle catcher, it seemed to shape the flow of the gasses with feathers beneath its triangular apron-like body.

The low-slung cyan creature seemed to thump, a rounded bulge appeared on its eyeless head and a sonic pulse extended through the arena. Eduardo stood within the passenger sensor area for the elevator.

Psychus watched until the elevator came, the yellow creature swooped and slashed the creature on the ground which didn't dodge.

Despite the direct hit, the wound looked superficial. "Seems Hyuntress is waiting out Schmodozer's bio-reactor reagents!" The announcer said, interpreting the fight.

The elevator arrived and they stepped inside. As the doors closed Psychus caught the cyan creature snapping like a toad, and catching the yellow creature out of the air. Its abdomen bulged and it slammed its front-limb suction cups onto the lowest joint of the hooked legs. Eduardo punched in a floor.

"So where are we going?" Asked Psychus.

Eduardo looked up from the panel. "There's a great Indian restaurant on 1375, or so I've heard," Eduardo said. The elevator lowered through the enormous tower.

They stepped out onto the 1375th floor. The radial hallway setup in front of them projected several labels. Eduardo headed down a hall labeled "Little Punjab" Psychus followed down the hall and into a district of the 1375th floor.

There were people walking around in this area, a pair of men in tight ornate turbans walked past them in sandals, they seemed to be in a hurry. The doors to either side as they progressed into the district were decorated with colorful fabric.

The hallway widened into a sort of village square, there was an open-air fruit stand with various spices as well. A plump woman was vending fruits while a man sat behind her.

“This way.” Said Eduardo, as he walked down a sort of alley off the square past the fruit stand.

They came upon a door with gold filigree trim. The holoplaque said “The Insatiable Elephant, Open”.

Eduardo and Psychus entered the restaurant. The smell was delicious, slightly smoky, meaty, herbal. There was a physical matire d’, he stood talking to a man and woman with a small child. A waiter approached from the dining area and the matter d’ handed him some menus. The waiter and the family walked into the dining area.

“Hello, Welcome.” The matire d’ said.

“Thank you, two please,” Eduardo said.

“Yes, just one moment please.” The man responded, punching in the booking.

Shortly, another waiter came into the entryway. As they followed the waiter to a table a man in purple robes entered through the front door. The dining area was orange with candlelight, and the tables were large and bore pristine uncreased white tablecloths.

Eduardo sat down and the waiter handed them each a menu. “I’m Tenzing, I will be your server,” he said, pouring each man a tall glass of water from a large metal pitcher in the center of the table, he placed it back down and it shook slightly as the water sloshed inside. Next to the pitcher on one side was a candle in a small glass rectangular box, on the other was a Phalaenopsis orchid, the flowers on the orchid on this table were orange with small magenta spots.

“Thank you,” said both Eduardo and Psychus, the man walked off to the kitchen.

After a moment of looking at his menu, Psychus looked up at Eduardo reading his.

“What do you recommend, have you been here before?” he asked.

“No I haven’t, but I’m a long-standing fan of jalfrezi, and with any kind of curry, you gotta get rice and naan,” Eduardo said. “Pick a few things and I’ll pick a few and we can share,” he suggested.

As they decided Tenzing returned to the table with a pitcher of water and a small tray of papadum and three tiny bowls, one of thick orange chutney, another of mint yogurt, and the last, finely minced onion. Each bowl had a tiny spoon in it. Tenzing placed a plate in front of each Eduardo and Psychus. “Are you gentlemen

ready to order?" he asked as he poured each of them a glass of cold water.

"Would you like to go first?" Psychus asked Eduardo, not wanting to overlap with him, and knowing it may take him a moment to change his order.

"Yes, sure," Eduardo said. Turning to Tenzing he began "I'd like a chicken jalfrezi, a tandoori plate, an order of lamb vindaloo, maybe five Peshwari naan, two garlic naan, and a large amount of rice please."

Tenzing wrote the order down and turned to Psychus unfazed, "And for you sir?" He asked.

Psychus nodded, "Yes, may I please have the butter chicken, an order of saag paneer, and some onion bhaji?"

"Of course sir. Would either of you like anything to drink?" Tenzing asked.

Eduardo seemed to think about it, so Psychus answered for himself "Just the water for me thank you."

Tenzing nodded.

"I'll have a mango lassi please," Eduardo said, landing on his choice.

"I'll be back with your meal shortly," Tenzing said, walking away as he slipped his pad into his pocket.

Eduardo grabbed a papadum and snapped it in half over his

plate. He scooped some chutney and yogurt onto his plate and began to eat.

Psychus took some as well, scooping a little from each bowl onto different parts of it before poking it in the center and breaking it into a few irregular pieces. He took a bite of the chutney first, it was sweet and cool, the papadum was warm and crisp, turning to dust as he chewed. It gave Psychus a feeling of heat, almost as if it was angry to be eaten. He took a sip of the water to refresh. The feeling of the condensation on the glass in his hand was nice too.

“So, after this we can hit up Iota, right? I’m curious to see them all.” Psychus said, setting down his glass.

“Yes, Iota, spices,” Eduardo said eating as he spoke.

The two men completed the crispy appetizer and most of the toppings just in time for Tenzing to return, he carried a large tray over his head with one hand. He placed it on the edge of the table and began to move the dishes off the tray and onto the table.

Eduardo and Psychus helped, together they emptied the tray in a few seconds.

“Enjoy,” Tenzing said, lifting up the tray.

Eduardo scooped a large amount of rice from a heaping plate, and placed it on his own, Psychus picked up a crisp little spherical onion bhaji and took a bite. The breading was crisp, oily, and salty, while the onion itself was pleasantly slimy and sweet, with only a

mild oniony sulfurousness, it stretched a little as he chomped the ball.

Eduardo ladled some of each curry they had ordered over the rice, the red jalfrezi, the orange vindaloo, and the yellow butter chicken.

Psychus scooped some of the appetizing green sludge with white cubes sitting in it onto a piece of garlic naan he placed on his plate. He took a bite of the folded spinach-laden bread. First, he tasted the slightly burned flour on the outside of the naan, and then the salt and garlic, then the savory chewiness of the paneer cheese and the soft spinach.

Eduardo was eating the curried rice with a spoon, alternating to eating bites of Peshwari naan dipped into it.

Psychus took a sip of water and looked around. The man in purple who had come in behind them was sitting a few tables away, and his food was just arriving now.

Eduardo kept his head down and ate.

Psychus scooped some vindaloo onto his plate and dipped a bhaji into it. He placed the little ball of curry-covered onion into his mouth and chewed. At first, it was delicious, the heat and heat of the vindaloo was nice, but as Psychus swallowed and took a drink the heat began to escalate.

“Oh man... I don't think I can eat this one.” Psychus said pointing to the tureen of vindaloo. He took a deep breath and wiped his forehead with a cloth napkin.

Eduardo continued to eat, the rice he had scooped was gone and he had started eating some very red roasted meat off the bone.

Psychus took another sip. He scooped some butter chicken, making sure to get a few chunks of meat along with the thick creamy yellow lightly-speckled sauce. Adding a scoop of rice and some Peshwari naan, he ate the soft meat with gusto, clearing the flames from his mouth.

A man in a bow-tie and white dress shirt came out with Tenzing and walked past their table to meet with the man in purple robes. Psychus watched as the nicely dressed man and the man in purple shook hands.

Eduardo pushed the tandoori plate toward Psychus. “You should have some of this before I eat it all,” Eduardo said.

Psychus picked up a bony piece of the red meat and placed it on his plate, wiping his fingers on the napkin. He picked up his knife and fork and carefully extricated the meat from the bone.

The meat was white and moist, with a thin layer of vividly red seasoning that had cooked into an oily rind. It was savory and hot, but not as spicy as the vindaloo. “This is good!” Psychus said as

he ate the delicious meat.

“Yes, this place is great!” Said Eduardo sipping his lassi.

“It's interesting, this chicken may have been from Epsilon.” Psychus started. “Thinking, we were just there a few hours ago,” Psychus said, looking at his forkful of chicken. Eduardo continued to eat for a moment before responding. “Even more than that, no matter which breadworld it came from, this chicken was probably butchered and frozen before you were even born Psychus,” Eduardo said finally.

They continued to eat for a while, the nicely dressed man walked back past them and into a door in the back half of the restaurant.

Tenzing stopped by their table. “Are you enjoying your meal, is there anything else?” he asked.

“Another lassi please,” Eduardo replied.

“And the check please,” Psychus added.

Tenzing nodded and walked off shortly before returning with both items.

Eduardo took both and set them down, “Thank you Tenzing.”

Psychus reached for the check but Eduardo made a shooping gesture.

“Please, you got the last one,” Eduardo said.

Psychus became taciturn for a moment. “Ok, have it your way,” he said.

Eduardo scanned the physical slip with a printed scannable on it, folded it up, and slipped it into one of his pockets. When their food was gone and eaten the restaurant was a little bit busier, some of the empty tables now had families sitting around them. The couple with the child had left, but the man in purple had returned to his table and was still eating.

“I’m full,” Psychus said.

“Me too.” Replied Eduardo.

They stood, pushing away from the table now covered in empty plates and tureens and a few platters with bones.

They walked out of The Insatiable Elephant and back through the square toward the elevators.

Many more people were gathered in the square, a pair of men played chess on a board on the floor, sitting cross-legged across from each other, children ran around, two pairs of men were arguing with a small crowd around them.

As they reached the elevator bay, nobody was around. “Hey, let’s skip straight to Iota.” Psychus prompted Eduardo.

“Hmm, ok, that sounds good!” Eduardo said, pausing just as he reached the elevator passenger sensor panel. He stepped back and opened a hole.

A sort of jungle was visible through the hole. They stepped in and it closed as the elevator pinged back on Earth.

They looked around, they were standing on reddish dusty soil. Psychus felt light on his feet as he scuffed the ground with his shoe. Under a thin layer of dust, the soil was moist.

The tall trees around them weren't planted in ordered rows and didn't appear to all be the same species. Insects passed around them, various small flying ones. There were leafy vines with small green and red berries in various stages of ripening.

"This is nice," Psychus said. "Feels more organic," he added after a second.

Eduardo looked around and back at Psychus. "Yes. I suppose it does," he answered. After a moment he continued. "The original ecology of this planet was supposedly nothing like this," he added informationally.

"What do you mean, weren't all of the breadworlds extensively terraformed?" Asked Psychus. Eduardo nodded. "Yes, but this was the first one they swept with LEPS." he said, pronouncing the acronym as 'lehps'.

"LEPS?" Psychus inquired.

Eduardo took a few steps through the spice jungle before replying. "Yes, those genetically engineered monstrosities."

Eduardo started. “They start out as spores dropped from orbit, but their parasitoid lifecycle crashes through any carbon-based life.”

“Ok, I’ll have to look into them later, sounds nasty though.”

Psychus stopped him, feeling his stomach turn. “What was the ecology like, then?” he asked. Eduardo looked up out of a spot through the branches at a cloudy sky, and back to Psychus. “Well according to historical footage, the dominant megafauna were enormous crustaceoid animals, the atmospheric content was similar to that of the Carboniferous era on Earth,” Eduardo said before pausing. “I don’t think I can explain, maybe we can see some of the videos later too.”

The men walked a short distance, despite how full and sluggish Psychus had felt on Earth, he easily took long strides as they walked past many species of spice-bearing tropical plants. “Nutmeg... Cinnamon... Black pepper... Star anise... Tamarind... Cumin... Coffee...” Eduardo listed, pointing them out individually as they walked.

It started to drizzle, at first, the men could only hear tiny droplets landing in the canopy, but soon the rain thickened and droplets splashed down from above onto them.

The rain was warm, and as the small droplets landed on the dusty soil, the moist spots appeared dark at first, making tiny pancakes of balled-up dust. Within a minute of walking, however,

the droplets were coming steady and the dark spots began to merge. They stood under an allspice tree with vanilla orchids growing on its trunk, and out of the rain.

Small rivulets were beginning to run down the tree and along the now completely moistened ground. The thick green aerial roots of the vanilla plants were moistened by the water running down the trunk, the leaves stayed mostly dry, in a perfect spot not to be rained into directly.

“Maybe we should get out of here,” Psychus suggested raising his voice to be heard over the rain. Thunder rang out in the distance. “Ok, Kappa coming up,” Eduardo said Opening a small hole next to them in the drier part of the forest floor.

They dove through one after the other and Eduardo closed it. The two men stood up in the shadow between two long gray buildings with large translucent windows, the buildings were perhaps two-hundred meters each.

Upon looking around, they saw only the buildings and the dirt corridor in which they stood. “Hold on a second,” Eduardo said opening a plate-sized hole a few centimeters from the wall of one of the buildings. The other end of the hole was inside the building. The two men peered through.

Inside, the building had a straw floor and a highly articulated mechanical ceiling. There were hundreds of indistinct white-gray

figures toward one side of the room. Eduardo opened another hole in front of the first one in the building, with its other end closer to the figures.

“Turkeys,” they said together identifying the creatures at the same time. Eduardo closed the holes. He walked over to the other building and repeated the process. “Yeah, I guess this is a section of just turkeys,” Eduardo said closing the new set of holes. “Let's go find something else,” Eduardo said opening a hole and stepping through, Psychus could see him step out from the other end of the hole at the far end of the buildings and followed.

Eduardo proceeded to open a hole directly in front of himself and stepped through, just as Psychus arrived. He stepped and opened holes as he walked, crossing hundreds of meters with each step, stopping only to look where he was going.

Psychus followed, only a leap behind. They jumped through the extended array of buildings and past a collection platform with a few stationary trucks until they reached a change in the buildings. Eduardo stopped, seeing buildings which were much shorter than the turkey hutches.

Psychus stepped out of the last hole around Eduardo.

Eduardo turned and saw that Psychus was there and let the holes close.

“These are different, what's your guess?” Psychus asked.

Eduardo looked at the building before responding. “Well breadworld Kappa has many kinds of birds, but it has to be something small so ostrich is out. Maybe ducks,” he said.

They walked up to the wall of the smaller building and Eduardo opened a hole to look through.

“Quails!” Psychus said seeing the small birds bobbing back and forth in wire battery cages.

“Hmm, yes. Quails.” Eduardo said, closing the hole.

“Honestly, I’m not getting much out of this place,” Eduardo said turning to Psychus. “Lambda?” he asked.

Psychus nodded.

Eduardo stepped back from the wall and opened a hole to a drizzly grass field with sheep sporadically standing and grazing. They stepped through and it closed, some sheep took a few steps away but didn’t seem phased.

The rain was cold, but falling patchy from the gray sky. They stood ankle-deep in the moist grass. It brushed the skin of Psychus’ legs, he had worn shorter socks after the incident on Epsilon. The sheep bleated dully.

“Ok, yeah, sheep, goats...” Eduardo said looking down at a nearby sheep.

“It's no Zeta that's for sure...” Psychus added.

“Next?” Eduardo asked.

“Yeah, hit me with Mu, my man!” Psychus said excitedly, he was still enjoying this process.

Eduardo opened the hole to breadworld Mu.

A warm gentle breeze blew through from Mu.

The men hopped out of the hole which was about a meter above the ground. They stood in another grassy field. The sky was blue with a few tufts of cloud and a pair of equally sized suns. To Psychus the two stars appeared to be very near each other in space from the surface of Mu.

Psychus felt sluggish again as if his body was expending more energy just to stay standing. “What's the gravity here?” he asked. Eduardo thought for a while before answering. “One point two-three times earth gravity,” he said. “But it's got six times higher surface area than the Earth, so that's actually better than it could be.”

Eduardo looked out over the tall grass. There was a large herd of huge long-haired black-and-white cows grazing in the distance. One cow stood apart from the others, its pelvic bones were low and its udder swollen.

The men watched the cows huddled under the double sun. As they watched, a dark speck approached from a great distance, it was traveling at incredible speed. It came closer and slowed abruptly before hovering above the cow that stood apart.

“Let's go check that thing out,” Psychus said.

Eduardo nodded and opened a hole about twenty meters away from the cow.

The object as it turned out was a large drone, its enormous propellers spinning frantically to keep it aloft in the air above the high gravity of breadworld Mu. It lowered as the men gazed on, coming just above the cow.

It gently landed on the cow's back, and bracing feet extended around the cow. The drone began to unpack itself and unfolded into a set of cushioned straps and articulated mechanical arms. The cow let out a strained moo as the drone strapped itself to the front half of the cow with its arms facing backward.

Eduardo stepped a little bit closer watching intently. The cow mooed again. The other cows seemed to be watching too. The arms of the drone began to stroke the cow's rounded abdomen, large convoluted veins traversed the surface, as if the cow was straining.

As they watched, a sort of pink bubble began to emerge from the back end of the cow. It mooed again. As the bubble swelled, a bulge could be seen, the hooves of a calf.

“Ooh,” Eduardo said, watching. The mechanical arms extended around the cow and began to gently pull the calf. The cow mooed. A few of the other cows mooed also.

The cow continued to give birth with the assistance of the drone, in about three minutes, the calf was nearly out. The drone gave a last tug and the calf dropped to the grassy ground with a soft thump.

The drone unstrapped from the cow and stepped away on its support legs before its propellers started again. It lifted into the air and zoomed off in the direction it had come from. The mother cow was licking the calf. The calf looked around, as confused as it should be.

“That was intense.” Said Psychus. “Yes.” Said Eduardo, finally looking away from the scene. Eduardo shook his head blinking as if he hadn’t for the duration. “Anyway... Nu?” Psychus asked.

Eduardo shook his head again before answering, “Right.” He opened a hole just out of the reach of the grass and with a little effort against the gravity he stepped up and through the hole. Psychus followed, exhaling as he lifted himself through with his left leg.

Breadworld Nu had pigs, just pigs, the smell alerted the men before their eyes could. The two men stepped out of the hole among many large pens each holding roughly a dozen medium-sized pigs. The pens were surrounded with mechanization, a thick

metal duct rose from the ground next to each pen and overhung a feed trough.

They approached a nearby pen and peered over the walls. Pigs alternatively laid in a small group under a sort of large metal umbrella with hay under it or walked around the enclosure. The smell was bad, but the pen looked clean enough.

As they watched, the duct next to them began to make a thumping noise. Suddenly there was a loud squelch and an apportioned load of slop landed in the empty trough beneath the duct. The slop was followed by a strong puff of air from the duct.

“Feeding time,” Psychus said. He looked down at the slop and wretched. He looked away and the image danced in his head strongly before he could push it back. Eduardo looked unflinching at the swill, a moment later he frowned. Psychus felt as if he had been punched in the guts.

“Just... why?” Psychus asked, gagging as he thought about the slop long enough to ask. Eduardo turned away and shook his head again. “They recycle all the biomass, even the stuff humans can’t or won’t eat...” Eduardo began. He opened a hole and they stepped through.

The night air of breadworld Xi was hot and dry, but the smell was gone. Psychus’ eyes were watering hard from how strongly he

had gagged. A single tear fell from his smooth dark face and landed on the gravel below.

Eduardo patted him on the back. “Walk it off buddy,” Eduardo said shaking his head again. The trough full of mangled thawed chicken heads, fish guts, and ground chunks of material that were indistinct but dripped over the mound as Eduardo had looked, had had an effect on him as well.

Psychus coughed, gagging again. He began to feel warm salty saliva in his mouth. “I’m good... I’m good...” he said after a moment pacing a few crunching steps, swallowing forcefully, he panted a little and winced. “Ok, moving... on,” he said finally, punctuating his words with a gulp.

“Yes, this is Xi,” Eduardo said. They stood among more long gray buildings like on Kappa.

Psychus began to feel better in earnest.

“So, more poultry,” Psychus said, looking around in the light of an enormous full moon.

Eduardo looked up at the moon, it was riddled with massive overlapping craters which were visible from the surface of breadworld Xi. “I don’t need to see more birds.” Eduardo said, “Besides, on this side of the planet they’re probably asleep.”

Psychus agreed. Eduardo opened a hole to breadworld Omicron.

The hole onto a desert at dusk seemed to pull the air around the men in slightly, the pressure on Omicron was lower than it was on Xi. The men hastened through and Eduardo closed it. They felt considerably lighter than they had on Iota.

The desert was perhaps less of a desert than most, but the heat was oppressive, even this late in the day. Around the men stood hundreds of prickly pear plants, a few agave plants littered the stand. Among the plants stood a tall narrow structure, perhaps fifty meters tall. Halfway up from the base the structure expanded outward in a shape a bit like a wide-open cedar cone, but upside-down. Each shingle of the structure had several boxes attached underneath, with a rectangular opening at the bottom of each.

Psychus tapped Eduardo with the back of his hand. Eduardo looked away from the sunset and toward Psychus, seeing the structure. Psychus pointed at it. "What's that thing?" he asked.

"Bat houses," Eduardo said. Squinting in the dim light to see the black silhouette of the structure against the fading sky.

"What are they for?" Psychus asked, nobody on Earth ate bats.

"They pollinate the cacti," Eduardo said after a moment making a sweeping gesture with his hand across the crowded field of prickly-pear plants. Their magnificent pink flowers were opening as night fell.

The sun continued to set, the temperature was dropping now. As they looked at the structure they saw the silhouettes of bats dropping out and taking flight. They flew through the clear desert air stopping at the plants, and hovering close to the large pink flowers just long enough so that they could lap up the nectar, they flew in-to and away-from the same flowers multiple times before moving on to the next one, some flowers had more than one bat cycling through at once.

The bats were making quiet chirps as they flew in the nearly darkened sky. Psychus listened intently to hear them fluttering and chirping. The distant sound of a canister launcher firing rang out making Psychus flinch.

Insects began to take flight from their hiding places among the plants and desert floor. They mated in flight, making swirling movements as the males approached the females, and the females fled. Over and over, all around them the dance continued, cut short by swooping bats eating the insects mid-flight.

Psychus felt peaceful watching the display. The flowers continued to open, their silhouettes becoming more jagged as they unballed.

“Let's sit down,” Psychus suggested. The area in which they stood afforded more than enough space. The temperature of the

ground was now warmer than the air. They sat. the dry warm sand was comfortable on Psychus' hands.

Sitting in silence they watched the sky become starry, even intensely dense with stars. The swirling cosmos above them was a single point when viewed from Earth, even with a personal optical telescope. Bats and insects swooped and swirled across the view. A shooting star crossed by as the two men looked on. Feeling light, full, warm, and comfortable Psychus laid down and looked up with his head resting on the soft sand.

Eduardo laid down about a meter away in the small clearing. Psychus watched the sky with Eduardo until they both fell asleep.

Chapter 3

“Variety is the spice of life.” - William Cowper, ‘The Task’.

The misting of a sprinkler on their faces woke the two men. “Oh,” Psychus said sitting up easily, a little groggy.

“I guess we fell asleep,” Eduardo said standing up. He helped

Psychus up too. They brushed the sand off of their moist clothes and out of their hair.

The sun was rising. The men felt its warmth. “Y’know, if we wait here a little while our clothes will be dry,” Psychus said. The sprinklers around them sputtered and stopped, pulling back into the ground.

The ground was moist, but most of the moisture fell easily through the sand. As they watched the little puddles shrink and dissipate, tiny bumps were left under the surface of the sand.

Before their very eyes, the bumps seemed to raise up, bursting forth from the surface as tiny seedlings. Dicotyledonous sprouts popping up around the base of the prickly pears and sparsely across the desert floor.

“Wow!” Psychus said, looking upon the growth happening around them.

“This is beautiful.” Added Eduardo, crouching down to see a sprout with its leaves bowed and held together at the tip by the dry exocarp of its seed. Eduardo gently nudged the remains of the seed casing and it fell off, the rounded cotyledons popped out and spread apart. The little leaves were slightly curled from pushing against the seed.

The bumps continued to free themselves from the sand. Some of the plants which had come up first were taller than the others

already. Eduardo stood up and looked at the bat-bearing beam. It stood in silence, all of the bats had returned to their boxes for the day.

The air was still. The sand was already almost completely dry from above. The little sprouts seemed to move and twitch sporadically, never the one Psychus was looking directly at, and when he glanced to see, he couldn't catch the movements.

A few minutes of peacefully watching the sprouts went by. The men's clothes were already dried. The sprouts gradually stabilized in position. The little movements stopped and the plants seemed to almost retract. Their tiny leaves gradually coming back together to withstand the rising heat of the day.

The men entered a sweet spot. As their clothes had dried it had cooled their skin, and they hadn't started to sweat from the heat yet. "I'm good," Eduardo said.

"Me too," Psychus said. "Let's move on," he suggested, almost wanting to stay longer, but the rising sun influenced his plan.

Eduardo opened a hole, the low pressure of Omicron sucking air from breadworld Pi. The men stepped through, squinting against the air flow. A cloud of sandy dust blew up behind them. Eduardo closed the hole as soon as they were through.

Breadworld Pi had cool air, the sky was deep blue, with a tiny sun, high and distant in the sky, despite its size, it was painful to

glance at, and left burn-in in the vision of the two men as they looked around. Around them stood many short bushy trees, perhaps four or five meters tall. Psychus felt his weight as much as he had on Earth.

Fat succulent apples dangled from the trees. Eduardo walked over to a tree and hastily snatched an apple from a low branch. He took an enormous bite and chewed. “*Mmmf*, this is a good apple,” Eduardo said. He didn’t finish chewing before he took another bite.

Psychus wanted one too, seeing how much Eduardo was enjoying the apple. He walked over to the tree and grabbed another from the same branch, it rose a little from the loss of the weight of the apples.

Psychus took a bite, the skin was crisp and smooth, and the flesh was sweet and tart and firm. He chewed the apple, it was good, but it was just an apple after all.

Eduardo continued to wolf the apple, he ate around the outside in four big bites, then chomped the top and bottom ridges.

Psychus continued to eat his slowly, smiling at Eduardo.

Grabbing the stem with two fingers, Eduardo twisted the now-cored apple and pulled off the stem, and flicked it away.

Psychus took another bite as he watched.

Holding the apple from the remaining skin ridges around the bites at the top, Eduardo took a large bite from the bottom of the apple. As he did the seed-bearing structures in the center of the apple ruptured between his teeth. Some of the seeds fell out onto the mossy ground.

Psychus had never seen anyone eat an apple core, but as he watched, Eduardo chewed his bite and swallowed, taking another, about half of what remained of the apple.

Psychus continued to eat the juicy flesh of the fruit. “Do you always eat the core?” Psychus asked, after swallowing and clearing his mouth.

“Yes,” Eduardo said, taking the last bite of the apple and brushing his hands together briefly.

Feeling a little intimidated Psychus ate around the core, getting the deep fruit around the seed-bearing structures, but stopping there. He held the stripped core between his middle finger and thumb at the partially uneaten top and bottom of the fruit.

“Honestly, I’m not really inclined to do that, but I don’t want to just leave this on the ground,” Psychus said taking a half-hearted nibble of the remaining tissue.

“Ok, no problem,” Eduardo said after a moment reaching for the apple core. Psychus passed it off to him. Eduardo opened a

tiny hole, just big enough to drop the core through, and closed it as he did just that.

“Where did you send it?” Psychus asked, a single eyebrow raised in confusion.

Eduardo looked over his shoulder at Psychus. “Oh... I dropped it off on Nu...” Eduardo said, “I figure it's gotta get eaten.”

Psychus nodded with a grimace, trying not to think about breadworld Nu.

“Let's see what else is ripe in this place,” Eduardo said, seemingly to adjust the conversation away from Nu.

Eduardo opened a few view holes around the men. The holes opened all around breadworld Pi. Through the holes, Psychus and Eduardo saw cherries, pears, plums, peaches, quinces, apricots, nectarines, pomegranates, and other fruiting trees, many other cultivars of each. Eduardo closed the holes after they had had their look.

“I could go for a plum,” Eduardo said opening a hole to a stand of trees with large dark plums hanging from them. He stepped through and Psychus followed.

The plums were covered in a powdery bloom just like the grapes of Eta.

Eduardo plucked a perfect plum off a nearby tree and offered it to Psychus.

“I could have half maybe,” Psychus said.

Eduardo blinked and looked at the plum in his outstretched hand. He pulled it back in and placed both hands around it. With a quick ripping gesture, Eduardo split the plum. Its clear juice dripped from the two halves. Its yellow flesh was tinged near the purple skin with tiny red veins. Handing the half without the pit to Psychus, the two men each took a bite. The plum was soft and tender. Its flesh was formed of little squishy chunks. The plum was sweet.

Psychus finished his tasty chunk in two bites, while Eduardo popped his chunk into his mouth and chewed around the pit. After a moment he spat it out, completely stripped. Opening a tiny hole he tossed the pit.

“Well, that was good,” Psychus remarked.

“Yes,” Eduardo said. “I think I’ll have another,” he said pulling down another plum from the tree.

“Well, I’m good for now,” Psychus said.

Eduardo took a bite, leaning forward over the plum as he did to keep the dripping juice off of his shirt.

“Rho?” Eduardo said with a mouth full of plum.

“Yeah, ok. Here we go: Rho!” Psychus responded grinning.

Eduardo took a moment, eating the plum. He opened the hole lazily, not taking his focus off of the fruit.

Breadworld Rho was highly similar to Pi at first glance, trees with fruit hanging from them. The air coming through the hole was warmer, however.

“Can you smell that?” Eduardo asked, standing slightly closer to the hole than Psychus.

As the smell reached him, Psychus perked up and sniffed. “Yeah, what is that? It's nice,” he said, sniffing the hole.

Eduardo swallowed the last bite of plum, tossing the pit again through a hole. “Orange blossoms, I think,” Eduardo said.

The men stepped through the hole to Rho. The hard-packed soil beneath them was dry.

Looking at the nearest tree Psychus saw small white five-petaled flowers with little yellow tufted centers. The androecia of the flowers were open displaying fine grains of balled pollen. Bees flew through the trees, landing at the flowers.

Lower on the tree, unripened oranges, and a few in various stages of ripening were suspended among waxy pointed leaves. Eduardo approached the tree, looking closely into one of the flowers. He took a smell of the plant. “Oh yeah, it's orange blossoms.” he said.

Reaching into the plant, Eduardo pulled out a large ripe orange. Its shiny flavedo bore tiny taut oil sacs. Eduardo pinched the skin at the top where the stem had attached and pulled. With one motion he yanked the central core out of the orange through the top of the fruit. The oil of the fruit spurting through the air as he tore the skin.

Eduardo peeled the rest of the orange while Psychus approached. He placed the peel into a hole and pulled the fruit of the orange apart delicately, making sure not to burst the juice-sac-filled hesperidia.

“Here, have some.” Eduardo offered a few sections to Psychus.

Psychus had begun to feel hungry after eating the apple, it had whetted his appetite.

Taking the segments in his hand the men stood in the aroma of the citrus flowers while consuming the sour fruit. Eduardo grinned like an ape, chewing a large amount of orange flesh.

Psychus laughed.

Eduardo swallowed. “Come on, let's go get some tangerines!” Eduardo said, excited. Eduardo backed away from the tree and opened some holes.

Looking through the holes Psychus could see trees with lemons, bushes with kumquats, large yellow-green pomelos on

short trees interspaced with tiny key lime plants.

“Hmm,” Eduardo said. “Just a second.”

Eduardo closed the holes and opened a new set.

Through the holes, Psychus could see different times of day.

Through one hole, dawn and pink-accented yellow grapefruit.

Through another, pineapples at dusk. A third opened onto darkness, the light of day around them shone through the hole just enough to spot the small orange tangerines drooping on their plants.

“There we go!” Eduardo exclaimed, hopping through the hole.

Psychus watched him from where he stood, the other holes closed.

A moment later Eduardo hopped back through the hole with an armful of tangerines.

He closed the hole and sat on the hard ground. Psychus walked over and sat down across from him. Eduardo handed him a tangerine, holding an already-peeled one in the other hand. Eduardo put the entire tangerine into his mouth and chewed, he let out a small sound of delight as the juice burst forth.

The peel was on the ground next to Eduardo.

Psychus peeled his tangerine, accidentally pushing his finger into the flesh as he did.

Eduardo had already peeled another, he swallowed loudly.

Psychus pulled his tangerine into segments and peeled off a few strands of white albedo. Eduardo popped the tangerine into his mouth like the first.

Psychus placed one of the segments in his mouth, watching Eduardo eat the tangerine. The taste was different from that of the orange, he preferred the tangerine.

Eduardo created a small hole at the height of his shoulder while chewing. He reached through and Psychus heard a rustle and a snap. Eduardo pulled out a lemon and let the hole close. He let the tangerines fall onto his lap, some rolling off.

Psychus placed his peel on top of the pile Eduardo was making.

Psychus watched bemused as Eduardo swallowed and began slowly peeling the lemon.

“These are so much harder to get into,” Eduardo said, pulling the lemon peel off in small chunks leaving large amounts of the albedo.

He placed the peel in pieces on the pile. Once the lemon was peeled, he pulled it apart and offered a half to Psychus.

“Oh, no thanks man, that's too sour for me,” Psychus said.

Eduardo shrugged and nodded. He placed one of the segments in his mouth and started chewing.

Eduardo's face contorted but he seemed to be smiling behind the puckering.

Psychus laughed. "I told you man!" he said.

Eduardo chewed up the lemon and swallowed the thick resilient pulp before placing the other half into his mouth.

Psychus shook his head, he could hear Eduardo crunching on the seeds of the lemon. He ate another segment of his tangerine and another. The men sat for a while eating the fruits. When they had finished, Eduardo dropped the peels into a hole and they stood up.

"Sigma?" Eduardo asked.

"Yes, let's," Psychus replied. Eduardo opened a hole. The air came through with an overpowering smell that drove out the smell of the orange blossoms to which the men had become inured. It smelled to Psychus like the smoking woman standing around the holotelevision in the main area of district C on the 1379th floor of the central Ulan Batar tower back on Earth.

"Ohh that's nice." Said Eduardo taking in the smell and cool air. "Let's go!" Eduardo said, hopping through the hole.

Psychus followed. The hole closed behind them.

The men stood in a field of tall bushy plants with large hand-like leaves, they smelled earthy and lemony. The strong smell was

comforting and bracing. It was late afternoon here.

“Hold on a second,” Eduardo said opening a hole.

Eduardo stepped through into a dim room with a bed and some art on the walls. He rummaged around in the nightstand and pulled out a traditional lighter and a small pipe before hopping back to breadworld Sigma.

“What’s that for?” Asked Psychus.

“Well, this stuff is cannabis.” Eduardo began, taking a long pause before proceeding, “It contains several psychoactive terpenoids which can be ingested as smoke. These terpenoids induce various psychological and physiological effects. I personally find the effects to be beneficial and enjoyable.”

“Effectively what I’m saying is that I am going to smoke some parts of these plants through this pipe.” he finished. Psychus understood. “Interesting. What are the effects?” he asked. Eduardo started plucking small tapered tufts of sticky leaves from around the flowers and stuffing them into the pipe.

“I’ll tell you as I experience them,” Eduardo said, holding the lighter between his index and middle finger, and the pipe with his thumb. He filled the bowl of the wooden pipe with the botanical material, rubbing his thumb and fingers together stickily as he dropped each pinch.

He held the mouthpiece of the pipe up to his lips and took the lighter in his other hand. Striking it, he held the flame to the bowl and took a long slow drag of the moist cannabis. Eduardo closed his eyes and took the pipe away from his lips.

Psychus watched Eduardo smoke.

After a moment Eduardo exhaled, letting out a large plume of smoke. He opened his eyes and blinked “Ok the first thing...” he began, “Calming, a kind of pleasant dullness is falling over my mind. My body feels lighter, there's a sort of tingling.” Eduardo said. “It's nice.” he took another slow pull from the pipe.

Eduardo exhaled another puff of smoke and continued “My heart rate is increased, my mouth is a little dry, but the feelings I described previously are stronger now.”

“Well you appear unharmed, do you mind if I use your pipe as well?” Psychus asked, seeing that Eduardo had visibly calmed. He wanted to smoke as well.

“Sure, let me load it up for you,” he said hitting the pipe quickly before tapping the ash into his hand and putting it in the same pocket he had put the receipt. He picked a bowl of the trichome-laden leaves into the pipe and handed the lighter and the piece to Psychus.

Psychus took a hit through the pipe and tasted a sort of fruity, spicy smoke that left his lungs feeling coated. He coughed, pelting

out puffs of smoke as he did, he tried to exhale the smoke but continued to cough. He dropped the lighter.

Eduardo patted him on the back and took the pipe out of his hands.

“Ow,” Psychus said finally, standing up straight and wiping his lips with his wrist.

Suddenly he began to feel them, the feelings Eduardo had described. He felt like reality had slowed down, and that he was a genius outside of time. “Oh, let me get that,” Psychus said, bending to get the lighter. His short journey down to the lighter felt as if it had taken a very long time, from his perspective the ground was kilometers away. When he returned he apologized to Eduardo “Sorry, I didn’t think this would be so long.”

Eduardo laughed, taking the lighter from Psychus’ outstretched hand.

Psychus started laughing too, he wasn’t sure why.

They stood laughing, Eduardo smoked a little more.

“Onward!” Psychus suddenly cheered.

“Sure, onward to Tau!” Eduardo said as he opened a hole to breadworld Tau.

The men stared into the hole for a little while. The bright sky and soybean field in front of them was nothing special.

Eventually, Eduardo stepped through.

Psychus took a moment to react but also stepped through the hole.

Eduardo closed it.

They stood at the edge of a field of soybean plants. Psychus' perception of color was altered, the field was a vivid beauty to him in this state. It seemed to extend forever.

Eduardo began to hum, and he danced in place a little to the music in his head.

Psychus felt great. He had never seen anything so beautiful and Eduardo's pleasant humming pushed him over the edge. Tears began to run down his face, a bittersweet feeling fell over him for a moment but faded. He looked at Eduardo dancing in place, blinking a pair of droplets from his eyes. He started laughing. He sniffed and wiped his face.

"Hey, I... Thank you for this!" Psychus said. "I never..." he said, his voice wavering. "I never expected life to be anything like this," He finished.

They both laughed a little.

"Me neither." Said Eduardo smiling.

"Let's keep going." Eduardo suggested.

Psychus nodded, wiping his face again.

Eduardo opened a hole to breadworld Upsilon. They stepped

through and out onto a narrow mechanical platform at the junction between four large pools of sludgy green liquid.

The platform continued in every direction, the thin walkway was the consequence of the mechanical components and more of a spandril than a real platform. The ponds were being gently agitated by stirring devices under the surface.

Bubbling gasses were being streamed from under the surface as well.

“Whoa, what are those?” Psychus said pointing at the bubbles.

“Just bubbles, they run gasses through the cyanobacteria to increase yields,” Eduardo answered.

Psychus squinted. “Oh, I thought it was an animal.”

They laughed a little, careful not to fall off the mechanical structure. “Maybe we shouldn’t stand here,” Eduardo said. He opened a hole to breadworld Phi and helped Psychus through before stepping through himself and closing it.

Around them stood a mixed tree stand, sugar maples, and a few coniferous plants. It was apparently autumn here based on the leaves on the maple trees. The leaves sat in piles on the ground, browning, and red and yellow on the balding branches of the trees.

The coniferous plants stood around, green and prickly. Psychus touched the cragged bark of a maple nearby. The tree was conspicuously free of epiphytic moss and other plants.

The two men walked a short way through the forest, stepping through soft piles of damp fallen leaves. They brushed past a juniper bush, which shook dropping many droplets of rain that had collected on it from the most recent rainfall here.

Psychus focused in on every little thing they passed. He spotted a sprouting maple tree coming up. He picked up a fallen pinecone and looked closely at it.

A cluster of Bolete mushrooms bursting from the fallen leaves at the base of a tree caught his attention. Once he had noticed the first set of mushrooms, he saw mushrooms everywhere, a cluster of oyster mushrooms growing from a chopped stump, chanterelle mushrooms popping up like little yellow trumpets in the space under a tall pine.

Eduardo walked along scanning the ground. He scooped up some little mushrooms with white stipes, their caramel-colored umbonate caps looked a bit like nipples to Psychus. Eduardo picked a whole patch of them and slipped them carefully into the largest pocket on his cargo shorts.

Psychus thought nothing of it. They walked a short distance further until they reached a small clearing with what looked like fresh stumps.

Eduardo hopped up on an enormous stump and looked around the forest.

He started to whistle a tune, Psychus didn't recognize it. Leaves fell around them. A drone whizzed by overhead. Eduardo continued to whistle the wavering song, only stopping when a canister launcher fired within earshot.

Stopping with a frown, Eduardo looked down toward Psychus. "Had enough of this?" he said gesturing with both arms. Psychus nodded. Hopping down from the stump, Eduardo opened a hole to breadworld Chi.

The contrast between breadworld Phi and breadworld Chi was stark and apparent. Where Phi was temperate and cloudy, Chi was bright and tropical. The trees of Chi looked waxy and the leaves were a healthy shade of dark green. The men stepped through the hole.

Psychus felt light again.

The trees had dark bark and formed a canopy above them. Upon the trees were roughly 20 large curvaceously-ribbed cocoa pods each. The men were standing in a shallow puddle of mud with tiny midges swirling around them.

Psychus began to sweat in the warm humid air.

Eduardo brushed his hair back.

The little flies landed on the men, Eduardo brushed one away, then another. "Hmm... I don't want to kill these things, but they're bugging me." He said.

Psychus blew one off of his arm. “Yeah, let's move on,” Psychus said.

Eduardo opened a hole above his head, and lifted himself easily with his arms in the low gravity, crawling through and out of the hole. He extended his arm for Psychus and pulled him through.

The air of breadworld Psi was hot and humid like Chi, but the air wasn't full of bugs. They stood up among plants with large overhanging leaves. The plants bore large bunches of green bananas.

The men looked around. It was drizzling. “Hold on,” Eduardo said, opening several holes. They looked through seeing papayas, starfruit, mangos, coconuts, jackfruit, and other tropical fruits. Most of the holes looked out onto scenes of varying degrees of raininess, but one containing stunning magenta dragonfruit was bright and sunny.

Eduardo gestured to the sunny hole and the men stepped through. The dragonfruit sat near the tips of the long, thick, deeply-ridged spiky branches. The cacti bearing the fruit were overgrown, with many of the branches reaching the ground and taking root. A bat beam stood in the distance, silent.

Psychus looked closely at the fruits, like many others he had seen on this voyage, they were perfect. Their lives unblemished.

“Thank you, again, Eduardo,” Psychus said.

“Think nothing of it, this has been a lot of fun,” Eduardo replied. “Want to get a real meal?” he asked.

Psychus had only eaten fruit since he woke up, and not much of it at that. “Yes,” he said.

After a moment, Eduardo opened a hole to his entryway back in C-227. They left breadworld Psi behind.

Back on Earth Eduardo kicked off his shoes and so did Psychus. Eduardo walked ahead of Psychus into the main room, and into the kitchen. He called to Psychus “I’m going to start making dinner, you could cast that historical media I told you about on the holotv if you want.”

“Thanks, I think I’m going to shower first.” Psychus called back. He walked to his room and grabbed a spare set of comfortable clothes before going to the bathroom. He showered.

When he returned he was wearing large thin pajama pants and another white T-shirt.

Psychus could smell something spicy on the warm air radiating from the kitchen. Eduardo was sitting on the chair with its back to the panel, he was on his phone. The holotelevision turned on and began to play a documentary about breadworld Iota.

“I’m going to shower too, if I’m not back when the timer goes off, please put pepperoni on top of the cheese and put the peppers

back in for about seven more minutes,” Eduardo said.

Psychus looked him in the eye and nodded. Eduardo stood up and walked off into the master bedroom.

The documentary began with a montage reel over narration. “The dominant life of LBK-019416 f is aerobic, macroscopic, and DNA based.” The narrator said as footage of large segmented, hard-shelled creatures of various forms played in short clips. Psychus sat down.

“Research is being conducted to isolate and identify all the genes present on this planet.” The footage cut to a woman using a small syringe between one of the joints of a bipedal creature’s carapace. Its front half was reminiscent of a lobster, but the lower half was more like a velociraptor. It was lying still on the ground.

The video cut to a panning shot of a cyan jungle, researchers scraped some samples of the flaky fungoid foliage. “The genes isolated here will need to be translated, despite their homology to Earth life, the codon usage bias and differences in which amino acids are utilized both at the tRNA level and at the level of life on LBK-019416 f in general.” The projection cut to a table showing the amino acids used on Earth and on LBK-019416 f.

The left side of the table had a list of amino acids, the top had Earth life compared to life from LBK-019416 f. From the top to the bottom, a green circle was present in each cell LBK-019416 f

and Earth shared, or a red X was present where they differed. LBK-019416 f lacked proline in the proteins of its life but had azetidine-2-carboxylic acid. They lacked glutamate but possessed quisqualic acid. Several other Earth amino acids were X'd out on the chart. The life of this planet had only thirteen amino acids one of which was selenocysteine.

“Given the presence of toxic non-proteinogenic amino acids, the life of LBK-019416 f is universally toxic to the life of Earth, and vice versa due to the presence of proline in Earth life.” The video showed a small mouse-like creature holding half of a grape in the three equally spaced claws that rose in a triangle from its mouthparts, which were chewing. The video cut to an hour later and the grape sat mostly eaten on the floor of the clear box, the creature lay still.

“The atmospheric conditions of LBK-019416 f are ideal.” The narrator continued, the hologram cut to footage of clouds moving across the sky in a time-lapse. The timer rang out from the kitchen.

Psychus stood up and walked into the kitchen trying to listen to the documentary as he did. He couldn't really hear it from the kitchen though. He turned off the timer and pulled on a pair of oven mitts. He opened the oven and was blasted in the face with a wall of heat, he closed his eyes and pulled back.

The peppers sat, closely packed on the baking sheet which had warped from the heat into a saddle shape. Psychus pulled out the tray carefully and closed the oven with his foot, setting the tray on the stove which was off.

He pulled a large bag of sliced pepperoni from the door of the refrigerator and began to place two slices of the bright red circles on to each of the cream-cheese stuffed jalapeños.

It took a minute or two to place the pepperoni. When he was done, he placed the sheet back in the oven, this time not getting blasted in the face, and set a timer for seven minutes.

Psychus walked back into the main room where Eduardo sat watching the documentary with Eddie on the knee of his sweatpants, holding on with the little stiff hairs on its skin. Eddie crawled around on Eduardo's pants while the narrator spoke over footage of an enormous four-legged crustaceaoid creature with dark blue plated skin. Its long neck ended in what looked like the front end of a crawfish. The head had several thin limbs which the creature used to scoop leaves off of a tall tree and into a long mouth which opened side to side. "The dominant phylum of animals on LBK-019416 f is known as the Crustaceosauromorpha, however, there are forty-one phyla in the kingdom of LBK-019416 f's Animalia."

The image cut across a series of creatures representative of each phylum. A sort of clam with a three-sided shell. A bilaterally dividing sort of carpet; its anatomy was unclear, a simple roundworm, An angular-looking sort of jellyfish with what were clearly compound eyes, a microscope slide of a many-legged asymmetrical translucent body crawling along under the 40x magnification lens.

The narrator listed along with the images, “The Arthromolluscomorpha, Xenoxenoturbellomorpha, Nematofossimorpha, Tomicnidariomorpha, Hydrapedeazoa...” The narrator continued along with the images.

“Man you weren’t kidding, I don’t blame you for not trying to explain this,” Psychus said, watching the narrator list all forty-one known phyla.

By the time the narrator finished with the list, the timer for the peppers went off.

“I’ll get it.” Said Eduardo.

Psychus continued to watch the presentation.

“Due to the low gravity compared to the Earth, LBK-019416 f has many species of flying Crustaceosauromorpha.” The narrator said as footage played of a crab-like creature with four large diaphanous wings walking around on a rock with blue moss before taking off with large slow sweeping flaps.

Eduardo came back with a large plate, the peppers were placed in a pile on the platter. He delicately put the plate on the rim of the holotelevision, the edge of it was slightly blocking the image.

The two men let the peppers cool a little while they watched the documentary.

Psychus picked up Psybie and placed him on the rim of the holotelevision, it seemed to like the lights.

The holotelevision showed LBK-019416 f in scale next to the Earth, it was smaller by about 20% of the radius of Earth.

The surface of LBK-019416 f was blue from orbit, but the majority of the blue came from land-based plants and not large bodies of water. Only about 30% of LBK-019416 f was covered in water.

Eduardo picked up a pepper and bit off almost all of it. He chewed a little and bit the rest.

Psychus took a pepper too, he was very hungry. The cream cheese was soft and warm, with a little bit of a crust between it and the pepperoni which was crisp and salty. The pepper was very soft and gave no resistance when bit through, and they were spicy, but also a little sweet and fruity.

“These are delicious!” Said Psychus holding up a half-eaten pepper.

“Thank you,” Eduardo said holding one up too.

The creature in the terrarium hissed.

They continued to eat their way through the peppers as the documentary covered 300 years of the recorded history of exploration of the planet. A few hours into the presentation, the footage began to refer to the planet as “Breadworld Iota” and a description of the terraforming steps previously attempted and still required played.

As Psychus watched, now with a belly full of pepper poppers, the narrator described the process being undertaken in an Earth laboratory.

“The Life Eating Planet Sweeper project was made possible only with the translated genetics from the life of Breadworld Iota.” The footage showed a horrific gnashing creature with a long black ovipositor and four hook-shaped limbs around its mouth. It was olive green and looked a bit like the pupae of a large beetle but with four chittering jagged wings. It squirmed, slamming the tip of its ovipositor into the clear box it was in.

Despite only being the size of a mouse, it gave Psychus the creeps.

“I’ve seen enough...” Psychus said. “That thing is a LEPS?”

“Yes, that was the first model they designed, it was used to

sweep Iota, once the biomass was LEPS only, they ate each other and died out,” Eduardo said frowning slightly.

Psychus frowned too. “So all those lifeforms, they were wiped out to make way for spices?” he asked.

“Yes, but the genes of every native species were catalogued and translated into homologous structures using the proteinogenic amino acids of life on Earth. They and their artificial derivatives are still used in the beast fights.” Eduardo explained, trying to be optimistic.

Psychus felt a little better knowing that the creatures were archived in a way. But he was still conflicted. “I think I’m going to lay down,” Psychus said, standing up.

Eduardo nodded.

Psychus placed Psybie back into the plate, the water had almost completely evaporated or been absorbed by the protopets but a bit remained.

“Good night,” Psychus said, entering the guest room and shutting the door. He moved his things around a bit and got under the covers this time. He was a bit overstimulated so he pressed his thoughts back. In the quiet room, under the warm blankets, Psychus fell into a troubled sleep.

Chapter 4

“Some will fall in love with life and drink it from the fountain that is pouring like an avalanche comin’ down the mountain.”

- Butthole Surfers, Pepper.

The next morning when Psychus woke up Eduardo wasn't in the main room. Psychus turned the holotelevision on with his

phone and put on a stream of the local beast fight circuit. The tanks were just opening as he got the stream up.

On one end of the arena, a sort of squat blue and gray unicorn exited its tank. Its legs were thick and it had a fat squared-off tail, it was as wide as its body and ended in a sharp cubic block. It had a long blade-like horn, it was yellowed and the sharp edge was curved in small wavy ridges. The back of the horn was tapered into its spine, flowing smoothly into the tail. The creature only had one eye, but it was compound, and extended from one side of the base of the horn, around the face, and to the other side of the horn. The eye was red and looked almost like a visor.

At the other end a creature with six very short hooked legs. Despite their length, the legs looked strong. The body of the creature was rounded and shiny like a suit of medieval armor. Its surface appeared metallic purple, except for the cannon. On the top of its rigid, ridged beetle-like body there was what was obviously a cannon. The cannon was gray and textured with hard spikes extending from its exoskeleton, like the claws of a king crab. On either side of its head, it had large hexagonal patches of ocelli, surrounding a camera eye, when the creature blinked the eyelid had ocelli as well.

The creatures were out of the tank, the battle beetle began to frantically scoop the synthetic soil into an opening on the front of

its body. The other creature charged forward dropping its horn low at the last moment before impact. The beetle slammed the opening shut with a pair of large thick muscular lips. The impact was direct, but the effect was minimal, only a small scratch. The unicornesque creature glanced off the rounded shell and ran past.

Psychus got up to get some breakfast as the announcer shouted “Schorp goes for a quick kill, but Blattle isn’t having it!”

He walked into the kitchen as he turned up the volume with his phone. He stretched his arms over his head, raising onto his tip-toes for a moment as he stretched his back, he felt it pop in a few places.

Looking at the pantry he saw a large jug of honey that was about a quarter full. He pulled it out, fetched a few slices of bread from the bread box, and started toasting it. A series of loud crashing noises came from the holotelevision. Followed by a hissing roar, “Looks like Blattle has the upper hand here!” The announcer added.

The fight continued to play out, and Psychus was getting the gist of it. When the toast popped up he smeared some warm butter from the dish into it and placed the first slice on a plate. He poured honey onto the slice, placed the next on top, and poured again. He made a little stack of buttered honey toast.

Grabbing a fork, he put the honey and bread away and placed the knife to be cleaned. He walked back into the main room with the fork and plate. “Another glancing blow!” The announcer cried. He sat down and started cutting the stack with the fork.

“And another!” The announcer yelled. Psychus looked up to see that Schorp’s horn was snapped, and a full third of the tip had been knocked off. Blattle now had three scratches across the right side of its head, where they crossed a bright orange liquid was seeping out, it looked thick. Blattle had extended a pair of short feelers from the edges of the lips around the hole on its front, the lips opened.

Psychus took a bite of the warm honey toast. The butter was salted, and the delicious mix of sugar and fat with the crunch of the bread was very nice. Blattle scooped up dirt.

Psychus chewed and watched the fight. Blattle launched a few spherical projectiles from its cannon at incredible speed. The balls whiffed past Schorp as it ran around the arena, they shattered against the walls loudly. There were a pair of soft thuds from the entryway. Eduardo walked into the room with a large cloth bag.

“Oh hey. I thought you were in your room” Psychus said.

Eduardo took a long pause to register. “Nah, I was on Sigma,” he said carrying the bag to the door of his room and tossing it in.

“Oh! That's done it!” The announcer called.

Psychus looked to see that Schorp had landed a fourth, deeper, slash on the same spot as before.

There was a square section outlined by the four cuts. Blattle scurried away, trying desperately to take in the soil as it fled.

Schorp chased behind, coming around the purple creature. “Country waffles?” Eduardo asked. “What?” Psychus said, not looking away from the action. “Honey, butter, toast... country waffles,” Eduardo replied. “Oh, gotcha.” Said Psychus.

Schorp whipped the back end of its squared tail up and away from Blattle, and then quickly brought it down onto the spot with a crunch. The hologram showed the orange paste-like fluid spray from the impact site. The square chunk of shell had been knocked into the flesh of Blattle.

Blattle roared, firing partially formed balls of mud into the air as it writhed. Schorp circled past like a shark in the water. The orange hemolymph flowed out of the shattered hole. Schorp took a running start, lowering its horn for a final blow. The horn fell true, the snapped tip was still sharp, and Schorp drove it through the gap in the shell. Blattle collapsed.

“And the winner is... JetRoll's Schorp, taking ParaZeit's Blattle down decisively!” The announcer said, and the graphic of

this tournament's bracket showed on the screen. A commercial started.

“Did you sleep ok?” Eduardo asked. “Not really. How about you?” Psychus asked back. “I didn't sleep,” Eduardo said. He walked into the kitchen.

The commercial was for a speed dating service. “Meet up to 3.5 megamates per minute, click to connect to AmorChan now!” A female voice said breathily. Eduardo returned to the main area with the pitcher and a glass of water. He poured some water into the plate where Eddie and Psybie stood.

The tournament resumed. The arena was empty again, the ground opened, and two glassy tanks began to rise. Eduardo sat down and pulled out his phone.

“From Boomtessa, we have a new creation, Bellaja! Weighing 400 kg, we have yet to see how this beast will fight!” The tanks started to vent. “And from DoctorQueen, the new iteration of Levdzell, 460 kg, the grappling champion!” The announcer hyped, starting The countdown. The beasts emerged from their tank shortly.

Bellaja was large and bulbous. Its lower body was near-spherical and looked like a black scaly yoga ball. Its upper body tapered off of the orbed base into a brown bark encrusted trunk. The top of the trunk was divided into fronds like a palm tree, but

they appeared slick and the individual strands on each tendril were moving a great deal without a breeze.

Levdzell stood on a pair of human hands. It consisted entirely of two extremely muscular arms joined in the middle around a joint. The joint was thick and as Levdzell breathed in and out through a tiny vent on the underside it expanded and contracted like a human ribcage. The human hands were the size of trash-can lids. The thick fingers had black fingernails that had no edge and were instead flush into the lilac surface of its skin.

The low tone played and an extremely bright flash came out of the holotelevision. Eduardo looked up. Bellaja came into focus after the flash, its lower body was closing back up, underneath a set of thick eyelid structures, the orb at the base was clear and was still glowing slightly, fading quickly as the lid closed. Bellaja began to hop away as Levdzell shook off the flash and started to walk towards it in a sort of cartwheel.

the footage came in close on Levdzell. “The optical acuity and quick reactions of Levdzell has proven many times to be its savior,” the announcer said.

Psychus couldn't see eyes on Levdzell. Bellaja bounced high into the arena and over and past Levdzell.

Levdzell stood on the finger and thumb tips of one hand and turned the back of its other hand toward Bellaja. It tossed itself

into the air with a flex of the hand on the ground. It flipped backward through the air with the aerial hand pointed, the tops of the fingernails stayed pointed at Bellaja.

Bellaja landed with a whump, and its lower body slammed open, an even brighter flash came out. Levdzell closed its hands into fists as the light struck the backs of them. It crashed with its fists balled. Bellaja rolled over onto its top, standing like a ball on a tee. The tendrils that extended from the top of its body lifted it up, and it scuttled toward Levdzell.

Bellaja let out a flash whenever Levdzell began to open its fists. The lights were becoming less bright with each flash. As Bellaja reached Levdzell, Levdzell swept out with one arm. It knocked Bellaja off balance.

The momentary turnabout was enough for Levdzell to raise onto one hand, with the other slanted down and with the fingernails fanned, the wrist turning as if searching. Levdzell threw itself with both arms at Bellaja.

Landing on the orb with one hand, Levdzell took a grip of Bellaja's body. It grabbed with its other arm into the soil beneath them. It lifted Bellaja up and slammed it into the ground. As it did this, Bellaja flashed out of the side of the orb that was facing away from Levdzell, unable to get the lids open under the grip of the

hand. Levdzell slammed Bellaja into the ground loudly over and over.

“Great!” Eduardo said, putting his phone back into the pocket of his sweatpants.

“What's up?” Psychus asked him, looking away from the fight.

Eduardo blinked for a moment, “Oh, I scheduled a meeting with the woman who led the exoplanet scout ship that returned a few days ago for later today.” he said.

“Really, how's that?” Psychus asked. “I used my council connection to get in contact, and I invited her to meet with me,” Eduardo said. “Oh, yeah that makes sense,” Psychus said looking back at the fight.

Bellaja had managed to hook on with its tendrils and was biting Levdzell's lilac skin around its air vent with a hard white beak. Levdzell held its arms out and tilted its fingers backwards, like a child trying to fly against the wind. Suddenly Psychus realized what Levdzell had been doing. The black patches which looked like fingernails were actually its eyes. He stood up and leaned in to see the detail on the hologram.

Up close, the nail-eyes appeared to have thousands of facets. A bright flash came from Bellaja. Levdzell balled its fists as the light struck the eyes. Bellaja continued to bite. Levdzell flipped

and contorted its body, it was able to get its hand around the tendrils at the top of Bellaja.

Ripping the creature loose, it flicked its other hand up off the ground and onto the tendrils. As soon as it had a grip it grabbed half in each hand and began to pull them apart sharply. Levdzell ripped Bellaja in half with a loud pop, the upper half splintered like wood, while the lower half plopped out gelatinously, clear jelly surrounding a bioreactor.

“Looks like that's torn it...” the announcer said, “Levdzell is on track to defend its crown in this bracket.”

A Commercial started. “Do you have trouble remembering? It's not your fault. You need the Chippocampus MK VIII.” A voice said as a graphic of a small chip nestling into a transparent outline of a brain played. “Click now, before you forget!” The commercial ended.

“Dr. Inochi should be here in maybe an hour and like ten minutes,” Eduardo said. “She’s coming from the central Kyoto tower right now.”

Psychus nodded. “Ok cool, do you want me to clear out when she gets here?” Psychus asked.”

Eduardo thought for a moment. “Sure, this should be playing out in the living area I bet, it always seems to be,” he said. “Sure, no problem,” Psychus said.

“I’m going to take a quick nap, please wake me up in an hour,” Eduardo said, walking off to his room. Psychus continued to watch the fights. About an hour later Psychus turned off the holotelevision, changed into nicer clothes, picked up Psybie into his pocket, and knocked on Eduardo’s door.

A quiet scream could be heard through the door, and then a muffled “Thank you!”

Eduardo came to the door a minute or two later holding his phone, his hair was mussed and he was shirtless. “She just got to the ground floor. Maybe ten minutes now,” Eduardo said, stretching. “I’m gonna get showered up real quick, I’ll call you later tonight.”

Psychus left C-227 and walked down the hall, his shoes left little crusty chunks of dried mud for the first few steps. A nearby cleaning bot slid out of the wall and cleaned up the dirt within a few seconds. It returned to the wall and shut down.

Psychus walked out to the living area, a few people sat in small groups drinking coffee together, the holotelevision was turned down. Psychus approached the automat and scrolled through the consumable option categories. ‘Hot food’, ‘cold food’, ‘drinks’, ‘drinks (alcoholic)’, ‘smokables’. He selected hot food but backed out after looking at the subcategories. He tapped over to smokables and looked at the categories. There were three

subcategories, Tobacco, Cannabis, and Other. He selected cannabis and scrolled through the types.

He selected “Joints” and picked a strain called “Double-glazed Wedding Doughnut”.

The automat shortly dispensed a thick joint. It was ten centimeters long, and as big around as a cigar at the thick end, it tapered into a perfectly spiraled paper roach. The thin paper showed flakes of the dried green plant matter.

Back at the top-level menu he selected non-consumable, and navigated to lighters, he selected a white one with no pattern and the machine dispensed it.

He went back to hot drinks and ordered a liter of coffee with cream and sugar. The automat dispensed a large waxy paper carton of lukewarm light-tan coffee. He paid 6.85 sats total for the three items. He carried them away to an empty table near the holotelevision, an ashtray rose out of the table. He sat back in the magnetically suspended chair and set up to watch the fight.

He lit the joint, smoking was permitted in this area. He took a puff and pulled open the carton of coffee with the joint balanced between his fingers. He took a sip, it was nice and sweet, with a roasted taste that wasn't too strong. He hit the joint again, it was smoother, and had a taste a little different than the cannabis he had

smoked on Sigma. He held the smoke as he had seen Eduardo do, and exhaled.

The projection showed an empty arena, Psychus could barely hear the sound, but listened closely. He hit the joint again, taking a long pull. It was beginning to canoe. "...WrongStrong's Kachort!" Psychus heard the last part of the announcer's announcement.

He felt good. He took a sip of the coffee, exhaling the smoke through his nostrils. "And the challenger, Oaken-bead, who has brought forth Satinella to fight today!" The announcer said.

Psychus pulled out his phone and navigated to the page to bet on this fight. He selected Kachort and bet twenty sats for it to win. Kachort's avatar looked like a piece of cheddar cheese, while Satinella's showed a sort of tusked head, like a walrus.

He pulled on the joint, spinning it a little to try and stop the canoeing. He was already really high.

A woman approached him at the table "Do you mind if I sit here? I can't really hear the holo. " she asked him.

He looked up, not sure what she had said at first, when he understood after a moment, he acquiesced.

She sat down and pulled a joint of her own out from behind her ear, lighting it with the tip of a mechanical finger. She pulled out her phone and blew her hair out of her face while exhaling the smoke.

“Who’s your bet? ” she asked. Psychus looked down at his phone, and back up at the woman, “Kachort." he said.

“Hmm, I’ll take Satinella,” she said. She seemed to be trying to start a conversation.

“This season has been really diverse. " she started, “so many different body plans, really glad the meta has moved off of poison projectiles since the forties.”

Psychus looked at her moving her lips and tried to keep up with her, she was talking fast. “Oh, I wouldn’t know,” Psychus said. He took another pull from the joint, tapping off the long ash into the tray.

“Why’s that, new to the hobby? " she asked, smiling toothily. “I mean yeah, the first match I saw was..." he thought for a moment, he realized he didn’t know how long he had spent asleep on Omicron. "... a few days ago." he finished, not sure specifically how many it had been at this point.

“Oh, how do you like it so far? " she asked, hitting her joint as well. Psychus was starting to feel thirsty. “It's very interesting, I get a sort of white, pit-of-my stomach feeling when they really go at each other,” he said, drinking some of the sugary coffee. “That's the adrenaline.” Said the woman.

“I’m Glucra,” The woman said, extending her human arm.

Psychus shook her hand, “I’m Psychus.”

The tanks began to rise out of the ground.

They each hit their joints as the announcer counted down. "... three, ... two, ... one..." The monsters exited the tanks as they opened.

Both of the creatures were quadrupedal. Kachort was a yellow-orange with black spots, while Satinella was brown with a black band around each leg, its underbelly was tan, and it had two large multi-colored fan-like frills along its back. Kachort Released a cloud of thick black smoke from three smokestacks along its back, and the black spots oozed what looked like hot tar. The low tone played.

Kachort's fat yellow body was pointed and sharp at the front. It had predatory forward-facing camera eyes. Satinella was also fat-bodied, but only had one large eye, it was black around what looked like a sclera, and white in the center.

Kachort took in air through vents under the connection of its limbs to its body. It appeared to shrink slightly, and bulge more with each breath. Satinella stood, planting its feet on the ground. Satinella's forward-bent tusks beneath its eye, and the horn extending from the top of its head formed a triangle.

Psychus expected one of them to charge any minute. "It's charging," Glucra said, looking at the stationary Satinella. Psychus

didn't understand right away. "No it's not." he thought, before realizing the homophone.

Satinella's gray horns pinched together slightly and an arc of electricity blasted from in front of Satinella's face and hit Kachort on one of its legs. The site of the impact burst like a melon at a Gallagher show. When the steam and smoke cleared, there was a crater in Kachort's leg. Under a thick layer of oily yellow tissue was a strong tight muscular layer. The muscular layer looked unharmed.

Kachort let out more smoke from its stacks. Satinella appeared to shake a bit, it walked slowly away from where it had stood, leaving a pair of steaming footprints where it had stood when it fired.

The tiny chunks of Kachort smoldered and melted into the soil. Kachort continued to breathe in and out and release smoke. The air around Kachort looked like a tire fire. Psychus took a hit from his joint, it was about halfway burnt down, a thin layer of resinous residue collected around the cherry as it burned down.

Psychus released the smoke. Kachort released the smoke. Glucra was watching the fight, leaned in. She tapped her joint into the ashtray without looking. Satinella walked a few steps in a circle and planted its feet again. It blasted Kachort with electricity,

the bolt arced loudly and lit up the arena before leaving another small crater on the other side.

The smoldering chunks of Kachort released smoke too as they burned away. Kachort began to walk towards Satinella. Both of the monsters were very slow. Psychus watched, enraptured now.

Kachort breathed a bit faster as it walked, it blew smoke from its beak. It walked forward in its own cloud, leading the smoke front. Satinella walked away at about the same speed.

Kachort was gaining ground though. Soon the two monsters were directly abreast. The cloud enveloped them, there were bolts of electricity arcing through the dark smoke. The action was indistinct, the footage cut to different angles through the cloud. Psychus looked at Glucra, who was focused on the match. He hit his joint again.

Suddenly there was an explosion that blew away the cloud of smoke. Satinella's thick legs stood with nothing above them, and Kachort was left with the oily outer yellow rind blown clean off of its muscles. Satinella's head was in its beak. The smokestacks sputtered and the smoke stopped coming from Kachort, now only rising from the burning pieces of its fatty skin.

“A Sach's organ failure! You hate to see it!” The announcer screamed. “Kachort is the winner!” Psychus's phone buzzed at the

same time as Glucra's. He collected his 39.98 sat winnings.

Fumbling with his phone a little.

“Always with these bioelectric beasts...” Glucra said, setting down her phone, “They have about a sixty-forty chance to blow up at some point during the match. But the 40% of the time they don't blow up, they win.”

Psychus nodded, “Interesting. How long have you been following the, uh, scene?” he asked.

“Well, my mom has been in to it for a long time, really in to it, so I guess... seventy-nine years,” she said.

Psychus thought about it for a second, her age didn't strike him as strange, but because of tissue renewal, she looked twenty and up, rather than a specific age.

She tried to hit her joint as a commercial played, Psychus couldn't hear it, and looked away. When he looked back Glucra was relighting her joint which had died. She shook the fire off the tip of her finger and the little hatch closed over the tool extension port.

“What other tips do you have?” Asked Psychus.

She seemed experienced. She looked at him as she pulled, and let out the smoke before responding. “I, well... ” she stammered. “Ok, wait, when the next match starts I'll do a breakdown, the announcer doesn't really do analysis.”

“Sure, ok,” Psychus said. He took a sip of coffee.

They waited a moment for the commercial to finish. A fresh arena was presented, the soil showed no trace of the tarry combustion residue of Kachort.

“Alright, let's hear the dudes,” she said, leaning in toward the holotelevision.

The announcer started “Returning today after a short hiatus, BumpBumpBump with Жrachnid!” The tanks started to rise. “And submitted for your approval, YottaSmyte presents Ihmpdrap!”

The tanks opened shortly and the tone played. “Ok, so the first thing,” she said, pointing at the white creature standing on four spindly legs. “Ihmpdrap,” she said, rolling the word in her mouth as if it felt strange to say.

“See how it's got those bony plates... It's probably slow and difficult to injure,” she said, before pointing at a red mass of random insectoid parts. Its body was grotesque, like a sea urchin made from the scraps left behind in an anthill. It rolled along, it lacked a walk cycle, as each step it took was on a different type of limb, and they were of different lengths as well.

The only things the parts had in common were how sharp they looked, and the red color.

Жrachnid walked along slowly, tiny green eyes speckled its round body.

“Жrachnid, it’s also defensively typed, you can tell because its whole body plan is dedicated to distancing attackers from its organs. The thing with this fight is it's gonna be excruciatingly long." She said, hitting her joint.

Psychus hit his joint, it was nearly consumed.

They both exhaled.

“Ok, so who’s going to win?” Psychus asked.

“Well, there are three archetypes of fight beasts, attack, defense, and speed,” she said. “The way real damage usually ends up being dealt is in one of nine ways, in the community we abbreviate the ways with two letters separated by a colon.”

Psychus hit his joint, he wasn’t watching the fight anymore, this was fascinating to hear.

“So if there was an attack-based move, that was directed against the attack of another monster, that's A:A, which is also called an ‘overpower’." She said, explaining passionately.

“The nine types are A:D, A:S, A:A, S:D, S:S, S:A, D:D, D:S, and D:A," she listed the types of maneuvers effortlessly in a fraction of a second. “They correspond to attack, advance, overpower, puncture, race, exhaust, collide, obstruct, and block." she continued.

“Of course, these are just terminology, they help people discuss the dynamics of the fights, but there is a bit of subjectivity

to it. " she looked at the two slow-moving creatures moving around the arena. "I mean, it's not like they have health bars. " she joked.

Psychus laughed really hard and snorted.

Glucra smiled.

"Let's see, from the last fight, when Kachort caught up to Satinella, that was a combined advance/block. It put its own defense up against the attack of Satinella's electricity, that's the block, while also using its smoke attack against Satinella's low speed, that's the advance."

Psychus was starting to understand.

"So if a creature uses poison to win, what's that?" Psychus asked.

"Just poison? That would be a puncture-exhaust, they put their speed against the defense to administer the venom, and then their speed against the attack of their opponent, by avoiding them in the time between the venom being administered, and when they are able to be executed. If they are killed before the venom takes effect they lose, even if the other monster dies too," she said.

"I see." Said Psychus. "So this," he said, pointing at the projection. They looked over to see that Жrachnid and Ihmpdrap were entangled but neither of them seemed to be landing significant blows. A pincer squeezed the bone-plated leg of

Ihmpdrap, while its long sharp forked tail jousted glancing hits between the limbs of Жrachnid. “This would be... D:D, A:D, and D:A... so, collide, attack, and block,” he analyzed.

“Yes, I would say so,” Glucra said.

Psychus placed his burnt-out roach into the ashtray. “Dang, I didn’t know there was even a meta,” he said, sipping the coffee as Ihmpdrap landed a joust into one of Жrachnid’s many eyes.

Ihmpdrap stared unblinking with the enormous spider eyes embedded in the front of its cuboid body. The eyes shone in the harsh lights of the arena.

“Yes, there is a meta for every weight class,” she said. “The terminology is the same, but for instance, flight is much more common in the eight to ten kg bracket, than it is in the eight-thousand - ten-thousand kg bracket. ” she put her roach down in the tray as well. She began to gesture with her hands as she spoke. “There are certain biological sweet-spots too, the first bracket to provide enough mass to afford a mineralized exoskeleton, is also the first weight bracket to provide mass enough to account metabolically for every one of the high-meta venoms and gasses. It doesn’t leave much room for other traits, but at the forty to fifty kg bracket and enough neutralizing glandular tissue, you won’t lose to poisons that have been in vogue before. New poisons are always coming into the meta, so the minimum mass for

neutralizing tissue is creeping up, but the point is, the 40-50kg bracket is really defensively oriented. The fights run long,” she said, as Pyschus watched her gesture with emphasis.

“In comparison, in the 80-100kg bracket, the mass limit allows for both, as well as a few other traits. But ultimately the meta is slanted toward attack. Very few gen-ens run defensive sets in the 80-100kg bracket because the added mass gives way to added power, making mineralized exoskeletons less valuable. About a third of the beasts run with the glandular tissue, or at least a reduced version of it, to prolong the period during which the exhaust is being performed, giving time to react.” her mouth seemed dry as she continued to speak.

“Would you like a glass of water?” Pyschus asked, “This is super interesting.” he added.

“Oh, thank you. Sure, if you’re getting one,” she said. He stood up and walked over to the automat. He navigated the interface with a little difficulty, he bought another joint and requested a pitcher of water and some cups.

He returned to the table carrying the stacked cups in one hand and the pitcher in the other. He set them down. The monsters continued to collide.

Glucra poured herself a drink and took a large sip. “Where were we?” she asked.

“You were telling me about the sweet spots,” Psychus answered.

“Right, well, long story short, the brackets shape the meta, the meta shapes the terminology,” she said.

“Would you like to start this?” Psychus said pulling the joint out of his pocket.

“Sure,” she said smiling. She took the joint to her lips and torched the twirled bit of paper at the fat end with her fire finger.

The beasts continued to fight, Ihmpdrap had taken most of the eyes, and a few twitchy red parts littered the ground. She passed him the joint. He took a long hit. He couldn't see them but his eyes were red. He passed the joint back to Glucra and exhaled. He sipped the coffee, the carton was almost empty. He poured himself some water too and took a drink of that as well.

Together they finished the single joint much faster than they each finished one.

The fight continued to drag on, Жrachnid had managed to break one of Ihmpdrap's plated legs.

Psychus finally put the spent roach down in the ashtray. Glucra was smiling and leaning on her mechanical elbow with her hand under her chin. “Are you hungry? ” she asked.

“Yes actually, very,” Psychus responded after a moment where he checked.

“What do you like?” he asked, “We could get lunch.”

She pondered for a second, “Something crunchy, cheesy... How about nachos? ” she suggested.

“Oh, that sounds awesome,” Psychus said, he pulled out his phone to check for a Mexican restaurant within a few floors.

He checked and found one with high reviews on the far side of 1400. He read the district and floor, as well as the suite number aloud to Glucra.

“Sounds good to me,” she said.

They stood up and approached the elevator bay.

Psychus finished his coffee and threw the carton into a waste-reclamation-shoot in the wall. The ashtray lowered into the table and cleaned itself.

Glucra stood in the passenger sensor area, and they waited.

The ping came, and the elevator opened. Psychus punched in 1400, and they rode up to the floor. Psychus looked at a map of the floor on his phone for a frame or two.

“Ok, this way,” he said, leading Glucra through the dimly lit section of the floor. They passed through several districts as they crossed 1400.

Coming at last upon a section of the floor where all the projections had both English and Spanish, many of the home offices presented plaques with names containing accents and

virgulilla.

They reached the restaurant. The plaque on the door read “Pollo del Pueblo”.

Psychus opened it for them, and they walked in.

The smell of a tortilla machine making fresh tortillas from fine cornmeal, and the aroma of spiced meats greeted them as they crossed the threshold. The restaurant was open-seating and fully automated. Many families sat around large tables, everyone was eating from enormous plates of food.

Glucra walked over to a booth against the wall, and Psychus sat across from her. A tablet menu sat on the table. Glucra picked it up and ordered a plate of chicken nachos. She handed it to Psychus who added extra sour cream before he submitted the order. Within two minutes the food rose out of the table under a clear dome which retracted.

The massive plate of steaming hot nachos had a few extra-brown tortilla chips where the edges had begun to burn. The chips were piled with melted shredded cheddar and jack cheese, black and pinto beans, red & green hot sauce drizzled in zigzags over the plate, firm diced chilled tomato, cilantro, onions, crushed avocado, strips of slightly burned grilled chicken, and a large dollop of sour cream.

Psychus grabbed a small plate from under the dome and pulled some chips and toppings onto it.

Glucra did the same.

They began to eat the hot crunchy nachos. The chips were salty, the beans were firm but had a nice give, the cheese was stretchy and savory, the sauces were alternately sweet and spicy for green, and just spicy for red, the diced tomato chunks were firm, and contrasted the rest of the dish nicely. A gentle lick of cilantro and onion pervaded the taste of the dish.

Dipping the chips in the avocado and sour cream, Glucra and Psychus cleared the plate to crumbs and a few beans while the nachos were still hot.

Psychus pressed the on-screen button to pay through the tablet menu. The nachos were normally fourteen sats, but it just so happened to be happy hour, and they were half off. Psychus paid the seven sats and loosened his belt slightly.

“That was good, exactly what I wanted,” Glucra said.

“Yes, I agree,” Psychus said before he sipped some iced water.

Just then Psychus’s phone buzzed. It was a message from Eduardo.

“Dr. Inochi is still here. She is interested in meeting you as well. If you aren’t too far out, let me know when you can get back

here if you are interested also” it read.

Psychus typed up a quick response and sent it.

Psychus looked up from his phone, “It has been nice meeting you, thank you for teaching me about beast fights. It's been great, maybe I'll see you around the living area again.” he said beginning to stand up.

Glucra nodded, “Yes, see you around. ” she said.

He stood up and left the restaurant. He checked the map in his memory and set a course for the nearest pod bay. It only took a minute to reach the interface to call a pod.

He bid double the average of 0.04 sats and the pod arrived almost instantly. He climbed in and input the pod bay in the common area of 1379th's C-district.

A commercial played for a reskinning service, “Change your hair, change your clothes, change your mind, change your skin. Peeladerm.” It said.

The pod arrived back on the 1379th floor, and Psychus hustled to room C-227.

He reached the door and scanned the scannable. He could hear giggling through it.

Eduardo came to the door, his hair was mussed. “Psychus, great, come in,” he said, seemingly trying to fake composure.

Dr. Inochi sat in one of the burgundy chairs. She was looking at Eddie like a jeweler looks at a gemstone, its traits were different than they had been before. She looked up as Psychus came into the room. "Hello! " she said, showing a face of happy surprise, her blue lips formed a friendly smile.

"Hi, I'm Psychus," he said.

She stood up and hugged him. She was shorter than him at 1.85 meters. Her white hair smelled like green apple. He was taken aback by the hug but reciprocated nonetheless. "Nice to meet you," he said.

She released him. "I apologize, I'm just a little euphoric. I'm coming down from the *Psilocybe azurescens*," she said looking Psychus in the eyes. Despite the bright panel, her pupils were large. Psychus saw that her tongue and eyes were the same cobalt blue as her lips. The creature in the terrarium hissed. Dr. Inochi walked over to the large glass tank containing the hissing creature.

"*Rotampoda pulmonata*," she said, carefully picking up the golf-ball-sized creature from under the foliage, plucking a single small leaf from the bottom of the tank as well. She carried the creature gingerly with both hands and placed it on the floor. Tossing the tiny chunk of orange plant matter onto the ground about a meter away.

The creature remained balled up for a moment, but shortly un-balled and began to roll on tiny wheels across the floor. It rolled over to the leaf and stopped. She picked it back up and put it in the terrarium.

“You know, in nature, these things have to roll up from way down in their burrows when night falls, they get a lot more exercise than this tank can provide.” Dr. Inochi said to Eduardo. “And it’s hissing because it's lonely, you should get a deeper tank and a second individual. ” she continued, speaking empathetically for the Adobrasigian snail. Still holding the tiny leaf she had picked up with it, she ground the orange leaf to paste between her thumb and index and took a smell of the juice.

“The plants are getting too much light too, their leaves are reduced in size and are producing poisonous anti-nutrients. You could keep the tank where it is if you put some paper over the side that faces the panel,” she said, patting Eduardo on the chest with her other hand.

“Oh, thank you so much! The kit didn’t mention any of this.” Eduardo said. His pupils were also large.

“Psychus I have more of the mushrooms if you would like some,” Eduardo offered.

“Do you recommend them?” Psychus asked.

“It isn’t my place to tell you that you should take them, they

will cause significant changes in thought and perception. If it interests you, I have more, I would feel discourteous to refrain from offering.” Eduardo explained.

Psychus thought for a moment, Eduardo and Dr. Inochi seemed mentally calm but emotionally excited, they both seemed happy as well. He had enjoyed the cannabis, he was still a little high, and he trusted Eduardo. “I think I would like some, but you should help me dose,” he said.

“Sure, one second.” Eduardo opened a hole to his room and pulled through the cargo shorts he had been wearing on breadworld Phi. He closed the hole and reached into the pocket pulling out a handful of the little tan mushrooms, their stalks were bruised, showing fibrous dark-blue stains.

“I still can’t get over that shit,” Dr. Inochi said, tracing a circle in the air.

“Come with me,” Eduardo said walking towards the kitchen. They stood at the counter and Eduardo looked at Psychus for a moment.

“How much do you weigh?” he asked.

“112kg” Psychus answered.

“Have you eaten recently,” he asked.

“Yes,” Psychus replied.

“Are you in a good place in your life, and is your headspace

free from deeply seated fresh or repressed trauma?” Eduardo asked, looking him in the eye.

Psychus thought for a moment. His life was good, he checked his entire life over a few times, running through the feelings and sensations that he had experienced. When he was sure, he nodded. “Yes, I would say so.”

“Are you trying to experience what I am experiencing?” Eduardo asked.

“Yes, roughly,” Psychus said.

Eduardo nodded and measured out a dose for Psychus using a small digital scale from a drawer under the counter.

“Chew these, swallow them with some warm water,” Eduardo said. “They may upset your stomach,” he added.

Psychus took the little caps and stalks and looked closely at them. They were beginning to dry out, but they were still oddly beautiful.

Psychus began to chew them as he grabbed a cup. He regretted not getting the water first, as the taste of the mushrooms was reminiscent of wet rotting wood and dirt. He washed the stringy mushrooms down and drank a little extra to clear his mouth of the taste and texture.

He returned to the living room, wherein Eduardo and Dr. Inochi were playing an RTS game on the holotelevision. They

were sitting in the chairs and controlling the game with their minds.

“How are you guys playing?” Psychus asked, watching them rally small armies of tiny units against each other.

The projection showed a curved map with cold snowy terrain punctuated with large crystals of ice, and some stone. Psychus could see Eduardo’s base at one corner, and Dr. Inochi’s at the opposite corner.

Their troops met near the inlet to Eduardo’s base, and fought, troops fell to the bullets of the other army. The attackers, in chartreuse armor, pushed into Eduardo’s base, each player maneuvering the troops individually and in parallel as the fight raged on. Eduardo was able to train two additional fighters in magenta armor and sent them to the inlet as soon as they spawned.

“Chips.” Eduardo said, without looking up.

“We both have brain chips.” Added Dr. Inochi, taking a moment to look at Psychus as she spoke.

The remaining attackers retreated as Eduardo’s troops approached, taking staggered steps so that they could fire backward.

Dr. Inochi had taken a second base.

Eduardo used the momentary retreat to send a worker to the nearest source of resources in the game. The stony resources were

exposed from beneath the snow and steaming like a geyser, making them very obvious from a distance. He quickly set up a base around the hot rocks.

The little units in the game were kinda cute to Psychus, they were color-coded, with accents matching the team colors, and even the buildings were accented with Eduardo's Magenta, and Dr. Inochi's chartreuse.

Dr. Inochi had already fortified her second base with a defensive patrol of some full-body chartreuse-uniformed infantry and a manned sniper tower.

Psychus went to go find a seat. He checked the closet in the guest room and found a collapsible chair, and brought it back to the living room.

When he returned he saw that Eduardo and Dr. Inochi each had four bases now, but there was also a smoking wreck at one of the resource piles on Dr. Inochi's side of the battlefield.

The units in the armies were now more diverse. There were several types, they were of various sizes and models, with different weapons and armor. One chartreuse unit was like a small mech. It stood out among the infantry due to its size and the way it moved.

Psychus set up the chair with his back to the guest room and watched. The little armies marched around the projection. They

sent runners out along the corridors of the large map, they returned to the army as it advanced past. A pair of runners met on a long walkable stone archway over a lower path. Both armies turned as one and began to march toward the part of the map the arch was on. The guard patrols remained at their posts.

Eduardo's army reached the top of the archway and bustled around securing the high ground, many infantry were stationed on the arch, their weapons hot and trained toward the path below. Dr. Inochi's army showed up as this scramble was occurring. The units engaged, and the infantry on the archway took several of the enemy infantry out for each casualty they suffered. Eduardo brought more units onto the archway, mowing down the approaching army.

Dr. Inochi continued to press. Her army advanced and the small mech came within range of the arch. It launched a supersonic missile that detonated on impact with the archway. It collapsed dramatically, the infantry running and diving to get off as it did. Many of them fell and were crushed.

"Oof," Eduardo said. The path through and the path over were both blocked now in this direction. Eduardo had taken another base during the skirmish. Dr. Inochi was producing more of the small mech-type unit, and soon she had a cadre of them. Eduardo

was producing SRAM systems, all of his other production stopped, just to provide enough resources.

Dr. Inochi crept across the map with the mechs, spaced behind the main group of them, a dotted trail of the mechs coming from each of her bases as they were produced. They were slow.

Psychus watched the little walkers crawl across the battlefield, taking the long route around the collapsed path. The mech battalion divided into several small groups and began to each advance on one of Eduardo's bases. "Oh, you think you can base-race ME?" Dr. Inochi said tauntingly as she saw the meager remains of Eduardo's forces on guard at the entrance to his first base and extrapolated his plan.

Just then the SRAM system came online and began launching missiles. The mechs began to fire from a distance at all of Eduardo's bases at once. Some of their missiles flew wide, but most landed with explosive force against the structures that made up Eduardo's bases. The SRAMs flew across the map in an exaggerated arc, one landing on each base. The blasts were bright and realistic, a mushroom cloud rose from each target, and all but the first base Dr. Inochi had had were completely destroyed. The mechs continued to bring a barrage of blasts against the bases.

Eduardo's Structures were falling one by one, blown to dust by the missiles. One more SRAM launched flying for Dr. Inochi's

first base. As it flew, the last few of Eduardo's buildings collapsed. The game stopped, the final screen freezing. An utterly destroyed map, littered with corpses and rubble sat still in Psychus' view.

"Wait, is it over?" Psychus asked confused.

"Yes," they both answered.

"So... who won?" he asked. "I did." Said Dr. Inochi with a smile.

"Alternatively, nobody won because war is stupid." Eduardo said jokingly.

"No, I won." Dr. Inochi gloated.

Psychus was starting to feel something, the outlines and sharp shadows of the room seemed exaggerated, and his stomach was a little pained.

He flexed his abs, it made him feel a little better. The light blue wall started to take on a strange texture, it seemed to be moving slightly. Psychus gave himself a little mental pep-talk. "Eduardo said there would be changes in perception, this is what I expected," he told himself. He started to smile uncontrollably, he suddenly felt very happy.

His pep talk had worked, and he was beginning to trip, in a pleasant way. The movement of the wall gave way to gentle swirling motions, the stucco seemed to have more colors inside of it, that were leaking out slightly.

“How do you know when it starts?” Asked Psychus through his smile.

“With the dose you took, you should be feeling it by now buddy,” Eduardo said smiling back at Psychus. “I took some when you did, by the way,” he added. His speech sounded different, more like a song, or just a calmer voice.

The color of Eduardo’s voice was tan like the coffee he had had today.

“Aww, why didn’t you tell me.” Dr. Inochi said, “Now I’ve got to catch up.”

Eduardo picked up the cargo shorts again and passed them to Dr. Inochi. She fished out a few caps and chewed them up and swallowed. She took a sip from Eduardo’s glass.

She set the pants down in a little pile next to the chair. The pocket sat open. To Psychus it looked like a fat singing head. Psychus’ synaesthetic experience of reality was growing stronger. On a normal day, five was red. It sat pointedly in Psychus’ mind, like an indigestible object. A red room might give him a five feeling sometimes.

Right now however everything Psychus experienced was coming through all of his senses. He saw the words Dr. Inochi had spoken, the gray-ochre fence-shaped phrase “catch up” dropped through his mind like a pebble into a small pile.

He pushed his head back, catching nothing behind him. He bobbed his head forward. The shape of the path his head had taken stood out to him as a 2D slice of a 3D object, it felt like metal railings, but they were neon-blue, fading into cobalt as he stabilized.

“Take my chair,” Eduardo said, offering the armchair to Psychus.

Psychus felt care in Eduardo’s words, and despite being reasonably comfortable, he agreed to the offer, which hung like a warm yellow mist in his mind. He stood up and felt his body pulse with life. He felt like a hero, his muscles were full of rushing blood and he could feel it. He was aware of the tiniest movements in his body, his abs were tight as if he was preparing to withstand a coming wave.

He struggled to get to the chair, Eduardo got out of the way. Despite how nice this felt, his arms and legs were controlling a bit differently. He sat in the chair. The cool leather touched the skin of his neck and forearms as he sat back. The color of the texture was translucent white. The number of the texture was 110.

Psychus opened his mouth to speak but started to laugh instead. Eduardo was staring at his plants. Psychus looked at the plants and began to weep tears of joy through the laughter. The feelings he got from the plants were unfamiliar to him, but the

shape of the color was square, as the plants were mostly green, and green has four sides. The letter H tasted a lot like these plants looked. The tiny crimson accents on the edges of the phylloclades of the Mother of Thousands plant were highlighted by the bright panel.

The crimson felt like watching the cow give birth. The memory of the cow giving birth was a dry well with a roof over it, standing in the rain. The roots coming off the plantlets were yellow and tasted like popcorn, light shone through and around them. Psychus continued to laugh sporadically and experience synaesthetic free association.

He ran his tongue over his teeth, he perceived numbers from the shapes of the teeth. forty-three, twenty-one, nine-oh-nine, one-one-eight. The numbers had shapes, the shapes had sounds, the sounds had color. He listened to his colorful teeth with his tongue with his eyes closed, laughing uncontrollably as he associated.

Spiraling visuals danced behind his eyelids, the light from the panel lit up his eyelids and projected an orange field behind the patterns. The orange was sweet, it felt like summer back at the school. His training flashed through his mind, the associations he drew pushed him past the ability to explain to himself why he associated what with what.

The text and graphic of a slide explaining the sine function sounded like a harsh buzzing and tasted metallic, it was spiky in the dark. A slide containing human anatomy brought him the feeling of putting on shoes. He opened his eyes again and saw that Eduardo was making out with Dr. Inochi, she was sitting on his lap.

They looked beautiful. Their minds were old, but their bodies were young. Dr. Inochi ran her fingers through Eduardo's hair as they kissed. The soft clicking sounds of their lips pulling apart tasted like air when you have been underwater. Psychus laughed some more.

He took a deep breath, the air was sweet. It looked like an avalanche of pale blue snow flowing through him. He exhaled, it looked like melting chocolate. The feeling he had in his extremities smelled like raindrops on a window.

He opened his eyes again, Eduardo and Dr. Inochi had left the room. He sat alone, looking around as the visuals began to fade.

The random associations gradually faded as well, dropping back to their subconscious baseline. All that was left was the heroic feeling, and a euphoria like a special holiday, meeting old dear friends, or being held by a loved one.

After a while, when he was feeling more normal he needed to talk to someone. He pulled out his phone and texted Eduardo. "I'm feeling great, but I'm interested to discuss what I just experienced." he sent the message. It failed to go through.

Psychus put his phone down and got up. He fished in the open pocket of the cargo shorts and pulled out a mushroom. He walked to the kitchen and ate it with some warm water. "I like these." Psychus thought to himself, rocking on his feet.

He walked back into the living room, into the guest room, and changed into a night shirt and a pair of boxers. He came back out of the room, comfortable in the nice cool clothes, just in time to hear four soft thumps from the entryway.

Eduardo and Dr. Inochi came into the room.

Psychus smiled seeing them, he outstretched his arms for a hug. Dr. Inochi hugged him tightly first, then Eduardo.

"These things... They're really cool." Psychus said, having a bit of trouble describing how they made him feel.

"Yes, I've been quite partial to them ever since the rehabilitation they performed on me at the university," Eduardo said. He was carrying a bath towel. He put the towel over the empty chair and drank some water.

"You never told me how that went." Said Psychus curious to know more. "You mentioned it took a long time, but you never

mentioned what they did. The training you designed was able to teach me how to suppress my simultaneity before I was even one year old." he continued. He was feeling very talkative.

Eduardo apparently felt the same, because he began to tell the story. "Well first what they did was get a baseline. Scans, interviews, cognition tests. Once they had determined I had the concept of consent they asked me to permit them to experiment on my brain." Eduardo opened a hole and pulled out his pipe and closed the hole. He opened another and pulled out the cloth bag he had put in his room that morning.

He packed his pipe with some cannabis from the bag and started smoking. "At first, they used disruptive frequencies to disable certain areas of my brain temporarily during the tests." he paused, puffing from the pipe and passing it to Dr. Inochi, she was looking at him adoringly. "This led to the discovery that my hippocampus was extremely overactive, in addition to the hypertrophy." he blinked. "In BN-EHH type 1 and type 2, there is very little hippocampal activity," he added.

Dr. Inochi handed the pipe to Psychus and he took a hit of the sour smoke. He handed the pipe back to Eduardo, and Eduardo continued. "Ultimately they came to the hypothesis that various psychoactive compounds could be used to change the activity patterns permanently." he hit the pipe as he finished, loading a bit

more in before passing it to Dr. Inochi. “But the simulation they ran returned a very long list of possible candidates. Mostly antipsychotics.”

Psychus nodded, “What did they end up doing?” he asked.

Eduardo laughed a little. “They bifurcated my body vertically, and built two simulated copies of the other half and paired them off,” he said, clearly he found the memory a bit funny.

“I have someone on my crew like that.” Said Dr. Inochi, as she handed the pipe to Psychus.

He took a large puff from the cherried pipe and handed it to Eduardo. “So they split you like an earthworm?” Psychus asked.

“Well, I wouldn’t put it exactly like that,” Eduardo said after a pause. “But yes, that’s exactly right.” he tapped the ashes into his palm and put them into the cargo shorts before loading another bowl and continuing the story.

“The thing is, the goal was to prevent permanent damage to my brain, and ironically having it cut in half was less aggressive than trying hundreds of antipsychotic drugs in serial, hoping that somehow the combination would scramble me sane,” he said. He hit the pipe and offered it to Dr. Inochi again. “I’m good,” she said airily.

He passed it to Psychus instead. “The thing they did next is the crazy part,” he said grinning as he recounted the process.

“They took each half, and separated me from myself.” Psychus hit the pipe, he was engaged deeply in the mildly tragic story.

He handed it back. “They put both of me on a different trajectory. The experiences we had were different from each other daily and overall.” he hit the pipe and handed it back.

Psychus was still feeling euphoric, but now he was also feeling high.

Eduardo loaded some more into the pipe and continued to smoke. “They made sure to talk to us constantly. They brought me pictures of their kids, their dogs, their prized zucchini plant. They talked to we like a person, even if us didn’t really respond like one.” he handed the pipe to Psychus.

“Every once in a while, they would bring me into a room with myself. A plain white room with just me and me.”

Psychus hit the pipe, this was really getting strange.

“And they would just leave me to see myself, and touch myself, and eventually talk to myself. They did this type of thing every few months, always watching through a two-way wall.”

Psychus exhaled and handed the pipe back to Eduardo.

“Eventually, I went from standing staring at myself to interacting as if we were separate people. I began to see myself as my good friend, I looked forward to seeing myself again. For years this went on.” he said hitting the pipe and setting it down on

the rim of the holotelevision which was still showing the frozen battle.

“The big breakthrough though, was when they decided it was time to check if the therapy had worked,” Eduardo said, making a single clapping gesture. “They put me back together.”

Psychus had known this was coming, he obviously wasn't two cyborgs anymore. “How was that?” Psychus asked.

“Well first it was strange, my simultaneity was still occurring. Like it always had.” Eduardo said pausing to think. “When I first turned on, first it went “tick” then “tick-tick, tick” then it went “tick-tick-tick, tick-tick, tick” and it never stopped,” Eduardo said explaining a feeling Psychus knew all too well. The feeling of remembering remembering. The recursive memory loop they suffered from caused them to remember their entire life perfectly over and over, every time they formed a new memory. This of course led to them storing a large amount of memories of them remembering their entire lives, which of course became part of the life themselves.

The process spirals out of control quickly, leaving the default pathology of BN-EHH type three to be rapid continuous degradation in acquired skills, and a constant need to re-learn even basic skills like speech, despite the clarity of the memory, the depth they occupied in the mind was difficult to plumb as someone

that couldn't even formulate a sentence without mimicking a person they had seen or heard before.

“But when they plugged me back together, at first it went “tick” then “tick-tick, tick” then “tick-tick-tick, tick-tick, tick” and I remember feeling a complex emotion, like disappointment or betrayal, but much more bitter. I thought it was going to continue stacking; back to square one I go.” Eduardo looked up, a single tear was running down his smooth tan face. “But then!” Eduardo stood up triumphantly, “it went “Error! tick-tick-tick, tick-tick, tick.” And again “Error! tick-tick-tick, tick-tick, tick” It never stacked past the third layer again, I retained the simultaneity, but what they did is they had left a chunk of each cyborg mind down the center of my brain, they did this in order to hook them back up without too much alteration to the nerves. The patchwork cyborg hippocampus was unable to stack past three layers of recursion, and the pile pushes the oldest stack into the void as a new layer is added.”

Psychus was slightly appalled. “So, you're telling me you don't just have a bunch of memories of memories, just a fixed amount?” Psychus finally asked. He couldn't imagine life without access to the memories of his experience remembering other memories.

“Yes, and the net effect was personification. However there was a permanent side effect, My brain is two people now, and really the chip does some functions, so I guess you could say it's three.” Eduardo said.

“What functions?” Psychus asked. “Well, it can't store much, its processing speed is high though. I used it to calculate the positions for the holes based on the trajectories and curvatures of the breadworlds. The data was accurate when I read it, but I kept a running calculation for each planet, and they are still running right now.” Psychus felt a little envious but he shook it off, he could calculate live too.

Dr. Inochi yawned quietly. “Sorry, my sleep schedule is all messed up from living on that ship for so long. ” she said.

“It's understandable.” Said Eduardo.

“I think I need to sleep.” Said Dr. Inochi.

“What's your room in the Kyoto tower, whats the floor?”
Asked Eduardo. “I can just drop you off.”

“I live on 7806, A-109.” Dr. Inochi said, smiling with anticipation.

Eduardo pulled up a map of the floor, and the tower, and then the Earth itself. He zoomed in on where they sat and then zoomed in to the 7806th floor of the central Kyoto tower. He cross-referenced the maps. He stood up and opened a hole. It faced a

dark room, there was a flowering plant on a low table in the corner. The smoke that filled C-227 billowed into A-109.

Dr. Inochi stood up looking through the hole. "That's the one!" she cheered, hugging Eduardo. She stepped through and called out "Thank you!" As Eduardo closed the hole.

Due to the mushroom Psychus had taken while coming down, his euphoria persisted for a long time. Eventually, the two men went to bed. Psychus slept happy and comfortable in the guest room.

Chapter 5

“Because when you have stanky old Wizard Eyes, sometimes you see things that are real, and other times it's like crazy, crazy, crazy, in your face, all the time.”

- The Ice King, Mortal Recoil, Adventure Time.

Psychus woke up to the soft synthetic sunlight filling the room. He got up and put on pants and a striped polo shirt. Upon opening the door to the main room, he saw Eduardo on a holographic call with a man with no hair.

“...but I can come by today.” Eduardo finished.

The man nodded. “Ok, I’ll send you an estimate with material costs and machine time.” The man said, peering through the projection with beady piercing blue eyes.

“Great!” Eduardo said, he made a saluting gesture and the man hung up.

Psychus saw that the terrarium has paper on the side facing the light now.

“Good morning,” Psychus said, walking into the room.

“Howdy,” Eduardo said after a moment.

“What was that for?” Psychus asked, motioning toward the holotelevision.

“I was scheduling a meeting with a diamond machining

workshop. They make customized diamond objects.” Eduardo said.

Psychus didn’t really feel like his question was answered, but just then Eduardo’s phone buzzed.

He picked it up and read the estimate. “Well, that's actually quite reasonable...” Eduardo said, thinking aloud. “Would you like to come with me?” he asked.

“Where are you going?” Psychus asked.

“Leipzig,” Eduardo said turning off the holotelevision.

“Sure, I’ll come.” Said Psychus.

They put on their shoes and Eduardo opened a hole to a pod intake area at the surface floor of the central Leipzig tower. He stepped through, and Psychus followed.

The dim room was hot, they hastened to the automatic door to the human intake zone.

The room was gray, a holographic greeter called to them “Greetings, gentlemen. Please scan in to the building.” It said, gesturing with a flat palm to a scanner on its kiosk.

Eduardo and Psychus pulled out their phones and scanned their information into the tower.

“Thank you.” The projection said, turning off. They walked to a pair of large mechanical doors with yellow and black striped

edges at the end of the room. The doors opened slowly, revealing the first floor of the tower.

The ceiling was high like a hangar, pillars punctuated the view around the enormous warehouse factory. People stood in small groups, interchanging, sitting in front of projections. Around them, were large machines performing who-knows-what. People pressed buttons on their phones as low-flying drones moved mechanical parts around the floor. Psychus saw a fork-lift drone moving a relatively small machine onto a very large service elevator. It rose out of the floor and out of sight.

Eduardo looked around. He spotted an arrow on a pillar with a symbol of a rectangle with three people in it. He pointed to the pillar and Psychus looked. They walked toward the elevators.

They navigated through the mechanical arms, and relaxed-looking people assembling machines and casually discussing techniques. They followed a sort of corridor across the hard smooth impervious polymer floor as they walked. It was noisy on the floor, but not loud. Psychus waited to ask what they were going to visit a diamond machinist for.

They reached the elevator bay and took an elevator tram with a small group of people down into the bowels of the tower. The tram dropped like a stone through the track, Psychus felt as if he might lift off the ground. The tram slowed, and Psychus felt the

drop in his knees. The tram stopped at B-500 and many of the small group of people got out. Psychus looked at Eduardo who shook his head.

The tram closed, and nobody got on, despite the small group of people waiting to go up outside the bay on B-500. It dropped again. Stopping at B-1000, the rest of the people got off, and nobody got on. Psychus looked at Eduardo, he shook his head.

The tram dropped again, stopping at B-1500.

Eduardo nodded. they stepped out onto the floor deep below the surface of the Earth. Around them were personal conveyor belts to the individual elevator banks,

Eduardo pointed at one that said 'B-1700 - B-1800', "This way," he said.

They walked briskly along the belt as it brought them to the bank of elevators. Eduardo stepped off and pressed the button to summon the elevator. It arrived shortly and was empty. They climbed in.

"What are we here for?" Psychus asked as Eduardo put in the floor.

"Dr. Inochi suggested that I get a pair of goggles," Eduardo replied. "She said 'What are you doing, you could suck your eye out, don't look into a random hole, get some goggles or something'" he said, recounting her words.

“She pointed out that looking through and opening holes into deep space, which make up an extreme majority of places in the universe I could open a hole to, would probably suck my eyes out, or even kill me through explosive decompression." he continued as the elevator reached the floor.

They walked out of the elevator and stood in a workshop area with an automat and a few people watching a beast fight on a holotelevision mounted in the upper corner of the room. There was a pool table, but nobody was playing.

Eduardo crossed the room diagonally. Passing some workshop tables with components and people sitting at them. They walked down a normal hallway, the doors had holoplaques, some were blue and open, while many were red and closed.

Eduardo stopped at a plaque that read “Enrique Bene-Foster, Custom Diamond Machining and Printing, Open." he scanned the scannable with his phone, and the man he had been speaking to on the holotelevision opened the door.

“How did you get here so fast? Ok, come in, I can squeeze you in,” he said turning and walking back into the workshop home. The two men followed him. They walked through a small hallway past a few rooms, Psychus could smell something with cinnamon cooking in the kitchen as they passed.

They entered a room with several extremely expensive-looking machines. They had many small parts and were separated from the control side of the room by a vacuum-sealed glass wall. The machinery sat still in its argon atmosphere and gleamed.

Psychus stood back as Eduardo and the man began to discuss specifications. The man of medium height held up a perfect diamond sphere in one of his mechanical arms and began gesturing with it, showing cut lines and where more could be printed onto the crystal face without compromising its stability.

Eduardo asked him to take a measurement of his face, and they discussed the fit of the lenses as they would be placed in use. Eventually, both men smiled and shook hands. Enrique sat down and placed his face against a viewing eyepiece, the fingers on each hand slipped into a pair of slots in front of him. He took direct control of the machines.

He placed a diamond sphere into the first machine with an articulated mechanical arm ending in a three-fingered hand with residue-free polymerized fingertips.

There was a bright blue light as he began to cut the diamond clean in half. He worked slowly, passing the diamond pieces between machines and smoothing, cutting, and grinding as he shaped the little lenses. He cut the halves of the diamond into two parts each.

The first half became the part closest to the eye, as he worked it became slightly concave from one side, and the other side covered in tiny smooth dimples like a golf ball. The other half he carved out like a bubble dome, but still thick. He used two mechanical arms to press the two halves together and scanned with a microscope around the gap, it was only a few micrometers at its widest point due to the precision of the tools.

Enrique began printing the new joining diamond between the two halves. He joined each lens together, sealed with hot argon inside. He ran through the grinding and smoothing again. He made the lenses flush, and symmetrical.

He pulled his arms out of the slots and pressed a button on his control panel. The lenses entered an airlock, the argon vented and the airlock opened. Enrique gestured to the lenses cockily, "Check them out, if you please." he said to Eduardo.

After a moment Eduardo picked them up and looked through them. His eyes looked like a kaleidoscope, dozens of tiny images of his eyes through the dimples bulged across the front of the diamond half-spheres. "Yes, these are perfect!" Eduardo said. "Thank you."

Enrique pressed a button and a scannable projected from it. He tapped the projector and Eduardo scanned to pay.

Enrique walked them out and thanked them for their business as he closed the door. The hallway was empty. Eduardo opened a hole to C-227.

Back in the entryway of the home office, Eduardo marveled over the lenses. They walked into the room as Eduardo stepped trepidatiously with the lenses in front of his eyes. "Alright," Eduardo said. "Now I just need to get some straps." he continued.

Eduardo pulled his phone out while Psychus went into the kitchen to prepare a snack.

"Do you want anything?" he asked Eduardo.

"Sure, could you make some coffee?" Eduardo requested.

Psychus set up a glass French press and made some coffee first before looking through the food. He got some plain yogurt in a bowl with a spoon. He could hear Eduardo talking through the holotelevision to a female voice, but he couldn't make out the words.

He came back out eating the cold creamy yogurt. It was sour and thick. Eduardo made the same saluting gesture and the image of a woman's head with purple feathers instead of hair disappeared. "Coffee's ready," Psychus said.

Eduardo came into the kitchen and they both got some coffee, taking the time to tailor it to their tastes. They returned to the living room and sat down.

“Well that was a leather boutique,” Eduardo said sipping the warm coffee. “I’m getting some custom straps made, they should be delivered shortly.” he continued.

Psychus nodded, sipping the coffee as well.

There was a thump in the entryway. “Oh, there it is.” Said Eduardo, putting down the coffee.

He retrieved the package and opened it. Inside was a pair of ornately stitched leather straps with spaces just for the lenses, they had little magnetic snaps that held the lenses firmly in place. Eduardo slipped the lenses into place and equipped the goggles. His bulbous bottle goggles distorted the light from the panel around the shadow of his head on the wall. He tightened the straps and shook his head.

“What's wrong?” Asked Psychus. Eduardo fiddled with the goggles before answering. “They’re pretty comfortable, reasonable fit, but if I unsnap the back they’re going to fall off my face,” he said.

Psychus reached out to examine the goggles. He turned them over in his hands and felt the lump of the magnetic snaps sewn in to the leather. “This is a magnet right?” Psychus asked. “Why not just get some magnetic implants to hold them on?” he suggested.

Eduardo stopped. He looked at Psychus. “Yes! Great idea!” he said excitedly. He pulled out his phone and started looking for a

clinic that would do same-day magnetic facial implants. Psychus put the goggles down and sipped his coffee, he felt satisfied having been able to help.

Eduardo downed his coffee and stood up, putting his phone in his pocket and picking up the goggles. “I’m gonna go get that done, there’s a clinic on 1245,” he said. He was still wearing his shoes. “Ok, I guess I’ll see you later, keep me posted!” Psychus said as Eduardo left.

Psychus didn’t feel like sitting in this room alone. He finished his coffee and took the mugs to be cleaned before leaving. He walked out into the common area of the C-district. A pair of children were playing on the floor just inside the room as their guardians looked on from nearby chairs.

He approached the automat and purchased a pair of joints and a mixed fruit salad. He took the goods to the table he had sat at yesterday. The holotelevision was displaying a commercial, it had been turned up. “Storage at prices below the break-even point! Click now!” A small computer-generated cube sucked a room of furniture into it. The cube turned to show the name of the company.

It projected an empty arena as the program cut back to the action. Psychus lit his joint and took a bite of the fruit salad. It was sweet and soft, with honeydew, cantaloupe, grapes, blueberries,

and banana.

“These siblings have requested to be the first match of this tournament! Who are we to deny a request to unite family in battle?” The announcer said.

Psychus puffed the joint as the tanks began to rise. His phone buzzed, he pulled out and read the text from Eduardo.”They are about to start, shouldn’t take long.”

“Good luck!” he texted back. “We have Acidrose’s Sorba, and her brother Won-Tom-Bah has brought forth Jiyou.” The announcer said.

Psychus set down his joint on the tray and pulled out his phone. He navigated to the page for this fight as the tanks ascended.

The weight bracket was listed as 40kg-50kg, he looked at the avatars of the creatures, Sorba’s looked like the head of a pink dolphin, Jiyou was a black lump with white highlights. He picked the dolphin to win, and placed a seven sat bet on it.

The announcer counted down and the tanks opened. The tone played. Sorba rocketed out of the tank and up into the air Jiyou walked out on two long thick legs with a wide stance. Upon its back was a hump with a barbed spine sticking out of the end near the head but behind it. The head had a large white beak which snapped open and shut as it turned to watch Sorba fly into the air.

Sorba had a body like a small dolphin, but on its back, there was a hump as well, from the bottom end of the hump, near the tail a jet of air was propelling Sorba around the arena. The hump rumbled. Sorba had long fins and flapped a bit as it hovered in the arena. It made clicking and buzzing noises as it looked around.

Psychus continued to eat the chunks of fruit. Jiyou tilted its body downward and angled itself toward Sorba in the air. Sorba jetted away as Jiyou kept a bead on it. Suddenly Jiyou's hump contracted violently and the barbed spine was propelled outward with incredible force. It was attached to the body by a flexible cord of bones and tendons. The skin of the cord was tight around the joints and Jiyou's legs flexed and bowed as they absorbed the recoil.

The spine whizzed past Sorba as it swooped upward. Jiyou's hump began pulling the cord back in, it seemed to slurp the cord up like a lumpy noodle. Sorba swooped, it had a small claw between the flukes of its tail. It scratched Jiyou across the back with it as it passed over.

Jiyou finished recovering the barb which sat back where it had started. It lined itself up again and waited for a clear shot. Sorba swooped around and clicked as it flew. Jiyou took the shot, glancing one of the flukes. The white barb had a streak of purple blood. Sorba tumbled in the air and was able to recover slightly

before landing on the soil of the arena. It propped itself up on its long pectoral fins and its hump throbbed before it jetted off again, taking flight, leaving a small purple spot on the soil.

Jiyou was walking toward the center of the arena as it recovered its barb. Sorba swooped at it, cutting the hump a bit deeper. Jiyou turned around in place as it lined up a shot. Psychus' phone buzzed.

Eduardo had sent him a picture of himself wearing the goggles and smiling. "Done." he had written. Psychus sent back "Good!," and put his phone back down, and continued to watch the fight.

Sorba had slashed a deep wound in the black skin of Jiyou's hump. The opaque white flesh underneath seeped a latex-like white blood. Jiyou was pulling in its harpoon. It took in air and its hump contracted to fire the barb. The slashed hump ruptured with a cracking pop, the barb flew a short distance and the cord slithered out with no real force behind it.

Sorba swooped in and dive after dive it slashed Jiyou, shredding its surface, turning it white with the thick blood. It continued to slash until Jiyou collapsed with a soft thump on the soil of the arena. Its cord lay ineffectual, its barb nullified.

"Looks like Acidrose will move on to the next round!" The announcer shouted, The shot cut to a tall thin woman with a green cybernetic eye jumping up and down with her long arms extended

above her head. Next to her was a long-headed man with a spiky haircut. His hair was black and so were his clothes, his arms were crossed and he had his back to the woman.

A commercial started, some new model of exit ship. “Triple redundant molecular 3D printed medical treatment, food, media...” The salesman’s voice began as a projection of the ship rolled over a fabricator generating a birthday cake, and a lofty helm with a wide view out of a curved three-piece front view panel.

Psychus pulled out his phone and sent Eduardo a text, “I’m in the central area of the C-district.”

The commercial continued “... A 1.5 terawatt fusion reactor, clean-burning-mass-conserving antimatter propulsion system, and a warp speed approach of only 120 days. Click now!” The ship was kinda cool, but it was probably too expensive for Psychus to consider.

Eduardo walked out of the elevator at the far end of the room. He stood still for a long moment before he spotted Psychus and walked over. Psychus waved as he walked over. Eduardo was wearing the goggles. Eduardo walked carefully, he was getting used to the preposterously distorted view.

Psychus stood up and met Eduardo halfway. The table swallowed what little was left of the joint. Eduardo braced himself on Psychus' shoulder. "Let's go back to my office," he said.

They walked with Psychus leading, heading back to C-227.

Once they were inside Psychus turned to Eduardo. "You know, the diamond chamber, I get, but what's with the texture of the lens?" he asked.

Eduardo was taking off his shoes, Psychus took his off too. "It's so I can look at more than one thing at a time," Eduardo said. He looked at Psychus in the dimly lit entryway.

Suddenly the goggles lit up with dozens of tiny holes, the images projected through them danced on the surface of the goggles like a tumble dryer for light.

Psychus saw faint figures in the rainbow of lights swirling across the domes.

The holes inside the diamond compartment opened and closed, Eduardo was scrolling across vastly distant visages as fast as he could see.

Eduardo closed the holes. "I can't really see what that all was," said Psychus.

Eduardo took the goggles off and stood there blinking for a moment before he handed them to Psychus "Try them on." he said.

Psychus put them on, he saw the room they were in across his field of vision as a series of tiny versions of the bigger image, and the space between them was a fuzzy version of the tiny pictures.

Eduardo started opening holes inside the goggles.

Psychus watched as his entire field of view rapidly filled with images of different places in the universe, he saw the sunset of Omicron, the hole opened and closed and opened again in the distance, it chased the sunset down and jumped from where the sun had been setting and reached where it was noon in about fifteen short flashes of the holes opening and closing.

Another Image showed the back of his head, he turned to look and caught the image of himself turning to see upon the big picture a tiny hole looking at his out-of-focus eye. The hole jumped around his head, giving him a 360 view of himself.

Yet another appeared to be open on to breadworld Gamma. It opened and closed, showing frames of the planet, it felt like Psychus was flying. The hole came upon a fishing vessel pulling in seaweed by the ton.

Another opened onto Zeta, it snapped into the center of a beehive. The hole was the size of a grain of sand but displayed a magnified view through the goggles that showed Psychus the bees doing a waggle dance on a golden honeycomb coated with pale yellow wax in the dim light coming from the entrance of the hive.

The hole snapped to a view of a single blossom on an almond tree. The image was perfect, albeit small, and Psychus could see the glistening cell walls of the nascent petals.

There were holes to everywhere they had been already, and some to places Psychus didn't recognize. There were dozens of little vignettes playing out through the holes. Occasionally Eduardo would accidentally open one underwater. He would just suck the water out into space before continuing, the chambers easily withstood the pressure difference.

Eduardo performed a show for Psychus, taking him on a few trips he had just taken in his view-scrolling.

Eventually, Psychus took the goggles off, popping the snap at the back. "Wow!" Psychus said. He loved them.

"You should get a holoprojector, hook it up to your chip, and attach it to these," Psychus said, handing the goggles back to Eduardo. He put them back on and they walked into the living room. Eduardo sat down with some effort, and Psychus fetched some water, he had cottonmouth.

Eduardo searched on his phone wearing his goggles, scrolling slowly as he learned to read through the distortion. He navigated to a chip wholesale site and went to projectors, he picked a compatible high-resolution projection chip that was field-rated and small. He also picked out a field-rated energy chip, it contained

batteries, capacitors, a kinetic energy collector, an ambient heat collector, and its surface was a photovoltaic generator panel.

He ordered the chips and a wire pen. Together they were eighty-four sats. He put his phone away and went back to scrolling around, his vision was completely filled with images from lightyears away. He didn't see Psychus come back into the room drinking from a glass.

Psychus sat down and watched Eduardo's goggles. Even from this side, it was interesting.

There was a thump in the entryway. "I'll get it," Psychus said, as he got up. The package was tiny. He brought it in for Eduardo. "is this a projector?" he asked.

"Yeah, let's set it up," Eduardo said as he closed the holes in the goggles and removed them, he took the box from Psychus, pulled it open, and passed the tiny energy chip to Psychus. "Hold this in your palm in front of the light please, give it some juice." he requested.

Eduardo took the projector chip and a tiny pointed metal key that had come with it to press a physical sync button. He held it up to the back of his head and used NFC to pair his chip with the projector chip.

Eduardo took out the wire pen and drew some wires onto the leather straps of the goggles in the pattern he wanted for the two

chips. “Alright, let's test this,” Eduardo said. He took the energy chip back from Psychus and attached the small chips to the goggles. He waited a moment looking at the goggles as they were currently assembled.

Suddenly an image of the goggles projected from the goggles, and upon the tiny projected goggles, the projection of the projection. Its projected projection’s projection projected a projection of its own, it continued downward in size and ultimately dropped out of the resolution of further detail. Psychus could see many layers down before it reached the limit of a single photon.

Eduardo looked away, as he did the projection scrolled with his vision, and Psychus’ excited face projected from the goggles. Eduardo picked them up, looking at them as he did, the fractal popped back into the projection. He started to put them on and the projection changed.

At first, the image was a highly distorted view of Psychus looking at Eduardo, but then the first hole opened. A view of blue sky, a double sun. The next hole opened as the first began to hop toward the sky. The second hole looked out upon a purple sky with a large moon. It began to hop toward the sky as well. Each eye had a hole. Suddenly every other facet of the strangely convoluted

surface of the diamond chamber filled with images. They all faced the sky and began to hop.

Hop after hop the holes left the atmosphere, the system, the local cluster. They hopped through space, all traveling from distant planets, their paths traced straight lines through space. Stars, planets, a nebula, a pulsar, empty space, so much empty space. The holes hopped from such distance that stars passed by between hops, going from a single point to gone and passed by.

The series of rapidly updating still images displayed across the curved projection coming from the chip between Eduardo's eyes. The holes hopped less distantly now, the space between hops becoming less. One of them passed by Jupiter. The views through the holes converged, all coming to view a spiky gray ball with a pale white moon. The gray ball seemed to radiate light like a very dim star. The sky was less full of stars around it, obscured by the light. The holes hopped in closer to the planet.

The spikes appeared to be long gray slender filaments extending off from the surface in every direction. The tips of the filaments exchanged canisters coming in from the breadworlds. Canisters launched from the filaments, they recoiled slowly as they decoupled with the canisters.

The holes jumped in closer. The filaments were big, they were huge. From a distance, they had looked like slightly wavy hair

extending into space but from up closer they seemed rigid. Each filament was tens of kilometers wide, the canisters were thousands of cubic meters.

The holes hopped again. The lower parts of the filaments were green, fuzzy with foliage. The holes hopped again. The ground was kilometers down still. The plants were covered in seed-bearing stinkmelons, a few of their fluffy, hooked seeds detached in the wind and blew away.

The holes jumped again, they were all outside one tower, the projection wrapped the view into 3D, it was projecting Eduardo's perception of the shape. The holes jumped again. Suddenly the room around them was full of holes, the view through the hole in front of Psychus was the back of his chair, the hole continued into itself infinitely, Psychus felt a bit nauseous looking into it, seeing the back of his own head over and over in the bottomless hallway in front and apparently behind him.

The projection was a topological nightmare. The other holes in the room looked out onto complex views, they looked through each other in odd ways inside the goggles, they were all around the room at every angle. Psychus couldn't look anywhere without seeing an infinite hallway. Two holes faced each other from the ceiling and floor, the view through the hole on the ceiling was

Psychus looking up. He looked down into an endless pit. He clenched into his chair. “Please! Stop!” Psychus shouted.

The holes all closed at once. Eduardo pulled off the goggles after a moment and blinked hard. “Sorry,” he said.

Psychus’ heart was racing. He was afraid to put his foot onto the floor. “Ok, yeah,” Psychus said breathing deep. “I think I prefer one at a time,” said Psychus.

The men laughed a little. The tension passed. “How much did those cost total?” Psychus asked.

Eduardo thought for a while. The lenses had been fifty sats for the diamond orb, and 1320 for Enrique’s expertise and machine time. The strap was nineteen sats, which he considered a great deal, he had opted for a carbon-fiber thread when the woman had prompted him, it cost extra. The thread itself basically made the leather decorative in terms of structural support in comparison. The chips were eighty-four sats. The custom 3D printed magnetic films he had installed in his eyebrows and around his eyes had cost 115, and the surgeon operating the surgomat had charged 495 for the procedure. Collectively summing the total, “2083 sats” Eduardo said finally.

“Hmm, that's about as much as twenty-six days of UBI,” said Psychus. he thought the goggles were cool, and they did keep Eduardo’s eyes in his head, but 2083 sats for goggles felt high to

him for some reason.

“Well you should let Dr. Inochi know you took her advice,” he added.

“Good point,” Eduardo said. He put the goggles back on and picked up his phone. He fumbled to start filming himself. Once he had it running he opened holes in the goggles and the swirling colorful kaleidoscope played in the orbs as Eduardo spoke into the camera. “Hey, I took your advice. This feels a lot safer.” he stopped recording and sent the video to Dr. Inochi through his phone. He took the goggles off and put them with his phone in his pocket.

“let's get lunch,” Eduardo said.

Psychus looked at the floor beneath the chair before he dared to stand up.

They left C-227.

As the door closed behind them Eduardo's phone buzzed. Eduardo pulled it out and read the text aloud “I gotta see this in person, I'll be in A-109.”

Eduardo stopped and scanned himself back into the room.

After a moment Eduardo stepped back out of the door with Dr. Inochi.

She was wearing a black dress.

“We were about to get lunch,” Psychus said.

“Great, I could eat,” she said smiling. “What were you guys thinking? ” she asked looking at Eduardo.

“We hadn’t decided yet,” Eduardo said after a moment.

“Oh ok,” she said putting her hands together and bouncing in place a little. “Can we get chicken wings? ” she asked. “I haven’t had any since I’ve been back,” she added.

“Yeah sounds good to me,” Psychus said.

Eduardo agreed.

They started walking toward the main area of the C-district. “Almost all the food on the ship was vegetarian. ” Dr. Inochi started, “Except the insects, which were my favorite ingredient in most meals.”

“Insects?” Asked Psychus.

“Well they’re a much more efficient source of protein than any chordate... ” she said “They consume food waste...” listing the reasons. “They reproduce fast and are unlikely to collapse... They tolerate space well... They are considered more ethical to consume than chordates... Their enclosures can be built into any spare space... Their water usage is low... They can be used as either a source of binding or as the protein of a dish... ” she continued to list the reasons as they approached the main area.

Eduardo was on his phone.

“And most importantly, they taste good! ” she said finally.

“There's a sports bar in the F-C junction,” Eduardo said.

“Can we take a pod?” Dr. Inochi asked “I’m actually like starving. ” she said.

“Sure,” Eduardo said.

They crossed the main area passing a large crowd watching the holotelevision. The holoplaque read “Current bid max: 1.35 sats, Next pod: 0.38 sats, Average: 0.14 sats”.

Dr. Inochi pulled out her phone and bid on a pod.

It arrived instantly. They climbed in. “So, those goggles.” Dr. Inochi said speaking loudly over the commercial for resexing.

“Whats the specs? ” she asked. Eduardo thought for a moment.

“Sixty-four images per eye,” he said pausing. “Perfect molecular structure.” he continued pausing again. “I got magnets in my face to keep them on if the strap comes undone, and I got a chip to project what I’m seeing. Eduardo said. “Those were Psychus’ ideas,” he added.

“Oh nice! How about the pressure rating? ” she asked.

“Oh, well, they take vacuum ok,” Eduardo said.

The pod stopped at the elevator bay outside F-C junction. Dr. Inochi tied her hair back with a band around her wrist. They walked a short distance to the sports bar. The bar, which had a sign reading “Nuts and Chips” had windows facing out onto the hall of

F-C junction. Through the windows, there were a few men each sitting alone with drinks watching projected beast fights.

Dr. Inochi walked up to the door and opened it for the two men, they all walked inside. The smell was buffalo sauce. They walked up to the bar at the back of the restaurant, a bartender was standing there with their head turned to the holotelevision at the end of the bar. The bartender was fully robotic except for his head.

“What's your poison?” he asked

Dr. Inochi stepped forward, “Three shots of tequila and as many wings as you can fit on a plate, also some blue-cheese dressing please,” she said confidently placing her hand on the bar.

“Gotcha.” The bartender quickly poured three shots and placed them on the bar with one hand.

“To being back on the ground!” Dr. Inochi said raising her shot. Psychus and Eduardo picked up their shots and tipped the rims together.

“To being back on the ground.” The men said toasting her. They took their shots. Eduardo shook his head vigorously and let out a noise like a stooge.

Psychus felt a burning sensation as the tequila went down his throat, his mouth felt hot and cold. He let out a ‘pah’ of air and set the shot down. Dr. Inochi downed hers without reacting. “Another round please,” she said addressing the bartender.

“Sure,” he said, turning to pour the shots. He looked up at her for a moment as he poured. “Aren’t you the woman from the news?” he asked.

“Probably. I was on the news recently, unless you’re thinking of someone else,” she answered.

“Yeah, with that planet with two atmospheres,” he said pointing a bobbing mechanical finger at her.

She picked up her shot and nodded, “That’s me!” she said giving a self-deprecating sort of fading shrug. She took the shot. Eduardo picked his up and took it as well, shuddering again but a bit less. Psychus’ stomach felt hot already. He was starting to feel tipsy on his mostly empty stomach. He picked up his shot and looked at it, he didn’t really want to for the taste, but he also felt inclined to for the feeling. He downed the shot quickly and tried to make sure to swallow all of the liquid without it touching his tongue.

A tiny trickle of tequila went down his windpipe as he swallowed. He tried not to cough, still swallowing. He coughed loudly anyway. “Sorry, wrong pipe,” he said after he felt better. He was feeling a little boisterous.

There was a ding, and the bartender reached into a slot behind the bar. He pulled out a heaping plate of chicken wings, they were

glazed with bright orange buffalo sauce. He placed them in front of the three, they were still standing at the bar.

“Could I get something proper to drink?” Asked Eduardo, turning to Dr. Inochi. Dr. Inochi nodded, “Three pints please. ” she said to the bartender. “You’re going to need to be more specific,” he said pointing to a set of beer taps. “Something pale,” Eduardo said. “Well the palest one we’ve got is Heineken,” he said picking up three pint-glasses by their rims with his robotic fingers. “Perfect,” Eduardo said. The bartender poured three pints, each with a thin head of foam.

Dr. Inochi picked up a chicken wing and pulled it apart. She took one of the bones out, the bartender placed a second plate on the bar to collect the bones.

She took a bite of the spiced meat. The skin was a little crisp, it had a nice fatty texture, and the greasy meat was stringy but tender and moist. She sucked the bone clean in about a second.

The bartender placed a stack of warm and wet cloth napkins on the bar.

Eduardo was sipping his beer.

Psychus picked up his beer and took a sip. “This is more my speed.” Psychus thought as he tasted the bitter tones of the beer. It didn’t burn, and Psychus liked the smell and taste. He continued to drink as Dr. Inochi ate wings like a starved bear.

She made her way through about nine, and a little pile of cleaned bones sat on the plate. “Guys, you gotta get in on this, I’m gonna eat them all,” she said.

Psychus took a wing in his hand, it was warm but not hot. He took a bite of the meat around the bones. He liked the taste of the sauce, it was tangy like acetate but with a peppery kick to it. He washed down the bite with some beer.

“So, if you don’t mind me asking.” The bartender started. “How do you land a gig like head xenobiologist for a scout ship?” he asked.

Dr. Inochi’s mouth was full of chicken bones. She sucked the meat off and put the bones down. She had a little bit of the orange sauce on her pale-tan face. She licked at the sauce with her blue tongue. “Well I started out as a gen-en, then I just kept studying,” she said, picking up another wing and dipping it in the chunky white sauce.

Eduardo had finished his beer, and Dr. Inochi was nearly done with hers.

Psychus drank a bit more to try and catch up. His body was feeling strong again. He felt like he could run up a wall.

“Ok, but I mean, you gotta have some kind of connections, or at least, you must have had some connections a few decades ago.” The bartender said referring to the length of the journey.

“Yeah, that's true too.” Said Dr. Inochi, laughing a bit. “What can I say, I’m a likable dame,” she said putting on a gruff voice. She finished her beer and knocked the edge of the bar with one knuckle. “What else you got besides Heinekin?” She said craning her neck to see the taps. “How about a round of the ale on the end?" she requested.

Psychus finished his beer and set it down.

The bartender filled their glasses with the tap’s hose without picking them up. Psychus took a sip of the much darker beer. It was also bitter, like dark chocolate, but also a bit fruity.

He finished his chicken wing and set the still slightly meat-laden bones into the bone plate. He was sweating a little, he felt warm. His stomach was the warmest part of him.

He took another wing and dipped it in the sauce. The creamy white sauce with little blue-green tinged chunks of cheese was salty and cold. The fungal taste of the cheese was potent and complimented the tangy side nicely. The chunks of cheese and the meat had a combined texture that was better than either of them alone. He cleaned this wing a little more thoroughly than the last one before discarding the bones.

He burped quietly. “Excuse me,” he said to nobody in particular. Eduardo and Dr. Inochi began to discuss her time as a gen-en. Psychus looked around the room. Quiet rhythmic music

was playing, he hadn't noticed before. He looked at the beast fight on the television just in time to see it cut to commercial.

He listened to Eduardo for a moment. "That's the thing, I never understood that," he said.

Dr. Inochi bobbed a little "Mmm-hmm, mmm-hmm," she acknowledged.

Psychus sipped his beer and haphazardly ate another chicken wing one-handed.

He turned back to the projection just as another match started, a blue and orange peanut-shaped creature was zooming around the arena at incredible speed, its mouth was wide open, and the subtitles read '[dopplerized screeching]'.

The creature had a single thin leg that extended down to a muscular horizontal tube with a bony axle running through it. The axle ended in two large thick wheels made of bone. Its upper body possessed two whip-like arms which flailed wildly as it zoomed around.

Its opponent looked like a skinny mushroom, its stalk was humanoid with the large flat shallow cone of a cap forming the head. Psychus didn't notice it at first as it had been crouched down low with the cap flat to the ground with the narrow limbs underneath. It popped up and sprinted across the arena before

crouching, its cap had been white with pink spots, but it rapidly changed color to be more like the soil.

Psychus looked back at Eduardo and Dr. Inochi as he picked up a wing and dipped it.

“... anywhere now, but it would still be like finding a needle in an infinite series of haystacks,” Eduardo said holding the goggles in one hand and a mostly-empty beer in the other. Psychus took another sip before taking a bite, and another afterward.

He felt a little dizzy, but he liked it. He felt coordinated despite the distortion in his proprioception. He looked out the window onto the hallway and watched people walking through the junction. A man was approaching the door.

The man came inside and approached the bar. The bartender took his order, a beer, and a cigar. He lit the cigar for the man with an ignition finger and filled him a glass of dark beer.

Dr. Inochi noticed the cigar as she was eating a chicken wing and listening to Eduardo.

Dr. Inochi turned to the cyborg bartender and asked for a cigar as well. “Oh, I’ll have one of those,” she said tilting a saucy finger toward the man. She wiped her hands and the bartender passed her a short thick cigar over the bar. Eduardo paused for a moment in his story. The bartender lit the cigar for Dr. Inochi.

She took a shallow puff and let out a ring of blue-gray smoke. She took another gentle pull and exhaled. "Go on," she said to Eduardo. Psychus was watching, his beer was empty now.

"Same as before?" The bartender asked Psychus. "Sure!" he replied. The bartender filled his beer again. Eduardo was talking about the first hole he ever opened, the one that exploded. "I had been watching a breakdown of a new paper that morning..." he said.

Dr. Inochi took a puff from her cigar, blowing the smoke upward. Eduardo continued, both of their faces were a bit flushed with blood. "... and it seemed to indicate that the topology of the 'fabric' of the universe we inhabit is delicate, and not robust," he finished emphatically as if the implications were obvious.

Dr. Inochi offered the cigar to Eduardo. He put the goggles in the same hand as his beer and looked at the thin trail of smoke rising from the tobacco and shrugged. He took the cigar and puffed. Eduardo exhaled the smoke.

He tried to put the goggles down, but his hands were busy. Eduardo turned to Psychus and said, "Could you take this." Holding the cigar out. Dr. Inochi was eating again. Psychus wiped off his hand and took the cigar. The smell was smoky and acrid.

He looked at the tightly rolled brown plant matter. He looked over at the beast fight as he took a puff of the cigar. The smoke

tasted unique, a bit like an old plum, it was a bit spicy and seemed to burn his mouth more than the heat of the smoke warranted. The spice of the buffalo sauce and the hot feeling of the smoke seemed to amplify each other.

Psychus blew out the smoke and watched the fight. His mouth felt kinda gross from the puff of tobacco. He felt calmer as the smoke left his body. His skin was feeling cool now and he was lightheaded. His legs felt heavy. The orange and blue creature on the projection rolled by its opponent fast. Psychus was rolling too.

He took another puff after a moment and exhaled again. He felt a little like he might fall over. The bartender placed an ashtray on the bar. Relieved, Psychus placed the cigar in a groove of the tray and picked up his beer.

The mushroom creature dove, it dashed around with its cap tilted down and forward. As the wheeled creature whipped its arms around, its thin finger-like appendages clawed through the air. They collided, the Mushroom creature's cap became dented from the impact and the peanut with wheels spun out of control as it bounced off at an angle. "Elocurl has landed a direct hit on Daahnida!" The subtitles read.

Psychus turned back to Eduardo and Dr. Inochi. His eyelids were heavy. They were laughing. He sipped his beer, it tasted better now that he was using it to clear cigar smoke from his

mouth. The cold beer was even easier to drink now that he had already had a few.

Dr. Inochi wiped her hands and Eduardo got the goggles out. She took them and put them on, putting the strap under her tied-up hair. She cupped her freshly wiped hands around the goggles and Eduardo looked focused for a moment. Dr. Inochi gasped and smiled with her mouth wide open. Psychus thought her teeth looked really well maintained and symmetrical. He ran his tongue over his teeth. As he did, he remembered the feelings that they had given him when he was on mushrooms, but the logic of them didn't make as much sense as it had before.

Dr. Inochi watched through the goggles, laughing, smiling. "Ohhh," she said marveling over the view. Psychus sipped his beer again. He was feeling really drunk and enjoying himself in this setting.

Dr. Inochi took the goggles off after a while, her eyes were watering, but she looked ecstatic. She handed the goggles back to Eduardo and hugged him. She started whispering in his ear. Eduardo didn't react. He listened to her. She patted him on the chest and kissed him on the cheek before releasing the hug.

Eduardo nodded. "Thank you," he said, looking her in the eyes. A pair of men entered the bar and sat down next to the man

smoking the cigar at the other end of the bar. The men loudly greeted each other and the newcomers ordered drinks.

Psychus pulled out a tall padded circular bar stool and sat down, leaning on the bar a little. He looked back at the projection just in time to see Elocurl roll into a wall at incredible speed. Its body bounced like a balloon full of cornstarch, but its wheels shattered explosively on contact with the wall of the arena. He looked back at Eduardo.

Eduardo was looking into the goggles behind his large cupped hands. He was smiling with his lips closed. Dr. Inochi was eating a chicken wing and looking at Eduardo as well, as if with anticipation.

Eduardo took the goggles off with a stretch of the skin of his face as the magnets decoupled. He blinked. "Ok, I think we can go tomorrow," Eduardo said. Dr. Inochi hopped on the spot, the bones still in her hand. "Excellent! " she said. They were both speaking loudly and were looking a bit more flushed. The cigar continued to languish in the ashtray.

The men at the end of the bar cheered as Daahnida ran to Elocurl as it crawled away from the wall and wrapped its long limbs around it. It crouched over Elocurl, all that could be seen was the dented cap of the creature. The cap turned green with

black spots and the dent popped out like a canning jar in boiling water.

They drank from pint glasses and had a large pitcher of beer. The bartender had served the men cigars as well, one was thin and long, a caramel color, another was very thick and dark. The bar began to fill with cigar smoke. The smoke was interfering with the projection slightly as it billowed through it. Psychus couldn't make out the subtitles.

The lights of F-C junction dimmed outside, simulated times of day kept the people of the towers sane. Psychus picked up the cigar and puffed it, the smell of the smoke had made him want a bit more. A flowing calm cascaded over him, he felt chilly for a moment and leaned heavily on the bar.

Dr. Inochi picked up the last wing on the plate and dipped it in the orange-swirled blue cheese. She ate it, downed her beer, wiped her hands, and caught the bartender's eye while he served another patron and made a scribbling gesture for the check.

Eduardo patted Psychus on the shoulder a bit roughly, he got Psychus' attention. "We're gonna take a walk in the park, let's go," Eduardo said.

Psychus stood up, he was kinda tired but a walk in the park sounded nice right now.

Dr. Inochi led the way out of Nuts and Chips. They walked roughly abreast, slightly weaving as they walked toward the central park in the low lights of the night-time hall.

Chapter ¶

“Knock Knock.” “Who’s there?” “Banana”

“Banana who?”

“Knock Knock.” “Who’s there?” “Banana”

“Banana who?”

“Knock Knock.” “Who’s there?” “Orange”

“Orange who?”

“Orange you glad I didn’t say banana.”

- Children

The next morning Psychus awoke with a headache. He took his time getting out of bed. He could hear Eduardo and a few other voices through the door to the main room.

When he finally got up he opened the door to see the holotelevision projecting a large series of people. The room was silent for a moment, Eduardo started speaking.

“Given the current price elasticity of demand, an artificially increased cost of materials may lead to a surplus of supplies. The increased supply may cause a glut in other industries. The glut may lead to increased consumption, defeating the purpose of the price adjustment,” he said.

Psychus went back into his room and fell back asleep.

When he awoke the second time that day, he was thirsty but his headache was gone. He dressed in fresh clothes and came into the main room to see a projected hologram of Eduardo's head. He pressed play.

"Psychus, I've gone to Kyoto, text me when you wake up," The recorded voice of Eduardo said.

The message ended.

Psychus pulled out his phone and sent a quick text to Eduardo, "I'm awake."

He walked into the kitchen and poured himself the last bit of the cooled coffee he found, he mixed in some milk from the fridge before his phone buzzed. He took a sip as he pulled out his phone. Eduardo was calling him.

He set down the coffee and answered the phone, "Hello?"

"Psychus, I'm with Dr. Inochi, we have been waiting for you to wake up," The voice of Eduardo spoke through the phone.

"Oh, sorry. Well, I'm awake now," Psychus responded.

He walked out of the kitchen and took the coffee. "I'll see you in a minute," Eduardo said. The call ended.

Psychus waited in the main room, sipping the cold coffee. He heard four thumps from the entryway and Eduardo and Dr. Inochi came around the corner.

Dr. Inochi was wearing a backpack. “We’re going to Adobrasig, are you ready?” Eduardo asked.

“Adobrasig, right, I guess I’m good,” Psychus answered. He had his phone on him and a fresh set of clothes on.

“Finally!” Dr. Inochi said with her thumbs in the straps of her backpack.

“Ok, here we go,” Eduardo said, opening a hole to a white room with a tiled floor and a mirror.

Dr. Inochi practically leapt through the hole, and Eduardo followed.

Psychus shrugged and stepped through as well.

The hole closed behind them as Psychus realized they were in a public bathroom.

The room was clean and looked brand new. Dr. Inochi stepped toward the door and opened it.

The three people walked out of the bathroom and down a short hall. The gravity here was low, perhaps less than half of the Earth.

At the end of the hall was a large room with many chairs arranged in rows, but they were all empty. Towards the front of the room was a holographic projection of a clerk, and at the other end a door onto an air-locked hangar.

The clerk addressed them as they approached. “Welcome to the Adobrisigian lunar consulate, what is your port of origin?” It

asked in a synthesized male voice. Dr. Inochi approached the counter and started speaking as the protocol drilled her.

“Earth,” she said.

“Purpose of visit?” The hologram continued.

“Academic.” Dr. Inochi said theatrically.

“Do you have money to provide for yourself for the duration of your stay?” The android asked.

“Yes.” Said Dr. Inochi after a moment.

“Will you be requiring ship storage?” The hologram asked.

Dr. Inochi rolled her eyes before answering, “No.”

“Will you consent to be contaminated with Adobrasigian microbes as a protective measure for you?” It asked.

“Yes.” Said Dr. Inochi, glancing at the two men to check for objection.

“Please accept a copy of the hackety znak language.” The hologram said as three slices of paper printed.

They each took one.

Psychus glanced at it before slipping it into his pocket, Eduardo stared at it, and Dr. Inochi looked closely at the strange symbols on the key, running a finger along the page to line up each item.

“The next pod is in a few minutes, please enter the

contamination chamber.” The hologram said as they studied the pages.

Towards the far end of the chairs, there were several large pods with their doors closed. The three people quickly approached the pods. They each pressed a button on the pods to open them and stepped inside.

The pods closed around them, a red light turned on and a nozzle began to spray them down with a misty solution. The pod sprayed them in the mouth, nose, eyes, and ears, and the mist got through their clothes and all over their skin.

The air of the pod was evacuated with a puff that made Psychus’ ears pop. The door opened and he stepped out, his clothes were a little damp but were quickly desiccating in the dry air of the consulate.

Shortly there was a rumbling as the pod docked outside. At the other end of the room, a light over a metal door lit up.

The hologram called to them “The pod has arrived, enjoy your stay on Adobrasig.” It said, pointing to the door.

They walked across the room and the door opened for them. They walked through an airlock that closed and opened as they swapped from the air of the consulate to the air of a shuttle. They entered a large pod, it had easily enough room for one-hundred-and-twenty people. They took a set of seats near a large, thick

window and looked out at a mechanized pod bay. Once they had taken their seats the pod began to rumble.

The takeoff was a little bumpy, but the pod stabilized itself with tiny jets of gas as it drifted away from the consulate. The windows looked out into space, but as the pod turned slowly with its stabilizers, the surface of Adobrasig came into view. The planet was covered in enormous cracks, between the cracks appeared to be continent-sized landmasses with mountains, rivers running into the cracks, and a few small lakes. The surface was almost completely orange, the cracks were darker, but they too were orange.

The pod drifted closer to the planet. It docked at a space elevator and began its descent through the mechanized tube. Out the window lights passed by, punctuated by dark views of machinery. The pod slowed. “This is so exciting!” Said Dr. Inochi.

“I’ve heard about this place, it was in my training. This is where The Seed landed.” Psychus said.

“I probably should have pushed for more information about the colonies in the training, but to be honest I don’t know much about this place,” Eduardo said.

“Well, that's why we came here, right?” Dr. Inochi said, nudging Eduardo. “My dream to be a gen-en started with the shipment of biological samples from Adobrasig that Earth received

when I was young, the seeds and animals that can survive freezing, videos from early colonists. I never thought I would be able to come here for real though!” She said.

The pod slowed to a crawl and stopped. The door opened with a hiss and the party stood to leave. The gravity was much higher here than it had been on Adobrasig’s moon.

“What's the gravity here?” Psychus asked as they came out of the pod into a large antechamber.

“One point O’ nine.” Dr. Inochi answered.

The antechamber was empty, there were a few physical signs around them written in both English and hackety znak, a large one read “Welcome to Touchdown.”.

A door reading exit on its projected plaque was standing a short distance in front of them.

“Here we go!” Said Dr. Inochi as they approached the door.

The door opened onto a crowded city square paved with orange stones. There were people everywhere. Some stood on street corners waiting for the signal to cross, others sat at outdoor restaurants next to bushy orange plants planted decoratively around the square. People rolled by on bicycles with wheels shaped like rouleaux triangles. The people were orange, however. Their skin tones ranged from that of a carrot to that of varnished hardwood.

Dr. Inochi called out to a bright orange man on a bicycle “Hey, you, could I get a second?”

He stopped and walked the bike over to them. “Hey, fresh off the elevator?” he said looking at their skin as they stood outside the elevator landing site. “You gotta be the first in centuries.” He mused.

Behind them, the pod lifted back out into the structure and began to rise.

“Yes.” Dr. Inochi said.

“Ok, well what do you need?” The man asked checking a strange-looking analog watch on his wrist.

“I’m looking for the most highly regarded university on this planet.” Dr. Inochi said.

Eduardo was looking at a projected billboard written in hackety znak with an image of an eye on it.

“Call me biased, but it's gotta be Touchdown Peripheral Community College.” The man said pointing past the end of the square and down a road paved with sheets of white material.

“Thank you, how far is it?” Dr. Inochi asked.

“Not far, I have a minute if you want a guide.” The man said.

“Sure!” Dr. Inochi said turning to Eduardo and Psychus. “I’ll have to catch you guys later, I’m going to follow... ” she started, turning to the man.

“Chidyik." The man said, inferring the question.

“Yes, I will be going with Chidyik to the Touchdown Peripheral Community College,” she finished

“Ok, thanks,” Eduardo said absentmindedly as he looked at the advertisement. “Yeah, ok, we will see you later. I guess we know where to find you.” Psychus said as Dr. Inochi walked off with the man.

“Dude, are you seeing this?” Eduardo asked Psychus.

Psychus looked at the billboard that Eduardo had been staring at. It shortly displayed one message

“Get Holbehn and Verrigeaux!” and then another “Taste 22 new flavors!” as the eye switched out for a tongue. Psychus took a moment to read the Hackety Znak signs as he had to reference his memory of the sheet he had been given. He pulled it out to refresh his memory and make a newer copy with the context of the billboard.

“What? The billboard?” Psychus asked.

“Yes,” Eduardo said. “I think I want that,” he added. Eduardo pulled out his phone and tried connecting to a network. The local networks were all password protected and their names appeared as strings of unsupported characters with spaces.

“Come on, I think this network goes with that store,” he said pointing to a two-storied building with flat white walls, it had an

overhanging cloth that formed a sort of gazebo out front in the square.

The sign outside the shop read “Touchdown Topup”.

Psychus was getting a little better at reading the signs around them. Eduardo seemed to have mastered it already. They crossed the street between people on bicycles from the circular island that the elevator was placed on and walked the short distance to the business. Psychus looked just in time to see Dr. Inochi going down the road with the man and his bicycle at the end of the square.

They opened the door which was framed with the same white material as the building, but with a clear panel in the middle. The embossed door read “Open 17 - 59 Intday - Funfundzwanzigsday” on the first line and “Open 18 - 36 Halbsday - Finday” on the second. The smell inside was like a cafe, but a strange version of it. The aroma was like roasted coffee with an added element Psychus couldn't place.

A dark-orange woman was sweeping the floor around the tables of people typing on small chips which projected keyboards and screens. They had short wide cups of red-brown liquid with pale orange foam.

Eduardo addressed the woman with the broom “Excuse me, ma'am, does this establishment provide network access?”

She looked up, “Yes, the wifi is free, but if you want to sit inside you have to order something.”

Eduardo thought for a moment. “Yes, I’ll take one,” he said. “One what? ” she asked. Eduardo stammered for a moment, a young man glanced over at him, the orange man’s screen displayed a 3D molecular structure of an organic compound. “We’ll have two of those,” Psychus said pointing at one of the short cupped drinks.

“Ok, take a seat, I gotta finish this up.” The woman said as she swept a little pile of orange dust into a dustpan.

Eduardo and Psychus took a seat by the wall. They caught snippets of conversation as the young crowd in the cafe were working on various tasks on their tiny computers as groups.

The woman walked into the back room and returned with two three-handled short mugs with steaming opaque red-brown drinks

“Here you go.” The woman said handing each of them their drink. “The Wi-fi password is ‘ $\Delta \rho \lambda \pi \psi \dot{\alpha} \kappa \mid$ ’ she said slowly.

Eduardo looked at her blinking. “I’m sorry, I don’t know how to type that,” he said.

“What are you talking about?” The woman asked.

Just then the man who had looked over earlier approached the

table. "It's ok I can help," he said as he sat down with Eduardo and Psychus at the small table.

The woman walked off. "Hello, I'm Concrete."

The man said. "Hello, I'm Psychus Timba, and this is Eduardo Soto. We are fresh from Earth." Psychus said introducing himself and Eduardo.

"Yes, I can tell, I'm surprised you didn't get the textpack on the ship when you came into broadcast range." Concrete said.

"Oh, we didn't take a ship," Eduardo said after a moment.

"How did you get here?" Concrete asked.

Eduardo looked at Psychus before answering. "I can open wormholes on command." he finally said.

"And I'm his apprentice," Psychus added.

Concrete looked more amused than surprised. "It was a matter of time before the tech caught up, so I guess I should be expecting a lot more tourists," he said. "Wait, what's the underlying phenomenon?" he asked.

"We don't know yet, but it's just me, and Psychus is trying to learn how also," Eduardo said.

"Holy shit, you're like the biggest breakthrough in... well every field... communication, travel, energy, logistics... man, even housing... who needs a permanent home if you can go anywhere at any time?" Concrete said, finishing with a rhetorical question.

“Well, the goal is to learn how it works, make it portable and scalable, and bring about the type of technological shifts you refer to,” Psychus said. He picked up his drink which had cooled a bit and took a whiff of the cup. It smelled strongly of the element he couldn’t place and weakly of roasted plant matter. He took a sip. It tasted like roasted garlic and bitter chocolate. As Psychus swallowed he felt a sort of heat in his mouth. He felt like he had been chewing garlic. A second later his vision became sharp like his focus had kicked into overdrive. He suddenly could pick out more snippets of conversation at once in the cafe, he saw the orange men and women motioning and he felt a rhythm to the place.

“Ok, well, all that aside. Do you want the textpack? I can upload it to your phone.” Concrete asked. Eduardo nodded and handed him the phone before taking a drink from his own low cup. Concrete pulled out his chip and opened the screen and keyboard by squeezing it.

Concrete began by pulling up the webpage, he navigated to a website, Psychus couldn’t keep up with the text yet, Concrete read Hackety Znak as his first language. He stopped on a page with a marquee that read “Adobrasigian bureau for the conservation of our Language”.

He downloaded a file from the page and held Eduardo's phone up as he navigated to his files and attempted to push the file to it.

He pressed a button on a notification on the phone and a readme opened, it was written in Hackety znak. He handed the phone back to Eduardo before turning to Psychus. "Do you want me to do your phone too?" he asked. "Yes please," Psychus said, handing his phone to Concrete. He performed the transfer again and handed the phone back to Psychus.

Psychus looked at his notifications, he had won 13.93 sats from his bet on Sorba yesterday, and Hackety Znak was now installed. He opened the readme and practiced a little as he read the first few lines. "Hackety Znak is a phonetically written language. The goal of Hackety Znak is to unite all human phonemes under a single written system. Hackety Znak also uses a base sixty system of numeral writing."

"So what brings you superhumans to Adobrasig?" Concrete asked. "We came to drop off my friend at the university. She's a xenobiologist." Eduardo answered immediately, his pupils were small and his cup was almost empty. "Ok, so are you just going to hang around? My dad would love to meet some dudes from Earth. He lives out in the sticks, but his plantation is beautiful, I'm sure he would be happy to host you." Concrete offered.

“That would be wonderful,” Eduardo said, before sipping his drink again. “What is this, what is it called, what is it made from, by the way where is the clinic that does the Holbehn and Verrigeaux thing?” Eduardo asked all at once, he was talking faster than Psychus had ever seen him do.

“Uh, this is Cheyttle, it's made from tomatoes, I mean Adobrasig tomatoes, but uh, actually it's the grounds of the roasted seeds, they press steam through it. The clinic...” Concrete answered beginning to scroll through pages on his projected screen. “The clinic is called ‘The sense clinic’ and it's a few sixty trebblemetrons from here, you’d probably want to catch a ride,” he said pointing to the page, it showed a path through the city of Touchdown from this cafe to the clinic.

“Can you take us there?” Eduardo asked.

“Not really, I’ve got a class at thirty-two, and it's already 𐄂𐄃,” Concrete answered, putting his chip away with another squeeze. He motioned to the woman who had served them and she came over. “I’d like to pay for these Cheyttles,” he said pointing to Eduardo and Psychus’ mugs.

“Ok, no problem,” she said. He paid her with a single large copper coin and she returned several smaller coins of various

metal compositions as change. Concrete took the change and turned to Psychus. "You probably don't have any money," he said.

Psychus turned to Eduardo who had finished his drink. He turned back to Concrete. "Well I have some bitcoin, we still use it back on Earth."

Concrete nodded, "Ok, well nobody on Adobrasig does business in bitcoin. It backs our money, but trying to pay with satohis flat-out, would be like trying to pay with a gold tooth." he said.

"So what should we do?" Eduardo asked. Psychus sipped his drink again. The focused feeling intensified, he felt very awake. The taste was growing on him. "Well I can spot you a little, you can use this to get a ride." Concrete said to Eduardo, as he handed him the coins one at a time. "This big one with a hole is a thirty sat coin, this really thick silver one is a fifteen sat coin. The two five-sided ones are five sats each. The three small copper ones with the wavy brass edge are one sat each. The thin square one is a thirty sattang." he listed as he placed them in Eduardo's cupped hands. "Sattang?" Psychus asked. "Yeah, it's a sixtieth of a sat.

"You can pay me back by visiting my dad, let me put his contact in your phone, I'll let him know to expect you." Concrete said picking up Eduardo's phone again. He put the information in and stood up. "You guys should get a ride to the bank, and open an

account to exchange your sats to sat coins,” he said as he started to leave.

“Hey, thanks Concrete,” Psychus called after him. “See you soon,” he replied.

Psychus finished his drink with a swig, he actually really liked the taste now.

“Let's try to get to the bank,” Eduardo suggested.

They stood up and left the business. Out in the square, the sun of Adobrasig shone from almost directly overhead.

“He didn't mention how to get a ride,” Psychus said looking around in the busy city square,

“Excuse me miss,” Eduardo called out to a young woman in a blue sun hat.

She was sitting on a white bench made of the same material as the building. She looked up. “Yes?”

“Sorry to bother you, do you know how we can catch a ride to the bank? We are from Earth.” Eduardo asked. “Sure.” The woman said, putting away her phone in a pocket on her overalls.

She stood up and walked a short distance to what looked like a walk signal pole. The pole had a few large buttons. She pressed one and walked back to the bench. “The poles have ride call buttons, somebody should be by shortly,” she said as she pulled her phone out again.

The men both thanked her and walked over to the pole. A bell rang nearby. Loud bells like a wedding, they continued for quite a while.

They looked around for the source of the sound and spotted a clock tower with sixty numerals around it.

“Thirty-two.” Eduardo said as the ringing ended.

Psychus squinted to see that the clock was pointed at a numeral slightly past where six would be on a normal clock, and the other hand was pointed toward where twelve would be, but instead, there was a zero.

A rounded vehicle with white triangular wheels approached, it was silent. The car-like pod was so quiet that the men didn’t notice. The driver honked after a moment, and the car let out a quiet beep. The men turned around and the driver rolled down the window.

“You guys call for a ride?” The man asked in a gruff voice.

“Yes, thank you,” Eduardo said.

“Get in.” The man replied.

Psychus and Eduardo got in, Eduardo in the front passenger seat, and Psychus in the back seat behind the driver.

The driver looked at them expectantly. “Well... where to?” he said after a while.

“Take us to the bank please.” Eduardo requested.

“Which bank?” The driver growled.

Eduardo thought for a moment. “Well, take us to the one you use” he said.

The driver started driving, they pulled away from the square onto streets paved with white plates of the same material as the building and the bench. “We’re visiting from Earth,” Psychus said, offering explanation for their fish-out-of-water behavior. “That’s great.” The driver said dismissively.

After a short drive past buildings that rarely extended past four floors, and which were all made of white plated material, they reached the bank. The driver tapped the meter which displayed 8.40. Eduardo paid him the two five-sat coins and they left the vehicle. “Thank you Koplok!” Eduardo called.

“What did you call him?” Psychus asked as the vehicle pulled away along the white street. “His nameplate said his name was Koplok” Eduardo replied.

They walked into the bank, a building much like Touchdown Topup had been. The building had a few people waiting in line. The clerks were working with customers and there were a few cushioned chairs with red padding.

Eduardo and Psychus got in line and waited. The line moved quickly, people entered the bank as the customers finished their business and left. Soon enough they were at the counter.

“Hello, we would like to open accounts and exchange satoshis for coins please,” Eduardo said.

Psychus still felt highly focused. “Alright,” a pleasant-looking

orange man with blonde hair behind the desk said. "I'll just need to scan your phones," he added.

The two men got their phones out and pulled up their scannable from their local version of the blockchain. The man took the phones and scanned them into the system.

"And how much will you be converting?" The man asked. "Hmm," Eduardo said. "How much does Holbehn and Verrigeaux cost?" he asked.

"I'm sorry, I don't know that. I was born with them." he paused.

"I would guess like 1800 sats."

Eduardo turned to Psychus. "We're probably going to be here a while. We should probably get quite a bit of coinage," he said.

"I agree." Said Psychus. "I would like to convert 50000 sats please," Psychus said to the man.

"Yes, ok." The man said presenting a scannable address. Psychus initiated the transaction.

"And you sir?" The man asked Eduardo. Eduardo thought for a moment. "I guess I will go for 50000 also," Eduardo scanned his phone and paid the bank.

"Your coins will be only a moment." The man said. A pneumatic tube rose out of the table and the man took the canister out. He handed it to Psychus. Another canister popped into its

place after a moment and he took it out and handed it to Eduardo. Psychus pushed a button near one end of the canister and a large copper coin ejected like a disc and fell onto the desk with a loud clunk. It started spinning and it made a loud ringing noise as it came to a rest.

“Sorry,” Psychus said picking up the coin. He looked closely at it and saw a six-legged creature with a big triangular head. On the other side was a ‘|O’ and the year it was minted down to the day ‘∅ † ‡ |’.

He noticed the edge wasn’t exactly round, it had many flat facets.

“Will that be all?” The man asked.

Eduardo looked at the canister. “Yes I believe so, thank you very much.”

They left the bank with their canisters and Eduardo pulled out his phone. “Let's call Concrete’s dad,” he said, navigating to make the call.

A few people passed them in the street. The phone began to ring. “Hello?” A voice came through. “Hello, This is Eduardo Soto, your son may have mentioned me.”

There was a pause on the other end “Oh, yeah! There's a text from him right here.” Concrete’s father paused.

“Hello?” Eduardo asked after a moment. “So you’re from Earth, I’ve got a spare room, you could stay in exchange for helping on the plantation.” Eduardo nodded. “Great, send me your address, I’ll catch a ride in a little bit,” he said.

The man thanked him and hung up. Eduardo’s phone buzzed. The text read “Number nine Main road Pots Steppe”.

Eduardo walked to the nearest pole and pressed the button to summon a ride.

Psychus stood side by side with Eduardo as they waited. A ride arrived and they got in. “The sense clinic please,” Eduardo said confidently.

The driver sped off down the road and back towards the square before turning down an alley and continuing a way before stopping.

The driver tapped her meter and Eduardo paid her with a sixty sat coin.

The woman sighed and provided a large number of coins as exact change. Eduardo tipped her a five-sat coin.

They walked into the clinic, it was a plain door against a white wall. Inside there were only two people. A dark-orange man greeted them, he was wearing a white lab coat.

“Welcome to The Sense Clinic. I’m Dr. Ceenafax. ” he began reaching out to put his hands on their shoulders, practically pulling

them into the office. “I’d like Holbehn and Verrigeaux please.”
Eduardo said.

“Ok great, we can get that started right away, but are you sure I can’t interest you in a few of the other procedures while you are on the table?” The doctor asked. Psychus was hesitant. “What all do you have?” Eduardo asked.

“We have: The ability to taste and differentiate the twenty-two proteinogenic amino acids, the ability to smell an enormous cadre of new smells, the ability to hear noises up to 60kHz, two-way radio nano-chips, photosynthetic skin implants, and increased sensitivity to gravity fields” Dr. Ceenafax listed his well-rehearsed product spiel.

“How much for everything?” Eduardo asked.

“That's what I like to hear, typically the individual cost of the procedures, including sterilizing instruments and the time, all together would be 23,000 sats. But since your here, and you could get them all at once, I could do 14,000.” Dr. Ceenafax replied.

Psychus thought about what he had listed, it all sounded pretty awesome. “I’ll cover this Eduardo, Can you do that deal for both of us?” Psychus said.

Dr. Ceenafax smiled, his perfect white teeth looked like seeds in a pumpkin as they sat in his cinnamon-toned face. “Yes, My

assistant can perform yours while I help Mr...” Dr. Ceenafax said, looking to Eduardo. “Soto,” Eduardo said finishing his sentence.

Psychus followed the short orange woman with blond hair and red lips to a small room with a table in the center, it smelled floral and like cleaning solution.

The woman asked him to remove his clothes and lay down. Psychus hesitated for a moment, but he complied. The woman placed a mask over his face and he faded out.

Chapter Z

“And it’s not quite true I had nothing on: the radio was on.”

-Marilyn Monroe, July 1953 “Esquire”

When Psychus awoke he was naked on the table but he was alone in the room. He stood up and noticed that his skin was a different color. It was similar to his old skin, but a bit lighter, and a bit oranger. He could hear a sound, it was a bit like buzzing but he couldn’t find its source in the room as he dressed. As he focused on it the buzzing changed, it seemed to scroll through sounds. He focused on one sound and the buzzing stopped, it changed into a commercial. “What the...” he thought, as he focused on the sound. It changed again it scrolled through tiny clips of sound as if it was a radio.

Suddenly Psychus realized. “The radio chip!” he thought. His body felt strange moving around too as if when he turned his limbs they were prickling toward the floor, it wasn’t unpleasant. The floral scent of the room seemed to have changed, its depth had increased and was only vaguely familiar to the smell it had had when he had walked in.

He walked out of the room, he felt augmented. He saw Eduardo and almost started laughing. Eduardo was bright orange, even his scalp. He stifled himself, however.

Eduardo looked at him and smiled.

“Now, Holbehn will kick in in about fifteen minutes, Verrigeaux may take a bit longer. Your brain has the chip to help it get used to the new receptors in your eyes now, but it still takes time to see it.” Dr. Ceenafax said. He put his hands on their shoulders again and guided the men toward a register. Psychus counted out 28,000 sats in sixty sat coins from his canister. Dr. Ceenafax gave him forty sats as change using three coins. They shook hands. Dr. Ceenafax walked them out to the street.

Psychus felt the sun on his skin differently than he had before. Not only was it warm and pleasant, it literally tasted sweet. A slight feeling of sweetness pervaded the parts of his skin that the sun was touching.

“Do you feel that?” Eduardo asked. “Which thing?” Psychus asked basking his face in the light. He still felt focused, his chip hovered in his consciousness like an extra channel, his fingers told him which way the ground was more than usual, but he felt no heavier.

“The sun... it's so sweet.” Eduardo said, also basking in the sun.

After a short time, the men felt energized, like they could run to Pots Steppe. Eduardo focused for a moment.

“Try tuning your chip to my frequency,” Eduardo said.

“How do I do that?” Psychus asked.

“I scrolled the frequency way to the left... I don’t know if you’re experiencing the same thing, but try going left.” Eduardo replied.

Psychus focused on the chip, he scrolled the channel like a dial with his mind he passed over some sounds, he slowed down as he entered a patch of silence. “-s can you hear me?” He heard through the chip.

Psychus stopped. “Say something again,” he said aloud.

“Hello!” The sound of Eduardo’s voice came through the chip into his mind. Psychus focused and tried to push a message to Eduardo. “Hello?” he said through the chip.

“Wow, this is crazy.” The voice of Eduardo responded through the chip.

“Let's go get a ride to Concrete’s dad’s house,” Psychus answered. The men walked to the end of the alley marveling over the sensations they were experiencing.

Eduardo pressed a button for a ride. Growing out of a crack in the flat white curb was a bright orange leafy plant with small green flowers.

Eduardo was staring at it. “Are you seeing this?” he asked. Psychus looked at the plant it was a lot like an Earth plant, but with the colors flipped.

“The plant?” Psychus asked.

As he looked the petals of the plant appeared to take on stripes. At first, the stripe appeared magenta, then brown, then magenta again, then black. “Huh, yeah I think I’m seeing it,” he said. As he spoke the color settled, it wasn’t one he had ever seen before.

“I think this is Holbehn,” Eduardo said. “What does it feel like to you?” he asked.

Psychus looked deeply into the color, he knelt next to the plant and took a look with the sun's light, and at some in the shadows of the leaves. The plant smelled a bit like the Cheyttle. The color was shocking, it really made him feel strange.

He had no associations for it, it wasn’t something he could compare to any other feeling he had had before. He pulled out his phone and took a picture without looking away.

“I’d say, maybe it makes me tense. I...” Psychus tried to describe the new feeling.

“I’d say it makes me...” Eduardo trailed off.

A vehicle arrived and they climbed in.

Psychus didn’t take his eyes off the plant. As he closed the door the flowers appeared just green through the glass.

“I guess the frequency is absorbed by this glass,” Eduardo said sadly.

Psychus pulled out his phone and checked the picture, the flowers were just green on the screen.

Eduardo spoke to the driver “Number nine Main road Pots Steppe.”

The driver pulled away from the flower as Psychus rolled down the window to see a last glimpse of Holbehn. The driver turned on thumping rhythmic music with no lyrics, Psychus rested his head against the seat and fell asleep.

Chapter §

“There’s nothing wrong with having a tree as a friend.”

- Bob Ross, The Joy of Painting

Psychus awoke as the quiet car rolled over a threshold and began to bump with each turn of the wheels. He looked down out of the window to see that the white flat road had given out, and they were traveling down a dusty dirt track. He looked up, From the side of the road until the horizon, there were bright orange plants with a few small green flowers near the tops with four petals. They bore droplet-shaped dark-red fruits with small tufts at the bottom where the flower presumably had been attached.

The shiny fruits were reflecting the sunny sky. “What time is it?” Psychus asked, his feeling of focus had faded and he wasn’t feeling the light the same way through the window of the vehicle. “Its forty-one.” The driver said. The sun was lower in the sky than it had been by a good deal.

The vehicle continued briskly down the bumpy road between two stands of the red-fruited orange plants. Psychus could smell the flowers through the doors of the vehicle.

The driver slowed the vehicle down as they pulled up to a sort of mansion in a small open area in the fields. The building was ornate, and made of the same white material as the buildings in touchdown had been. They stopped. The driver tapped the meter.

Eduardo paid the large fare with several sixty sat coins. They got out of their seats and stood in the air and light of the plantation for a short time. The smell was overwhelming, but they stared at the flowers. They swayed in a gentle cooling breeze that also blew across the men's sweet skin.

The flowers had bright stripes of Holbehn, they had to draw their eyes away, it was so strange. There were a few troughs full of dirt in front of the house, bulbous white bugs buzzed in and out of holes in the soil. An enormous wide-limbed tree stood out front as well, it gave off its own smell, it was a bit like a rose, although the scent also had a faint tinge of acidity.

They approached the house and a man came to the door as soon as they stepped up the steps to the porch. It was still a bit more effort to step up here than it had been on Earth.

“Welcome, I’ve been expecting you.” The man said, extending both hands to shake. He shook each man’s hand with both hands. His hands were rough and callous. His skin was a middling orange like sandstone. “I’m Joctur, I’m Concrete’s father.” The man said as he looked them over.

“Visited a clinic since you landed?” he said referring to their oranged skin. “Yes, I wanted to pick up Holbehn and Verrigeaux,” Eduardo said. “Oh, nice. I can’t imagine life without them. How do you like it so far?” The man asked.

“The Holbehn of the flowers is very interesting,” Psychus said gesturing toward the field.

Joctur laughed so hard he bent over. “That's not Holbehn,” he said finally. “Anyway, come in, meet the family.”

Joctur leaned into the house and shouted “Roll Call!”

There was a thundering throughout the many wings of the multi-storied plantation home. Eduardo and Psychus followed him into the home and removed their shoes, as Joctur was barefoot. His large feet were hairy and dark orange.

The entryway of the first floor had a two-level landing with a staircase going up to the second floor. The staircase was made of a single piece of the white building material.

As they walked in, many people were assembling on the stairs. “This is most of my family,” Joctur said sweeping his hand across the crowd. There were young children and teenagers, a pregnant woman with her dark hair in a bun and a baby in her arms.

Psychus looked at each person briefly, there were eleven girls and six boys of various ages, as well as the baby. He noticed a pair of twin boys bickering on the bottom step.

They all had their mother's dark hair and varying shades of orange skin between their mother's pale yellow-orange and their

father's tone. "Obviously concrete couldn't be here, he's studying for his exams," Joctur said.

"The twins are Benno and Jactus," Joctur said as he gave a piercing look at the boys. They sat down. "My wife Jannus, My oldest daughter Neptulak, My second oldest son Jarby, we've got Jerrika, Ponta, Vitsam, Gahmba, Hetra, Villi, Jakiah, Fidrick, Lojo, Wresse, Raddlei, Wayn, Pandecha, and little Granta is the baby," Joctur said listing his children one by one as he pointed to them and they waved, all except the baby.

"Congratulations," Eduardo said.

Psychus was still stewing over the comment about Holbehn Joctur had said by the door. "Yes, this is a very impressive family," Psychus said.

Joctur let out a shrill whistle and the children began to leave. Neptulak and Jannus stayed back.

"I'm sorry, what were you saying about the flowers?" Psychus asked.

Joctur looked at him for a second "Oh, what's that..?" he asked before he realized what he meant. "Hey Neptulak, I know you want to meet the guests, go grab your paints."

The young woman left the room through the second floor. The pregnant woman with the baby in her arms approached them.

“Hello, and welcome to our home,” she said in a quiet gracious voice. The baby cooed, her skin was pale orange.

Neptulak came back into the room carrying a wooden box labeled “Painting supplies” in hackety znak and brought it down to the landing. Joctur called out to her, “Why don’t you go show Eduardo and Psychus your painting. You can use the kitchen table until nochtmeal.”

Neptulak made a beckoning gesture with her head as she carried the large box. Eduardo and Psychus followed her through the first floor and into a large combined kitchen-dining room with a glass wall looking out upon the field. The flowers appeared green through the window.

“So you guys just got Holbehn and Verrigeaux huh?” Neptulak asked, she glanced at the men, she seemed intimidated. “Yes, we visited a clinic,” Eduardo said.

“Oh, I see,” she said beginning to pull out brushes and metal painting tools. “I got the trait from my parents, I wouldn’t know what it's like not to see them,” Neptulak said.

“I’m sorry to trouble you, but I tried a drink today, Cheyttle.” Eduardo began.

“Oh, would you like some?” Neptulak interrupted, her voice sounded nervous but accommodating.

Eduardo smiled “Yes please.” he said.

Neptulak put down the painting supplies and walked over to a small machine. She scooped a cup of dark red powder into a valve on the machine and pressed a button. “It should just be a minute.”

She returned to the table and pulled out a tube of cerulean, a tube of titanium white, a tube of zinc white. Three shades of cadmium orange followed, and a tube of cadmium yellow and another of cadmium red. She continued to pull paints out of the box, stealing glimpses of the men through her dark hair which hung around her face.

She pulled out a tube which left Psychus speechless. It read “Holbehn hue”.

It was a bit like the flowers, but it was different. It seemed more pure, it reminded Psychus of red, yellow, blue, white, or black. As he looked at it he couldn’t think of a way to mix any combination of colors to reach the color of the label on the tube.

Neptulak continued to pull out tubes, the Holbehn tube was just another paint color to her. She pulled out a Pthalo green shade that was a lot like the petals of the flowers but deeper. She pulled out carbon black, cobalt blue, Ochre, and various other tubes of oil paint. She pulled out a partially curled and well-loved tube of “True Verrigeaux”.

As Psychus and Eduardo saw the label they both stood up, their chairs skittered away from them over the hard white floor

with the force of them standing.

Psychus looked at the label, he was having an even harder time with this sensation than he had with the color he originally mistook for Holbehn.

Neptulak looked at them wide-eyed. "Are you ok? " she asked.

"Sorry, I don't know what I was expecting, but it wasn't that," Eduardo said pointing to the Verrigeaux paint.

"Yes, I'm sorry as well. I've just..." Psychus said trailing off as he stared at the tube.

"It's ok," Neptulak said looking at Psychus. The machine hissed and then beeped. Neptulak walked over to the machine and extracted a metal pitcher from it. She grabbed three cups from a cabinet near the back of the kitchen and brought them over, all held in one finger with the carafe in the other hand.

She poured the men their Cheytle and poured a good amount for herself. The men continued to stare at the Verrigeaux label. Neptulak pulled out a canvas and a thin wooden disk to mix colors on. She placed the disk in the middle of the large table between herself and the two men.

She sipped her Cheytle and began to unload the box a bit faster. She set up a painting station and unscrewed a few caps, dobbing the paint onto the disc. "The first one you saw, it was on

the flowers right? " she asked, seeming a bit more communicative.

"Yes," Eduardo said, Psychus looked to see that he had sipped the Cheyttle too.

"Ok let me show you how to make Holbehn-green," she said like a kindergarten teacher showing off basic colors.

The men watched with their complete amplified focus, however.

Neptulak took a dab of the pthalo green and mixed it with a tiny sliver of titanium white, it became a lighter duller green like the flowers. She then took the tube of Holbehn hue and placed a thick droplet of it into the mix she was making. The dab of paint was even more vividly Holbehn than the label of the tube had been. She mixed it into the green paint, and before their eyes the color the flowers had been displaying arose from the mixture.

"So, yeah. Holbehn-green," she said.

"Wow, that's amazing," Psychus said.

Neptulak smiled. "It's pretty mundane to me, but I guess it's brand new to you guys," she said.

"Can I mix some paints?" Eduardo asked eyeing the Verrigeaux tube.

"Of course, grab a spatula," Neptulak said.

They each sipped the Cheyttle again.

Eduardo gently squeezed out some of the Verrigeaux paint onto the disc. Psychus and Eduardo stared at the intensely Verrigeaux-colored paint. They brought their eyes close and took in the sensation without pretense or judgment.

Eduardo spread the paint a bit with a thin triangular metal spatula. The handle of the tool was an almost black wooden material with flecks of dried paint in the shape of fingerprints. He scooped some of the paint up and they stared at the scraped paint on the tool.

Neptulak laughed, stopping abruptly when the men looked up.

Eduardo spread the scraping over a fresh spot on the disc and scraped up some white. The residue left by the tool in the dob of titanium white was a brighter thinner Verrigeaux. Eduardo mixed the white paint into the verrigeaux paint. As they swirled together the shades of whitened verrigeaux ranged from deep to pale. The final color was a pleasant shade. Psychus couldn't ascribe the feeling, but he thought that this color would make a nice fruit.

"Verrigeauxote," Neptulak said, pointing to the shade Eduardo had made.

"Interesting, do you have a color wheel?" Psychus asked.

"Oh, I don't have one, but I can make one pretty quickly," Neptulak replied and picked up the canvas.

"Oh there's no need, I was just curious," Psychus said.

“Well, there is rarely a more noble cause than curiosity, it's really no trouble,” Neptulak said smiling again.

Eduardo poured himself some more Cheyttle from the carafe. Psychus picked up a metal spatula and scooped up some Holbehn on one side, and a bit of Verrigeaux on the other. He smeared them together on the disc.

The resultant swirl of color was overwhelming. He closed his eyes for a moment. When he opened them Eduardo was leaning close over the swirl with his tiny pupils.

Neptulak laughed again. “You guys are hilarious,” she said, covering her mouth as she laughed. The light outside the window was fading.

The mixture of Holbehn and Verrigeaux became a solid color. “Holbegeaux, add a bit more Verrigeaux and you’ve got Verribehn,” Neptulak said, pointing at the color. Psychus took it in. The logic of the hues was starting to fall into place. His schema was beginning to accommodate the new colors.

“I see, thank you,” Psychus said. He picked up a bit more verrigeaux and mixed it into the Holbegeaux. The difference was subtle, but Psychus could see the change between the warm Holbegeaux and the cool Verribehn. “I see. I guess I’m surprised there are names for the mixtures too.” Psychus said.

“Well, as my dad always says: ‘If there’s a difference, you should tell it!’” Neptulak said, snapping her fingers loudly on “tell” for emphasis.

Psychus rolled over the words. “I’m sorry, I’m not familiar with that idiom. What is the intended meaning?” he asked after a moment.

Eduardo continued to mix colors.

Neptulak looked a little embarrassed. “Oh, sorry. It’s just, it means like when there is a thing that can be put into words, like a description, when you can describe something, that you should do so in order to differentiate the experience from other similar things. A plum is not a plum, if you will.”

Psychus followed her logic until the line about the plums. “I think I understand, but could you explain a bit more about the plums?” he asked, sipping his cooled Cheyttle.

“Sure,” Neptulak said, she continued to mix little bumpy spots of thick colorful paint on the canvas as she spoke. “When you bite into a plum, or experience any category of sensation, there are always tiny differences in the experience, it may be difficult to put into words, but with practice your ability to describe things changes and improves. In time you are able to discern more finely, and as you discern more finely you become better at describing the

experiences. In that sense, a plum is not a plum. " she said, squeezing small cerulean spots onto the canvas.

"I see," Psychus said. He knew what she meant. He ran through his memories and re-experienced the moment he had spent eating a plum with Eduardo.

"There are plums on Adobrasig?" Eduardo asked looking up from his colorful puddle. He had paint on his fingertips.

"Well yeah, the tree out front is a plum tree," Neptulak said. "We could go pick some," she suggested laying down the finished wheel.

"I've only had coffee and Cheyttle today, I could go for a plum," Psychus said.

"Yes, ok let's go get some, mom can use them for nochtmeal," Neptulak said, handing a wet towel to Eduardo.

He wiped his hands clean leaving little Verrigeaux and red streaks in the towel.

They walked out to the entryway, they passed by Benno and Jactus who had been eves-dropping. The little boys ran off down the hall and up the stairs.

They walked out the front door into the dusky orange yard. Neptulak didn't put on shoes and so neither did Eduardo or Psychus. They walked after her down the stairs and toward the tree. She grabbed a basket from under the stairs and shook it out.

“Can one of you lift me up?” she called out, she was looking at Psychus.

“Oh, I don’t think that will be a problem,” Eduardo said. He opened a hole and stepped through to directly under the foot of the tree.

Psychus continued walking normally and caught up with Neptulak as they reached the tree.

“I’m sorry what was that? ” she said to Eduardo. She seemed curious but not overly surprised.

“I can open holes,” Eduardo said. “Which of these are ripe?” he asked pointing up into the orange and yellow leaves of the tree.

Among the leaves of the enormous tree, there were thousands of pear-shaped fruits with shining skin like eggplant but dark blue in color, like a blueberry.

“The ones with the little triangular splitting pattern at the floral end of the fruit. But I need to know more about these holes.” Neptulak said pointing out a cluster of the fruits that were open slightly on one end. There were a few fruits on the ground, little round white bugs crawled over and inside of them.

Eduardo opened a hole and pulled out a few of the fruit with his large hand. He closed the hole and handed most of the fruit to Neptulak who set it in the basket and set the basket on the ground.

“The thing with the holes is, we don’t know how it works,

Psychus was assigned to watch me until he can do it too,” Eduardo said opening another hole and pulling out more fruit.

Psychus picked one of the so-called plums out of the basket and looked at it. It looked delicious. He smelled the cracked end of the fruit and the smell was sweet and precious and sour. He took a bite. The skin was a bit rubbery, but the flesh was very soft and had a consistency like a banana. It tasted a bit like a pineapple, maybe a hint of raspberry, and had a lingering sour apple undertone. He chewed the fruit and crunched down on a few tiny seeds. The seeds released oil and gave out a garlicky heat. He chomped the fruit and ate it to the stem before Eduardo or Neptulak noticed, they were discussing the holes.

He picked up another and started eating that one too. The skin was a bit more taut and snapped a bit harder. The flesh was more like an unripe banana, but the taste was still like a pineapple, with raspberry and the sour apple undertone, but the pitch of the taste was cranked toward sour, and a very slight and not altogether unpleasant bitterness seeped out of the seeds and skin as he chewed them.

He looked at the half-eaten fruit. The inside was as dark as a beet and was dripping deep blue juice into the basket. The tiny seeds were orange and appeared to be tetrahedral. “These are

fantastic!" he said interrupting Eduardo as he defended himself from a hail of questions from Neptulak.

"Yes, can I explain this a bit more later, perhaps at nochtmeal?" Eduardo requested from the young woman who had him cowed.

"Fine, get a halb or so, we can finish this later," Neptulak said calmly.

"Halb?" Eduardo asked.

Psychus took another bite of the fruit.

"Yeah, you know, half of sixty." Neptulak said.

Eduardo nodded and plucked thirty fruits down and into the basket in less than a minute. He picked a large one out and started to eat it from the bottom first. He had a similar reaction to Psychus and ate through the fruit in moments.

"Ok, these are amazing. But on Earth, plums are something else." Eduardo said breathing deep after eating the fruit faster than he could breathe.

"Oh really? That's very interesting! I would love to see one someday." Neptulak said dreamily.

"Hey Eduardo, couldn't you just grab one from breadworld Pi?" Psychus asked.

Eduardo opened a hole, reached in, gently pulled out a ripe

juicy plum, and handed it to Neptulak. “Be careful, they have a hard seed in the center, it's big,” Eduardo said.

Neptulak began to tear up looking at the little fruit cupped in her hands. “Thank you,” she said to both of them. She smelled the plum, holding it close to her face.

She carefully took a bite, avoiding the pit as Eduardo had warned. “Wow!” Neptulak said, chewing the small bite of plum. “It's so different!” she exclaimed.

She took another bite and Eduardo picked up the basket. He opened a hole and stepped through to the porch. He set the basket down. He leaned toward the hole and called to Psychus, “I carried the plums to the house, can you carry them to the kitchen?”

Psychus chuckled and followed him through the hole.

Neptulak looked hesitant.

“Don't worry, I've done this a lot,” Psychus said, reaching through the hole. Neptulak took his hand and stepped through elegantly.

They took the plums to the kitchen. Jannus was getting out an enormous metal stew pot with very high walls. She hoisted the pot onto a stove as they came into the room. “Benno told me you were gathering plums. Plum stew and snails coming up,” she said to Neptulak.

She took the basket of plums from Psychus and thanked him before she began to peel the skins off of the fruits into a small bowl, she placed the seeds and the flesh into the pot.

The color wheel sat on the table. Psychus wiped the juice remaining on his hands off on the stained towel, he left blue streaks among the others.

“Can I see what you made?” Psychus asked Neptulak, sipping the now quite cold Cheyttle.

She picked up the wheel while placing the plum on the table skin-side down, and turned the paint toward Psychus. She had taken the time to write the name of the colors next to each of the tiny spots of mixed colors.

“Wow, that's quite a bit of detail, you made that very quickly,” Psychus remarked looking at the little writing in Hackety Znak.

“You should take this, it will help you learn the colors,” she said, handing the canvas to Psychus. “Thank you very much!” Psychus said. He was touched that she had taken the time.

“I'll show you your room, you can leave it in there. Eduardo, would you mind putting the supplies back in the box?” she asked.

Eduardo nodded and began putting the paints away, wiping down the disc with the towel.

Neptulak led Psychus up the stairs, they passed Joctur as he came to help Jannus cook nochtmeal, and into a medium-sized

room with a desk and a bunk-bed. Psychus set the color wheel on the desk. They quickly returned to the kitchen where Eduardo stood holding the box, watching the steam rise off the massive pot.

Neptulak took the box and carried it away, holding what remained of the Earth plum in her teeth. Eduardo and Psychus were left standing in the kitchen as Joctur and Jannus peeled the Adobrasigian plums. “You guys can go to the living room, this will take about an hour,” Jannus offered.

The men left the kitchen, the air was beginning to take on a fruity aroma. They walked into the main room and ran into Jarby.

Jarby was on his phone walking through the hall. He had a thin dark mustache on his upper lip.

“Hey, you’re Jarby right?” Eduardo asked.

Jarby acknowledged his question with a grunt. “Could you take us to the living room?” Eduardo requested.

Jarby slouched a little. “Yeah, follow me.” he said. He led them back behind the stairs and through a hallway, they could hear chatting and bickering as they approached the living room.

In the living room was a large holotelevision, several of the children sat around the room watching a program. They were discussing the logic of the plot in passionate voices.

Eduardo and Psychus walked into the room with Jarby and the children fell silent.

“Hello, I’m Psychus,” Psychus said.

“Hello, Psychus.” The diminutive Hetra said.

“I’m Eduardo. We are from Earth.” Eduardo added.

Jarby left. One of the smaller girls followed him out of the room.

“Cool.” Said Ponta after an awkward silence.

“Uh, well. On Earth... uh what would impress you kids?”

Eduardo asked aloud.

One of the twins spoke up. “Do you live in a super tall building?” he asked.

“Yes, I live on the 1379th floor.” Some of the children gasped and giggled.

“How do you see the ground?” The other twin asked.

“I live far from the windows of the building, but when I visit the walls, I can’t see the ground because of the haze,” Eduardo said

“Do you all wear spacesuits?” Little Villi asked.

“No, there is air on Earth. So we don’t need them.” Psychus explained with a chuckle.

The little girl looked confused. “But daddy told me Earth was in space!”

Her older sister chided her slightly. “The Earth is in space, but it's a planet just like Adobrasig.” Hetra said.

“What do you eat for breakfast?” Jakiah asked.

“Sometimes eggs, sometimes fruit, cereal, sausage.” Eduardo listed.

“They have eggs on Earth? ” she asked.

“Yes, they are grown on distant planets and shipped through space at incredible speeds,” he answered. She looked confused.

“Well what about you, what is the breakfast food of Adobrasig?” Eduardo asked the room.

The children called out dishes.

Psychus didn’t recognize the names.

“Ragbow seeds!” Ponta said,

“fried Oobal!” Yelled Benno at the same time.

“I prefer boiled!” Jactus said to his twin.

“Honey Craankle!” Villi said.

“I don’t know what any of that is.” Eduardo said. Some of the children laughed.

Eduardo and Psychus answered questions for the children for a while before Joctur’s booming voice came through the house.

“Soups on!” he yelled.

The children ran out of the room, in the commotion they turned the holotelevision and the lights off.

Psychus and Eduardo followed to the dining room.

The enormous pot was placed on an island countertop in the kitchen which was made of the same white material.

The children all grabbed bowls from a stack and lined up to get some of the plum and snail soup. The window outside the kitchen was still in sunset, the sunset seemed to be lasting for a long time.

Eduardo and Psychus got in line as Neptulak entered the room. She got in line behind Psychus. “Good evening,” she said greeting him.

They waited in the quickly moving line until they reached Jannus serving from the pot with a ladle. She scooped the hot blue soup into their bowls.

The color had lightened up a bit and the seeds were dotted throughout. There were also large pill-shaped lumps under the soup. They carried their bowls to the huge dining table and took spots apart from each other.

The silverware set at the table was made of the same white material, it felt cold and hard and sturdy.

The children were eating, so they started too.

The hot soup was sweet, like hot pineapple on a pizza, the lumps were strangely crunchy on the outside but contained a slightly rubbery but tender flesh like that of a squid. The

combination was excellent and they began to eat with gusto, the sugary plum earlier had only primed Psychus to be hungrier.

Joctur sat down at the head of the table with a large bowl of the soup and a glass cup full of dark blue liquid. He took an extremely small sip and started eating his soup. The table was quiet for a moment as the hungry family ate, but soon conversation broke out.

“Thank you for picking these plums Neptulak. Thank you, you two as well,” Jannus said nodding to the three in series.

“Oh, it was easy, Eduardo can just open wormholes and he was able to pick them from the ground.” Neptulak said.

Jannus put down her fork and put an orange-skinned hand on her belly.

“Be serious dear,” she said looking skeptically at Neptulak.

Joctur’s eyes darted back and forth. He took a larger sip of the drink.

“Well to be fair ma’am, it is true,” Psychus said.

“Eduardo has an ability that is yet to be fully understood by science, he can open wormholes.” Neptulak added.

Jannus turned to Joctur. “You knew didn’t you, that text from Concrete... Ok well. We will talk about this later.” She said detecting the answer in Joctur’s face.

“So, wormholes?” Jarby asked, “Like the one The Seed went through?”

“Yes precisely,” Eduardo answered.

Jannus couldn't deny her own curiosity. “Would you be willing to demonstrate?” she asked.

Eduardo stood up. “With pleasure,” he said as he walked to the space between the end of the table and the window, he had a bit of space.

He opened a hole to the tree outside and grabbed a plum. He pulled it through into the room and the stem snapped. The branch retracted through the hole and he closed it.

The crowd of a family was impressed enough already, but he continued.

Holding the fruit by its stem he opened a hole above it connecting to one below it, He steadied his hand as best he could and dropped the fruit. It began to fall in the increased gravity and rapidly accelerated falling through the bottom hole, out the top hole, and into the bottom hole again. The fruit began to turn a little, it started to spin as it approached terminal velocity.

“Well, that's not normal,” Joctur said with a hiccup sipping his drink.

Eduardo nodded “I'll grant you that,” he said watching the fruit drop at well over 400 kph. He opened a hole under the lower

hole and closed the first holes while the fruit was between the openings. The fruit fell through the lower hole at incredible speed. It appeared through the window flying upward out of a hole, It flew into the air and Eduardo closed the holes.

About twenty-four seconds later the plum landed in the yard outside with a soft splat. Eduardo returned to his seat. Some of the children were young enough not to recognize the significance. Most of the children however had stopped eating and were staring at Eduardo.

“But it's not just out to the tree!” Neptulak said, placing the plum pit on the table. “He can do it to anywhere! He got me this weird fruit, it's supposedly a plum,” she said.

“Looks like a rock,” said Benno.

“This is the seed,” Neptulak said to him.

“Hold on,” Eduardo said. He placed a hole above his head, reaching in he pulled out another plum from bread world Pi. He handed it to Neptulak.

She held it up so everyone could see. “It's a ‘plum’ according to these guys,” she said informationally.

“I'd like to see that,” Jannus said.

Neptulak handed the plum to her mother.

She looked at it closely. "You ate this?" she asked sternly.

Neptulak looked conflicted. "Yes mother," she answered sheepishly.

Jannus put the plum down on the table. "I thought we raised you better than that, You're almost one year old now!" she scolded.

Psychus felt the need to interject. He was sitting close to Jannus. He grabbed the plum and took a large juicy bite. He chewed up the sweet pulp of the fruit and swallowed. He ate quickly and finished the plum in front of the family in a few seconds.

She took in a deep breath through her nostrils, she understood the message. "Alright, well... Please don't eat any more random hole foods," she said addressing Neptulak.

The tension dropped. Psychus slipped the plum pit into his pocket. The family resumed eating and the conversation moved on to farm business. Plans for tomorrow were intermixed with jokes and snippets of singing as Joctur drank through his cup of blue liquid.

Nochtmeal finished with small bowls of white orbs, they each had a small opening on one end which was coated in a sort of dry film.

“Honey Craankle!” Villi squealed as Jannus brought out the bowls from the fridge.

Psychus thanked Jannus as she handed him a bowl, and they made eye contact. Psychus detected no conflict anymore. He took one of the small white orbs in his hand, it was chilled and felt hard, almost like an egg. He placed it between his molars and crunched down on the craankle. It cracked open spilling a sweet syrup into his mouth. The shell of the craankle was full of tiny air pockets and shattered pleasingly as he chewed it up.

The children were all eating their craankle with their hands, except for Neptulak. She sat quietly.

The family and Eduardo and Psychus ate their craankle until their bowls were empty. The sunset outside was almost complete, night continued to fall over the fields of orange plants. The orange sunset and the orange plants blended together at the horizon through the windows.

Hissing noises began to come from outside the window. A chorus of quiet hissing soon broke out as the snails came up from their burrows into the night air.

“Well, I think I’ll go replenish the pen,” Joctur said at the sound.

Jarby stood up with him “I’ll go too dad.”

Joctur pointed at Eduardo, "Why don't you guys come too, I'd love to see those holes in action." he said. He seemed a bit tipsy.

Psychus and Eduardo went outside and around the side of the large house with Joctur and Jarby, they passed the plum tree and came into the fields. The flowers were closing, but the smell of their chemical messaging signal molecule was still rich in the air. Jarby dove a meter to grab a snail as it rolled by. He had grabbed the basket on the way out of the kitchen. He tossed the snail into it. The snail balled up.

The snail was much bigger than Eduardo's snail back on Earth. It uncurled and tried to roll out of the basket but was unable to get traction on the walls.

Eduardo pulled out his goggles. "Please stand back, I'm going to just check," he said to the men. He put the goggles on and the kaleidoscope effect began, holes appeared all through the field, opening and closing near ground level. The holes opened and closed and spread out away from where they stood. The night air was still except for the hissing of the snails.

Suddenly a hole opened over the basket, and a snail fell out of it and landed on the other one with a click. Holes started opening over the basket, one after another. Eduardo scouted out the snails at incredible speed and filled the basket in a very short time.

The snails sat hissing and rolling around on each other.

Jarby hefted the basket and started to walk away with the snails.

Eduardo took off the goggles. "Hold on, let me get that for you." he said, he jogged over to Jarby and opened a hole. They stepped through to the entryway of the house. Joctur and Psychus followed them.

Jarby carried the snails back into the kitchen, leading the hunting party back with its spoils. They walked into the fruity kitchen with the hissing snails.

Jannus turned, she did a double take. "How did you get so many so fast? " she asked.

"Eduardo here opened a, musta been, so many holes. He opened a hole all over the place and dropped these snails right into the basket." Joctur said, clearly still impressed, and perhaps intoxicated.

Jarby carried the snails off past the stove to place them in an area out of sight.

"How do you prepare the snails?" Psychus asked.

Jannus answered, "you separate them from their burrow and you keep them from eating anything. They excrete all of their waste over about a week, you just keep the pen clean and they prepare themselves. Then when they start going into dehydrated

hibernation, that's when the meat is the most concentrated, cleanest, and best eating.”

“I see, thank you.” Said Psychus. He had liked the soup quite a bit. The snail meat had had a taste he had never had before.

Eduardo asked Joctur for the wifi password.

“Fidrick, Lojo, Wresse, Raddlei, Wayn, Pandecha, it's almost fifty, go get ready for bed and I'll read you a story,” Joctur said to the children.

The six youngest besides the baby got up to leave, and Jannus handed Joctur little Granta.

Joctur shepherded the small children to bed as the rest of the children scattered throughout the house.

Jannus held her hand on her forehead as she left the room behind the children.

Jarby returned from the area behind the kitchen and left the room as well.

Neptulak was still sitting at the table.

“Psychus, would you show me to the room? I'd like to lay down.” Eduardo said.

“Sure,” Psychus replied, walking out of the room with Eduardo. He took Eduardo up the stairs and to the room Neptulak had brought him to earlier.

The color wheel sat on the desk. The men stared at it for a

moment. The mixtures of Holbehn and Verrigeaux with the cerulean and cadmium yellow particularly struck them.

“Thanks,” Eduardo said as he pulled out his phone and laid down on the bottom bed of the bunk. “Hit me up on the radio if you need me,” he said, rolling over.

Psychus scrolled his chip away from the silence he had been sitting on, and over to the channel he had spoken to Eduardo on earlier. “This one?” he asked into the channel.

“Yes,” Eduardo’s voice replied.

Psychus left Eduardo in the room. He returned to the kitchen.

Neptulak was still sitting at the table. She turned to him as he came into the room. “You didn’t have to do that you know, at nochtmeal. But thanks,” she said.

The view out the window was dark. Stars shone through the night sky over the field. “You’re welcome,” Psychus said as he sat down at the table. Psychus ran over the exchange that had taken place at nochtmeal in his mind. “Your mom said you are almost one year old? How long is a year here?” Psychus asked Neptulak about her age.

“Sixty weeks,” she said.

Psychus squinted. “Ok, how long is a week?” he asked, trying to get to the bottom of the way time was reported on Adobrasig.

“Sixty days of course,” Neptulak said. “Would you like some Cheyttle? ” she added, turning on the little machine.

“Sure, but wait, you’re saying there are 3600 days in a year?” Psychus asked.

“Oh, uh actually there are 3601,” she said coming back to the table.

“Where does the extra one come from?” Psychus asked.

“Well, of course, we didn’t create the planet, it just takes that long for it to go around the sun,” she explained with a smile.

“I’ve only been here since about halb,” Psychus said, using the term he had heard her use before for thirty. The machine beeped.

Neptulak got up and collected the Cheyttle and two cups.

She poured it as she spoke again. “How do you like it so far? ” she asked.

Psychus ran through the day as he sipped the Cheyttle. “I think I love it here,” he said after a moment.

Neptulak laughed a little. “Earth’s that bad huh? ” she asked jokingly.

Psychus thought for a moment about what he could show her from Earth. He pulled out his phone, pausing as he realized that he didn’t have access to the Earth network or even the plantation wifi.

“Just a second,” Psychus said. He focused on the chip, “Eduardo, can you do me a favor.” he asked.

A moment later Eduardo answered. “Sure, what's up?”

Psychus responded through the chip, “Can you open a hole in the kitchen so I can connect to the Earth network?”

A small hole, a few centimeters in diameter appeared in the air above the table.

“Whoa, what?!” Neptulak said as it opened.

“Sorry I should have warned you, I’m trying to connect to the Earth network,” Psychus explained. He thanked Eduardo through the chip.

“What for?” Neptulak asked, eyeing the hole over her cup as she sipped.

“I just thought I could show you some Earth stuff,” Psychus said as he connected to the network which was leaking through the hole. “What kind of stuff? ” she asked.

“Well, what do you want to see?” Psychus asked.

Neptulak thought for a moment looking at the hole. “What other kinds of fruits are there on Earth? ” she asked.

Psychus pulled up a Wikipedia page about fruits, he handed the phone to her. “Here’s an article about them,” Psychus said.

Neptulak looked at the text. “I can’t read this,” she said looking up at Psychus.

“Oh, uh, well, try scrolling down, there are pictures,” Psychus said, trying to think of a quick solution for the text, he didn’t want to read aloud right now.

Neptulak scrolled down, there was a picture of a large selection of fruit. As she looked excitedly at the picture of the fruit she began to laugh. “What's that one called? ” she asked pointing to an orange.

“That's an orange,” Psychus said, craning his neck to see the picture.

“Can you eat it? ” she asked, still laughing.

“Yes, they’re sour and sweet with a pulpy segmented inner fruit,” Psychus said, he didn’t see what was so funny.

“It looks like a breast,” she said.

Psychus looked closer at the image. The place where the stem had met the fruit did look a bit like a nipple, but he hadn’t seen it that way before because it was orange.

“What about that one?” she said pointing at a banana.

“That's called a banana,” Psychus said the word felt like gibberish for some reason.

She laughed again. “Really? ” she asked. “That's a great name. ba-na-na. ” she said slowly.

They continued to look at fruits from Earth, Psychus told Neptulak about the breadworlds and the different crops. She sat

wide-eyed and watched him as he recounted his and Eduardo's trips to the breadworlds. He told her about his training, and about the heat on the surface on Earth. He went into detail about the structure of the towers.

She asked many questions, eventually the conversation circled back to the time. "It's fifty-five." Neptulak said checking her phone.

"People have been saying numbers about the time today, but I don't really have context for what fifty-five means," Psychus said.

"Well, its four hours to fifty-nine, then the clock loops around, and starts over at zero," Neptulak said.

"sixty hours in a day!?" Psychus asked.

"Yes, how many are in the day on Earth? " she asked a bit defensively.

"Twenty-four," Psychus said.

"That's so strange. So you have twenty-four minutes in an hour too?" she asked.

"No, it's twenty-four hours in a day, sixty seconds in a minute, sixty minutes in an hour," He explained.

Neptulak pulled up a clock on her phone.

Psychus did the same upon seeing her do it.

She set the phone down on the table, the analog screen showed a fast-ticking clock with sixty numbers on its face.

Psychus set his down and looked between the two clocks. The clock on Psychus' phone had sync'd to Ulan Batar before he came here, it ticked much more slowly.

"Hold on, let me try something." Psychus said as Neptulak reached for her phone.

She pulled her hand back and watched.

Psychus pulled up a timer and timed the clock on Neptulak's phone. He waited for a full rotation of the little red hand. The timer read 43.8 seconds. "Hmm, ok," Psychus said showing the timer to Neptulak.

"I guess that means..." Psychus started, doing the math on the fly. "that means, Adobrasig's rotation takes 43.8 Earth hours. The days here are almost twice as long as on Earth." he finished.

"Wow, you must be tired!" Neptulak said.

Psychus felt fine, especially sitting here drinking the Cheyttle. "I actually slept in the vehicle on the way here," he said.

"In that case, would you like to take a walk in the night air?" Neptulak offered. They each picked up their phones and headed out of the kitchen. As they walked out the front door into the cooling night Neptulak turned to Psychus. "Can you teach me to read that stuff? " she asked.

Psychus thought that he could, so he said that he would. She seemed happier. They walked down the steps and toward the tree. The ground was soft and dusty on Psychus' bare feet.

The rosy smell of the tree was hypnotic. As they rounded the house Psychus stepped in the soft remains of the plum Eduardo had used in his demonstration. "Eww," Psychus said at first, the cold wet feeling was surprising to him. Neptulak laughed as he shook the fruit off of his foot. They walked alongside the field and after a while, they came to the back side of the house. The moon came into view, it was large and white and rising over the field.

There were several much smaller trees along the back of the house surrounding an outcropping raised porch with chairs and a table.

"What kind of trees are these?" Psychus asked, they appeared as dark silhouettes with apple-sized fruit.

"Figs mostly," Neptulak said.

She was looking up at the moon.

"Figs huh? Are they edible?" Psychus asked.

"Of course, you can try them if you like," she answered.

After a few more steps toward the trees, Psychus began to smell them. The trees smelled a bit like cooking grease and fertilizer, but it was subtle. "How do I know which ones are ripe?"

Psychus asked as they approached a tree at the side of the steps to the porch.

“The ones that look like they are about to fall apart, and are drooping are the ones that are ready to eat,” she explained.

The fruits were in various stages of drooping. Psychus spotted a very saggy one that had alternatively wrinkly and stretched skin. In the dim light, the fruits were yellow with red banding. He gently plucked the soft fruit, it easily released from the tree. As he held the fruit his fingers seemed to press in to it, just holding the fruit against gravity. It smelled a bit more strongly than the tree had.

He took a bite from the bottom half of the fruit. The skin was oddly salty, it seemed to dissolve as he bit into it. The flesh of the fruit had a taste like brie cheese, it was also a bit smoky and had a slight fruity tone to it. The texture was like avocado, but the fruit seemed to lack any fibrous tissue. The tiny seeds gave little resistance and had a smoky flavor as he chewed them. He looked at the bite mark on the fruit. The fruit held its form poorly, but he could see that the inner flesh was orange. It was hard to tell in the low light, but the light coming from the house was enough to see the little black seeds.

Psychus took another bite and mulled the taste. He decided he liked it. “You know, with a name like figs, I didn’t expect this,”

Psychus said.

Neptulak was standing on the stairs.

Psychus walked toward her as he ate the fruit.

“Why do you say that? ” she asked.

“Well figs are another thing we have on Earth, I’ve never been fond of them, but they’re small and slightly sweet. They’re soft and a bit slimy too, but they also have a sort of chunky texture.” Psychus said as they walked up onto the porch. He finished the fruit with a final bite. “Oh, and they’re green, fading into a dark purple, but they have a bit of a similar shape I guess.”

Neptulak was listening closely to his description.

Up on the porch they sat in chairs in the dim light coming from a curtained window. Bugs buzzed through the night air, but they were different than the bugs of Omicron, slow, methodical, rounded.

“How old are you?” Neptulak asked as they looked out on the rising moon.

“Eighteen, pretty recently too,” Psychus said.

“Eighteen, that can’t be right? ” she said.

“Oh, sorry that’s in Earth years,” Psychus added.

He thought for a second, he converted the total number of hours he had lived into Adobrasig time. “I’m sixty-one Adobrasig weeks old,” he said, rounding up slightly once he had worked it

out.

“Oh, I see,” Neptulak said. “I’ll be fifty-nine weeks in a few hours.

Tomorrow is the sixtieth Intday of the year also,” she said.

Psychus watched the little round bugs buzz in front of the moon. He was feeling cold.

Neptulak yawned.

“Maybe we should go inside,” Psychus suggested after a while.

Neptulak nodded, then stood up with Psychus, they walked in through the back door on the porch and walked through a long hall past the living room, a bathroom, and a few other rooms.

They reached the entryway and Neptulak yawned again. “I’m going to sleep,” she said.

“Good night,” Psychus said as they parted ways at the top of the stairs.

Psychus walked into the room Eduardo was now sleeping in. A lamp was still on on the table despite the overhead light being turned off. The light of the lamp fell on the color wheel. Psychus closed the door and sat at the desk. He stared at the colors for a long time. He sat perfectly still as his eyes darted around the delicately mixed colors.

Dunkelverrigeaux under verrigeaux and both of them under

verrigeauxote. Crimbehn between red and Holbehn. Verrigellow and verrigorange, Holblack.

The colors kept Psychus' attention wrapt until he began to pass out. He climbed onto the upper bunk and looked at the wheel from his bed until he couldn't keep his head upright anymore and he fell asleep.

Chapter

“You say ‘Tomato’, I say ‘ጕቶላጎቶ’”

- Let’s Call the Whole Thing Off.

Psychus awoke feeling rested. He sat up in the increased gravity and took a moment to realize where he was. He dropped his legs over the edge and hopped down from the top bunk. The door was slightly open, dim light crept through from the hall. He saw that Eduardo’s bed was empty.

Psychus left the room quietly and came to the landing. He saw through the front windows of the house that it was still completely dark outside. He walked down the smooth white steps to the entryway. He heard a quiet tap from the kitchen as he came toward the entrance.

When he came into the kitchen, Jarby and Eduardo were sitting with Cheytle in low cups.

“What time is it?” Psychus asked upon seeing them.

“It's thirteen,” Jarby said.

Eduardo looked up quickly as Psychus spoke, his phone was

on the table. “Dr. Inochi says ‘Hi’, Psychus,” he said.

“Oh, that's good,” Psychus said, acknowledging the message.

“Cheyttle?” Jarby said, gesturing with the carafe.

“Oh, yes please,” Psychus said, he grabbed a cup from where he had seen Neptulak get them the day before. He brought the cup to the table and poured himself a steaming foamy cup of the reddish-brown mud-toned drink. He took a sip as he sat down next to Eduardo. “Couldn’t sleep?” he asked.

Eduardo shook his head. “I slept for the equivalent of thirteen Earth hours.”

Psychus thought about it for a moment, he realized that he had slept for eleven Earth hours after a moment. “Oh, I suppose that’s true. I was thrown off because it's still dark.”

Jarby snorted. “Sunrise is at seventeen today,” he cocked his head after speaking and there was a pause as Eduardo and Psychus stared at him. “Besides, how long could an Earth hour be? Like sixty and halb minutes?” he asked, continuing to wonder aloud for a moment. “With like sixty and halb hours a day?”

“No, allow me to explain.” Eduardo began, sipping his Cheyttle before he spoke again. “Earth has a day that is as long as 43.8 Adobrasigian hours, but our clocks have twenty-four hours, and each hour is still sixty minutes, and each minute is still sixty seconds.”

Jarby frowned. “That doesn’t make sense, that would make... Earth would only have... the math doesn’t work.”

Eduardo interjected. “The seconds on Earth are one point three six nine times as long.”

Jarby pulled out his phone and started plugging numbers into a calculator with many buttons.

“Ok, but that can’t be right either, that would mean Earth only has 3.69 hours,” he said holding up the calculator screen showing the two curly numbers separated by a point. Eduardo looked closely at the numbers.

“Hold on, do you have any paper?” Eduardo asked.

Psychus still had his Hackety Znak guide with him, as he had only brought the one set of clothes. He pulled it out. “Here you go,” he said, handing it to Eduardo.

Eduardo unfolded the slice of paper and flattened the blank side on the table. He opened a hole and pulled out a pen from his home.

Jarby sipped the Cheyttle and watched Eduardo prepare to do the math on paper for him.

He started by writing out the normal base ten numbers in order from zero to nine. He pointed at them with the pen as he turned them toward Jarby.

“On Earth, we still use a base-ten system, these numerals represent the quantities zero, one, two, three, four, five, six, seven, eight, and nine,” he said tapping each numeral as he listed out the quantities. Jarby squinted at the numbers.

“That's it? That's so stupid,” he said. The view out the window was still onto total darkness. “Well, I didn't make it, so yeah, kinda,” Eduardo answered.

“The reason I wrote this out is to show the ratio I expressed earlier.” Eduardo said as he wrote out ‘1.369’. He underlined it. “Sorry, I know the numbers are kinda ambiguous, the last two, it's right-side-up from your angle.”

“What is it in normal math though?” Jarby asked.

Eduardo flipped over the paper and looked at the list of numerals. “Well this slice shows how we write the quantities, lined up with the normal Adobrasigian way,” he said, showing Jarby the key.

He looked at it for a while. “I get it, but what's the ratio then?” he asked a bit impatiently.

Psychus continued to drink the Cheyttle. Eduardo thought for a moment.

“It would be... one point twenty-two eight twenty-four,” Eduardo said, writing it out for emphasis before sipping his

Cheyttle. “That's Adobrasigian seconds to the Earth second,” he added.

Jarby plugged the ratio into his phone's calculator. “It's $\frac{48}{60}$, you said it was $\frac{8}{10}$,” he said, showing them the two digits.

Eduardo and Psychus looked at the numbers.

“I'm pretty sure forty-eight sixtieths is the same as eight tenths,” Psychus said.

Jarby scowled.

“Fine,” he said after a pause. He sipped his Cheyttle.

“Well, why are you up so early Jarby?” Psychus asked.

“Intday, best day of the week,” Jarby said with a tinge of sarcasm.

“What do you mean?” Eduardo asked.

“It's time to bring in the harvest,” Jarby said. He pointed out the window into the dark field. “Dad will be up at fifteen.”

They sat drinking their Cheyttle, Jarby scrolled through his phone.

Eduardo handed the paper back to Psychus.

Psychus slipped the folded paper back into his pocket and pulled out his phone. He pulled up the connection screen for the plantation wifi. “Hey, what's the wifi password?” Psychus asked.

“It’s 𐄂𐄃𐄄𐄅,” Jarby answered. Psychus thought through the word phonetically as he typed the hackety znak password using the keyboard that the textpack had contained. He connected to the wi-fi.

He carefully typed the three characters that spelled ‘news’ into the search bar.

The first few hits were advertisements for news services, but down the results was a page for the Touchdown Tribune. He tapped the link, he was becoming much better at reading the squiggly text.

The page listed a few pieces that had been written since yesterday. There were tiny images accompanying the pieces.

An Image of Dr. Inochi caught his eye. The headline read “Earth Scientist Brings Technology to Adobrasig”

He clicked the article and started reading the short piece.

“Despite the re-establishment of radio contact with the survivors of Earth after more than sixty years of launching biological samples and the construction of our lunar consulate, there have only been a handful of visitors to reach Adobrasig. Technology has also not been forthcoming, as the weak signal contact can only be used to send small binary packets. This has changed, however. On Finday this past week, a visitor entered the

admission office of Touchdown Peripheral Community College...”

Psychus looked up.

“Eduardo, did you see this?” Psychus asked, holding out his phone.

Eduardo looked at the article. “No, I hadn’t,” he said.

They began to read the article together. “... Dr. Susan Inochi has enrolled in every top-level zoology and botany class, as well as several covering soil and water ecology and microbial life. In exchange for room, board, and access to classes, Dr. Inochi has provided several high-capacity memory chips containing significant technological advancements that have taken place on Earth since the partitioning. Dr. Inochi will be lecturing on the technology, and has pledged to help translate the technical documents to hackety znak.”

“Wow, that's great. She didn’t mention any of this in the message I got.” Eduardo said.

They looked at the picture of Dr. Inochi in front of a holoprojector in a room full of aged academics.

“Good for her,” Psychus said.

Eduardo sipped his Cheyttle, Psychus went back to the articles. Apparently, a bull male Rhinoceros had been seen near Pots Steppe, There were celebrations being planned for the end of the week, An elderly woman had survived falling into a cressek,

and the Touchdown repek team had beaten the team of a town called Leap by thirty-eight to eleven.

He put down his phone, he would need to ask about what some of those things were. “Yo, Jarby, what’s a ‘cressek’ and also what’s ‘repek?” Psychus asked. Jarby looked up. “Cresseks? They’re the huge canyons, you must have seen them by now,” he said.

“We passed over one on the way here Psychus, you were asleep,” Eduardo interjected. “Repek, it's a sport. You know, halb guys on each side, big metal ball with handles on the big field that peaks in the middle.” Jarby said.

Psychus shook his head, “I’ve never heard of it.” he said.

Jarby blinked at him. “Well what is the big sport on Earth?” he asked.

“Beast fights,” Eduardo said.

“Holy shit that actually sounds awesome!” Jarby said perking up a great deal.

“They just make animals fight for sport?” Jarby asked.

“Well they’re not animals per se,” Eduardo said.

“They’re genetically engineered platforms for trait expression,” Psychus added.

“That's amazing!” Jarby said, he poured himself some more Cheyttle.

“It's a bit violent,” Eduardo said.

Psychus thought for a moment. “Eduardo, do you think you could open a hole so the holotv back at your place projects like, right here,” he said, tracing a ring in the space next to the table.

Eduardo opened the hole. The projection was still on, but empty.

Psychus pulled up the Ulan Batar tower beast fight stream and cast it to the holotelevision.

A fight was in progress. “Xlitch seems unharmed!” The announcer called as a strange stringy peach-colored creature swung scythe-like arms through a large pile of amorphous, translucent, black slime. The slime appeared to possess a set of organs, but their shapes were strangely geometric.

As Jarby watched, one of the cuboidal organs rose to the surface of the black jelly. It sprayed thin clear liquid at the stringy creature which dodged as it let out a flurry of swipes through Xlitch.

“An excellent dodge by Toobapath!” The announcer called. Jarby’s eyes were wide, the light of the holotelevision projection reflected off of his eyes and off of the dark windows.

“Are they all like this?” Jarby asked excitedly, he looked younger as his face relaxed.

“Not really,” Psychus said.

“Nah, because people always try to one-up each other, but the strategies are transient, it's got cyclic strategic advantages,” Eduardo added.

The slow-moving blob advanced on the blade-armed tri-ped. “This is real right? Not computer-generated?” Jarby asked.

“Yes, it's edited live, this is happening right now,” Eduardo said.

Jarby stared at the fight.

Psychus sipped the Cheyttle.

They watched the fight for a while before Joctur walked into the room.

“Whoa,” he said casually upon seeing the projection coming out of a hole in the middle of his kitchen. He grabbed a cup and poured himself the last of the Cheyttle from the metal carafe.

He sat down next to Jarby and took a gulp. He perked up noticeably as soon as he swallowed the drink. “So what's this?” he said pointing at the projection with his empty hand.

“It's a beast fight dad. It's the big sport on Earth.” Jarby explained.

The slime seemed indestructible, and the scythe-handed monster seemed indefatigable.

“Who's winning?” Joctur asked.

“It's hard to tell sometimes,” Psychus answered. The scythe-armed creature landed a direct blow on one of the purple organs with a crack. “That looks like a solid hit.” The announcer yelled.

The slime began to wobble. It collapsed like a water balloon and flattened out over the soil. Toobapath slashed the now exposed organs for a few more seconds. The announcer ended the fight and a commercial began.

The protopet jingle started, Psychus moved toward his phone to end the cast.

“Hold on,” Jarby said, watching the advertisement. The commercial finished. “Is that a toy?” Jarby asked.

“It's supposed to be a pet, but yes,” Eduardo said. He pulled Eddie out of his pocket and set the little creature on the table.

Eddie looked a little dry but ran around the table like a beetle. Eddie's hooves and bird feet had been swapped out for a trio of pairs of insectoid legs. Its tail had been swapped out for a tentacle. Its turtle shell was gone, but it now had a tiny pair of white feathery wings on its back.

“What is that thing?” Joctur asked calmly looking at Eddie. “It's a protopet, it's the thing that commercial was for,” Psychus said.

“Can I hold it?” Jarby asked.

“Yeah, its name is Eddie,” Eduardo said. He picked up Eddie

and handed him to Jarby.

Jarby looked close at Eddie. "What is this thing, seriously?" he asked.

Just then, Psychus realized he didn't have his stuff with him. "Hey Eduardo, could you make a guest room hole?" he asked.

Eduardo inferred the goal, he opened a hole from the kitchen to the guest room, and a hole in the guest room of the plantation, to his guest room back in C-227.

Psychus left through the holes. He retrieved his pill-shaped package containing his clothing and other personal items.

Eduardo closed the holes.

Psychus fished out a set of clothes and placed his belongings under the bottom bunk.

Psychus returned to the kitchen within a minute. Jarby was still examining Eddie. Joctur had finished his Cheyttle.

"Jarby, let's get started," Joctur said as he stood up. The faintest lightness was beginning to fill the sky, the horizon from the window was still dark.

"You want help, yeah?" Psychus asked.

Joctur looked him over. Despite being shorter than even Dr. Inochi, Joctur was muscular. "Yes, but we only have the two harvesters," he said.

“Is there anything we can do while you two bring in the harvest?” Eduardo asked.

Joctur thought for a moment. “Well Eduardo could cut hours off by bringing the tomato plants back to be sorted as we pull them...” he started.

“He doesn’t need to be there to do it though,” Jarby said. “He got all those snails in the dark last night, he can just do it from anywhere.”

Joctur considered this. “Ok, well then you two should wake up Neptulak and Jerrika and start turning the hives,” he said.

Psychus nodded.

“They’re the second and third door on the right at the top of the stairs,” Joctur said as he and Jarby left the room.

Eduardo closed the hole to the projection. Shortly later they heard the front door close.

“Hopefully they know what ‘turning the hives’ is,” Eduardo said. The men left the kitchen, turning out the lights. At the top of the stairs, they went right and each knocked on a door at the same time.

Jerrika answered first. “What? ” she asked, squinting in the doorway. She was wearing white and verrigeauxote striped pajamas.

Psychus answered her, as he was at her door. “Your dad said

we could wake you up, to ‘start turning the hives’.”

Eduardo was having a similar conversation with Neptulak at her door.

The two teenage girls closed their doors. The men returned to the entryway and waited.

Soon the girls came down the stairs, stepping loudly. They were now wearing summer-style clothing, shorts, and a t-shirt. The group exited the door as Psychus asked about the hives.

“So, where are these hives?” Psychus asked. “They’re right here,” Jerrika said as Neptulak yawned. Out in the yard, Jerrika pointed at the large troughs of dirt. The bugs Psychus had seen yesterday seemed to be resting, as he didn’t see any. The sound of a machine turning on came through the air from around the house.

Neptulak fetched a large dirt-sieve from under the stairs.

“Help me carry this,” Jerrika called as she tried to hoist a large cloth sack.

Eduardo helped her carry the sack over to the troughs.

Neptulak propped the sieve over a set of white posts. “Psychus would you get the wheelbarrow? ” she asked. “It's back under the back deck.”

“Sure,” Psychus said as he briskly walked toward the tree. He rounded the house and walked along the field. He could see the harvester had left a tract of cleared soil as it pulled up the plants.

He walked past the fragrant fig plants. The sun was just starting to peek up over the field from the back of the house. The light felt sweet on his face. He pulled out the wheelbarrow, its single triangular wheel gave it a gentle bumping motion as he wheeled it back around the house.

He came past the tree and into the front yard. Eduardo and the two girls were waiting for him. He brought the wheelbarrow to Neptulak and she positioned it under the sieve.

“Ok, everybody take a corner, hive one first,” she said once it was lined up.

The two girls each walked to an end of the farthest hive from the house, Eduardo and Psychus lined up with them on the corners of the trough. They picked up the heavy hive with considerable effort and carried it to the sieve. “Ok! Dump it!” Neptulak yelled.

They hoisted and dumped the contents of the trough into the sieve. A lot of the dirt fell through the narrow slots on the sieve, but many large clusters of soil remained. As the soil crumbled into the sieve hundreds of tiny round bugs squirmed under the soil. They soon popped out, one at a time from the dust.

They took flight as they emerged, swirling around the four people and the mound of dirt on the sieve. One of the bugs slammed into the side of Psychus’ head and reflected off

painlessly. Its little white wings fluttered loudly in his ear as it bounced.

“What are these?” Psychus asked, looking to Neptulak.

“They’re honeybees,” she said matter-of-factly, she seemed to still be waking up.

Jerrika began crumbling the dirt clods with her hands. “Help me find a queen,” she said.

The three others began crumbling the dirt through the sieves.

As Psychus crumbled one clod many small white orbs fell out, they were the same size as the honeybees. The dirt fell off them and through the sieves leaving them only slightly dusty.

“Got one!” Eduardo said after a moment. He held up the fat four-legged bug he had found. Its orbed abdomen was shaped a bit longer than the others.

“Oh! Got another.” Jerrika said picking out another slightly larger white honeybee. The queen flapped her wings, despite the grip on her hard white shell.

“Great, Psychus keep looking, you two hold on to those, I’ll get a jar,” Neptulak said. She walked back up the stairs to the house. Psychus continued to dig through the clusters of dirt, more orbs dropped out. He picked up a small round clod and pulled it in half. A fat-bodied queen fell out into the dirt.

Eduardo picked it up with his spare hand.

Psychus thanked him.

Soon enough, Neptulak came back into the yard holding a small box full of glass jars with lids.

Jerrika took a jar and placed her queen inside. She placed the lid on it, and set it on the sieve. Psychus helped Eduardo jar up his two queens.

“This is good,” Neptulak said upon seeing the third queen. “We can split this hive into three.”

Once the queens were in jars, they crumbled the rest of the clods, when the big chunks were broken, Psychus and Eduardo shook the sieve a bit. Shaking from side to side as the girls ran their hands across the remaining small chunks.

When all the dirt had fallen through, there were thousands of the honeybees buzzing in the air around them, occasionally they would collide with the people, pinging their heavy little bodies off their skin like hail on a sidewalk.

All that remained in the sieve were the myriad of tiny orbs. Neptulak tilted the sieve and the orbs all rolled into a catch tray on the sieve.

The girls began to examine the orbs as Psychus watched.

“Not a bad load, but for three queens it's a little anemic,” Jerrika said after a while.

Neptulak nodded. "Half a sack?" she asked, looking to her younger sister.

"Yes, I think so," Jerrika said.

Neptulak took the jars out of the box and scooped the orbs into it. She left with the nearly-overflowing box, carried in both hands.

Jerrika pulled a short blade out of her hair, Psychus had mistaken it for an ornament.

Jerrika knelt next to the bag and slit the cloth near the top with the thin dagger. She wiped the blade off on her sock and returned it to her hair. "Alright, help me get half of this through the sieve," she said as she stood up.

Psychus and Eduardo hoisted the bag carefully, so as not to spill the squishy material inside.

They tipped the bag forward and Jerrika began to yank handfuls of a brown fibrous material out on to the sieve.

She pulled out about half of the bag and they set it down. She began to run her hands over the sieve's contents. She pushed the clumps apart and they began to fall through the sieve into the mound forming in the wheelbarrow.

Neptulak returned carrying the empty box by one handle. Psychus watched the little fibers falling through the sieve. "What are these?" he asked.

“They’re tomato roots, the queens are almost completely fossorial, their main food source during reproduction is decaying root tissue,” Neptulak explained as she came down the stairs.

Jerrika finished up sifting the roots into the wheelbarrow. Together, she and Neptulak moved the jars and put down the sieve on the ground,

Neptulak reached into the mound in the wheelbarrow and gave it the best mixing she could muster. “Would you two go get a new trough? There are spares in the shed around the other side.”

Neptulak requested as she mixed the roots into the dusty soil.

Eduardo and Psychus walked off along the side of the house.

Around the other side, the light was coming into the sky a bit more strongly than it had when Psychus got the wheelbarrow.

The shed was a long building that ran parallel to the field on this side of the massive house. Eduardo opened the door with a creak and they looked inside. There were many things that Psychus didn’t recognize, but he spotted a stack of troughs near the wall.

Psychus and Eduardo picked up the top trough and walked out the door. Psychus was walking backward. He didn’t notice as Eduardo opened a hole. They were back at the hives before he realized he had walked through it.

“Oh great, could you make that two?” Neptulak asked, she and Jerrika had placed the first trough back in its place, empty.

The men set the trough down and shortly returned with another using the same hole. Eduardo closed it once they had set the second one down.

Eduardo’s phone began to buzz. He answered it.

Joctur spoke through from the other end. “The first load is ready, but the logistics are a bit strange, could you come meet me in the field,” he said straight off.

Eduardo agreed. He opened a hole and stepped away. It closed behind him.

“He’ll be back.” Said Psychus.

“It’s fine, this part is easy.” Said Jerrika. Neptulak lifted the handles of the wheelbarrow with a little effort and wheeled it over to the trough. Jerrika helped her push the handles up so that they could dump the rooty soil back into the trough.

When they had finished the height of the soil in the trough was higher than the other three hives remaining to be turned.

“Ok, that's one,” Neptulak said as she let the wheelbarrow drop.

She picked up a queen jar and pulled off the lid. She shook the white queen into her hand and dug a small hole in the soft mound and buried her. As she did, the queen let out a high-pitched noise.

It was so high-pitched that for a brief moment Psychus wondered if he could only hear it because of his visit to Dr. Ceenafax's clinic. He flashed back and remembered that he had heard a noise that high before though in his training.

The sound seemed to alert the honeybees that were still buzzing around pinging the people. They began to land on the mound and dig. Their tiny flat white feet were like shovels. They disappeared one-by-one beneath the roots and dirt.

Behind them, there was a sudden rumbling thud. A large open-topped bin of tomato plants fell out of a low hole. The bin barely had time to settle before another landed right next to it. The bins were large, about the size of the vehicle that Psychus had ridden to get here.

The bins stopped dropping out of nowhere, and Eduardo returned.

"I guess I should wake the others," Neptulak said upon seeing the bins. She and Jerrika left to wake up the rest of their family. The light in the sky was creeping over. It was still dim, but the sun was rising in earnest now.

"I guess we can take a break," Eduardo said. He opened a hole to the plum tree and pulled out a big juicy plum. He haphazardly twisted it in half and handed part to Psychus. They leaned against

the sieving poles and carefully ate the whole dripping fruit as they waited.

Neptulak came to the front door after a while. “Hey guys, come get a real breakfast,” she called out.

The men headed up the stairs and back inside. They walked into the entryway and smelled food, it wasn’t familiar, but it was unmistakably food. They went into the kitchen, which was loud, the lights were back on.

Some of the children were already finished with their food, others picked at it with only minor interest, looking more sleepy than hungry.

Jannus was sitting and nursing the baby in her arms, the heat was still on under a steaming pot on the stove.

Neptulak had a plate of pea-sized black tetrahedrons and a white sphere with a spoon sticking out of it.

“Help yourselves, eggs are on boil, seeds are in the canister,” Jannus said, not looking up from Granta.

Psychus grabbed a plate and scooped out one of the tangerine-sized orbs from the clear bubbling orange-flecked water with the ladle on the counter. Eduardo followed behind. They each poured themselves a few of the tetrahedrons onto their plates with little plinking noises.

Psychus grabbed a spoon on the way to the table and sat down. He scooped a gelatinous chunk out of the egg and took a bite. It was bland on the surface. As he chewed more though the taste he had tasted when he ate the snail meat arose, it was weaker. He swallowed.

He licked his spoon clean and scooped up some of the seeds. He placed some in his mouth and crunched up the hard little pyramids. They tasted like peanuts and sour milk, they weren't bad overall, the texture was firm but as he chewed the meat of the seeds gave way to a smooth paste. The chunks didn't squeak against his teeth when he chewed them, but there wasn't much depth to the little seeds.

He continued to eat the orb before he finished the few remaining seeds. He bit the tip off of one of the seeds. The thin black skin covered a perfectly white interior of seemingly homogenous tissue.

When Psychus was nearly done with breakfast Eduardo's phone began to ring again. He walked out of the room and through a hole to the fields. There were some muffled thumps from the front yard before Eduardo returned with Joctur and Jarby.

Jarby grabbed a plate and got himself three eggs and poured a large amount of seeds on top of the gelatinous eggs. Joctur thanked Eduardo and got himself two eggs and a few seeds.

“We should get back to the hives before the sun really hits them,” said Neptulak, looking out the window onto the morning light.

Jerrika stood up.

Eduardo and Psychus cleared their plates and followed.

The queens remaining in the jars were walking around the insides casually, they had calmed down now that they were in an enclosed space. “We can split the hives last, it's best for the hive if you turn it when they are all inside,” Neptulak said, lining the wheelbarrow up under the sieve again.

Eduardo and Psychus helped them turn the other three hives. When they had finished, the light was much clearer, the day was starting to warm up. The ambient light coming around the house was enough to give Psychus a slight pleasant feeling on his exposed skin. Now that they turned the hives, they had five spare queens in their own jars.

“Could you grab three more troughs and some shovels from the shed?” Jerrika requested.

Eduardo and Psychus made light work of the fetching with a hole. All together they laid out the new empty troughs.

“Alright, this is gonna be a lot of digging, but we need enough dirt to fill these,” Jerrika said. She began to bring the wheelbarrow around the house, the other three followed.

She pulled up alongside the wide strip of bare soil where the plants had been ripped out already. Each person took a shovel and began to fill the wheelbarrow with the agitated soil.

Psychus saw all kinds of bizarre tiny creatures appear and flee into the soil as he scooped. They filled the wheelbarrow and Psychus wheeled it back to the hives. They sifted the dirt, taking the time to remove any particle that couldn't fit through the slats. The soil that dropped through the slats contained a large amount of root matter still lingering from the harvest.

They dumped the few pebbles and stones on the ground and dumped the sifted soil into an empty trough. Neptulak placed one of the spare queens into the soil with a gracious handful of roots and the small bug made her little noise.

“Alright, four to go,” Jerrika said.

As they headed through a hole to the side of the house to fill the wheelbarrow again, the younger children came out of the house as a crowd behind Jarby and Joctur. The four shovels filled the wheelbarrow quickly, but when they came back to the front of the house the children had formed a sorting line, they had set up a roller belt. Hetra stood in the bale and threw tomato plants onto the roller in bunches. The older girls and boys stood at the front of the line and sliced off the rootballs of the plants. The younger children pulled off the tomatoes from the plants into bushels.

At the end of the roller. Benno and Jactus looked the plants over before tossing them into a pile.

Neptulak led them through the creation of the other four hives. With Eduardo's holes and many hands, the work was short. The children were talking as they sorted the tomatoes.

The heap of stripped plants was becoming large, and the bin was getting low. Hetra was out of view, only the plants flying up and out could be seen from the hives.

"Alright, that's all five," Jerrika said, she scooped up the jars and returned them to the box. She placed the box under the stairs and Neptulak took Eduardo and Psychus to the sorting line.

"You can help Ponta over there." Neptulak said patting Eduardo. "and you can help Villi and Wayn, Psychus," she said bringing him to the space next to the two little girls. They were standing on boxes to reach the roller.

Psychus watched what they were doing, they would twist the droplet-shaped tomatoes off and toss them into the bushels. As they finished a plant, they would push it down the roller.

The family worked like a well-oiled machine, Psychus was hesitant at first to interrupt their flow. He picked up a plant and twisted a large tomato off of the base of the plant. It was firmer than he had imagined. He placed it into the bushel and twisted off another.

Psychus and Eduardo entered the flow without a hitch and the tomato plants continued to roll down the processing line.

Eventually, the flow stopped, and Hetra climbed out of the bin.

The last plant fell into the heap of stripped leaves and stems.

“Alright, next,” Neptulak said.

The group easily carried the segments of the roller to the next bin. Hetra climbed up onto the loaded bin full of freshly picked plants and the process resumed.

Eduardo’s phone buzzed. He didn’t bother picking up. He stepped out of line and out into the fields through a personal hole. Shortly the next set of ripped plants dropped into position along the row of bins.

Eduardo returned and continued sorting the fruits. As they filled bushels, they would take turns capping them tightly with round lids using a mallet. The bushels were rolled away one by one into a cluster next to the bumpy road coming toward number nine. As they ran out of bushels in the front yard to fill, Eduardo opened a hole to the side of the shed and made retrieving the empty bushels short work as well.

They had filled many bushels from the single bin. Based on the width of the streak Psychus had seen from the harvester around the side of the house, Psychus expected them to be at this for a long time.

The children discussed the fruits as they sorted them. “These seem plumper than last week.” Pandecha remarked. "yes I think so." Fidrick said as he took a bite of a small tomato and set it on the rim of the roller, he continued to sort.

“The roots look good, the nodules are large,” Vitsam said, pinching a globular tumor on the roots of the plant he was cutting.

The crew continued cutting and sorting through the plants in the second bin until Eduardo’s phone buzzed again when they had almost finished it.

Eduardo left and brought the next set of bins back. Presumably, on the other end, he was helping Jarby and Joctur place the empty bins into the harvesters with his holes.

He returned and they moved the roller on to the third bin. The heaps of plants continued to grow, they finished the third bin. Another call.

The bins continued to line up. After the fourth bin was sorted Psychus was beginning to feel hungry. The sun had risen quite a bit more and the light shone directly onto the sorting line from the star peaking brightly over the house.

Psychus skin was giving him significant feelings of sweetness. The morning sun began to feed him through his photosynthetic skin. His stomach was feeling empty and rumbly, but instead of reaching an exhausted malaise after the hours of work, Psychus

began to feel energized. He felt as if he had consumed food in his mind, but his stomach continued to complain idly.

The children occasionally took breaks to stand with their arms outstretched, and their faces turned toward the light, eyes closed. Psychus waited until they had finished the next bin to take a break and bask in the light. The feeling was intensely pleasurable. He had to pull himself away from the light after a while so that he could continue sorting.

He sorted with increased speed after basking. They all sorted a bit faster as the sun really came up over the house. The orange children were masters of their tasks.

They were able to sort more than a full bin before Eduardo's phone buzzed again. Eduardo left, but the sorting continued. The bins dropped into line.

The process continued for hours. Eventually, Eduardo was gone a bit longer than with previous bins, when he returned Jarby and Joctur came through the hole behind him.

"Alright that's the lot," Joctur called out to minor cheering. Jarby took his shirt off and started basking his chest in the sunlight. Joctur basked next to him, but he kept his shirt on.

After a while, the two men joined the sorting, the pace picked up. The sun bore down on the group as if it intended to help them

along. Joctur pulled out bushels as he sealed them and rolled them around the house.

Eventually when all the bushels were sorted and the bins were empty Joctur let the children know that they should take a break before class starts.

The kids ran off into the house. Eduardo and Psychus stayed back. “You two can take a break too, with your help we’re hours ahead of the scheduled pickup,” Joctur said happily.

Eduardo opened a hole to the front door and Psychus followed him through.

In the entryway, Pendecha was arguing with Wayn over a small booklet.

Eduardo and Psychus walked past them into the kitchen.

A few of the older children were in the kitchen, Neptulak was making something in a flat pan. The smell was like frying oil but with a sulfurous tinge. “Hey guys, want some Oobal?” she offered as she flipped the contents of the pan.

“Sure,” Eduardo said. He sat down next to Vitsam who was already eating some kind of fried food with a fork. His plate had a large dollop of red sauce on it in which he dipped each bite.

Neptulak began to bread a light-orange fillet in what looked like tiny seeds. She dipped the fillet into a thin white liquid and then flipped it over in the tiny yellow grains.

She placed the fillet into the pan with a sizzle. She wiped off her hands and removed the previous batch onto a plate with a thin metal spatula. She prepared another fillet and placed it into the sizzling pan.

Hetra came and took one of the previous batch, and Fidrick took the other two. They each squirted some of the red sauce over their food from a round bottle. Psychus walked over to Neptulak and looked into the pan. The little yellow grains seemed to puff and pop as they cooked in the orange oil. The meat cooked fast.

Neptulak handed him a plate and scooped one of the hot fried fillets onto his plate.

He thanked her and took the food to the bottle. He put a small dollop on the plate and grabbed a fork.

Neptulak called Eduardo over for his as Psychus sat down.

Psychus cut the crispy orange batter of the fried oobal and took a bite without the sauce at first. The seeds had a similar taste to the seeds he had had at breakfast but also gave out a bit of a sulfurous hot-onion taste. The meat itself was strangely creamy, it had a taste like whitefish but with a bit of the unidentifiable taste, he had come to expect from the animal products of Adobrasig.

He tried a bite with the sauce. The sauce was strong. It gave him a burning sensation. The feeling was halfway between eating freshly minced garlic and sucking on the seeds of a hot pepper.

He felt a similar focus to when he drank Cheyttle as he finished the bite. He ate the little dollop slowly with the fillet.

Neptulak sat down next to him with a fillet completely covered in the sauce. She started to eat while browsing on her phone.

One by one the children finished their Oobal. They left the room until it was just Eduardo, Psychus, and Neptulak.

“What is this, by the way?” Eduardo asked as he ate his fillet with some of the sauce.

“Ketchup, don’t tell me you don’t have ketchup too!” Said Neptulak

“Well we have ketchup, and tomatoes, but they’re something else too,” Psychus said.

“Hold on,” Eduardo said. He opened a hole, cool mist poured out, he reached into the dark hole and pulled out the mostly empty bottle of ketchup from his fridge back in the kitchen of C-227. He closed the hole and opened another to breadworld Delta. He pulled out a medium-sized ripening tomato. Its skin was still transitioning from green to red.

“Yeah, those,” Psychus said when Eduardo had set the items on the table.

Neptulak picked up the tomato and rolled it over in her hands. She smelled the end where the sepals remained with the stem.

“Oh, I don’t like that,” she said, pulling it away from her face with mild disgust.

She picked up the bottle of ketchup and looked through at the red sauce. She unscrewed the cap of the bottle and smelled the sauce. “That's a lot better than the tomato, but no thanks man,” she said putting the cap back on.

Eduardo placed the Ketchup back into his fridge and ate the tomato off the stem between bites of the oobal. He placed the stem into his pocket.

“Alright, besides the ketchup though, what is oobal?” Psychus asked.

“Oh, oobal?” Neptulak asked, she seemed to be pulled from a reverie by the question “Oobal, they’re little flying animals,” she answered simply.

Psychus thought for a moment. “Can you pull up a picture?” he asked. Neptulak nodded and started typing on her phone. After a moment she pointed the screen at the men.

The little blue bean-shaped creature was cute to him. It appeared to be covered in a fluffy layer of fur. She scrolled past a cross-sectional diagram of the creature’s anatomy to a picture of it with its four wings spread. The fluffy wings were large and there were two on each end of the body.

“Dad keeps them away with the scareobals,” Neptulak said, putting her phone down. “But sometimes we take them down and set traps,” she added.

“Whats a scareoobal?” Psychus asked.

“Oh, help me clean up and I’ll show you,” Neptulak said, picking up her plate and one that Jarby had left behind.

Psychus and Eduardo helped her clean the table and put away the tools and unused ingredients where they belonged, or in the sink.

“Ok, the main one is in the back,” Neptulak said when the kitchen was clean again. They left and turned out the lights. They headed past the stairs and out the back door. The living room was loud with the many children in it.

On the back porch, the wonderful light of the sun shone on their skin. Psychus couldn’t help but bask for a moment. He felt full, but the sun kept feeding him sweetness gently with its rays.

“This is a scareoobal,” Neptulak said pointing at a set of small shards of mirrored glass hanging on thin cords.

The mirror shards spun and glittered in the morning light.

“Oh, I see,” Psychus said, opening his eyes and looking at the shiny ornament.

“What are these trees?” Eduardo asked pointing at the short orange and red-leaved trees at the bottom of the stairs.

“Figs,” Neptulak said.

“I see. On Earth...” Eduardo began.

Neptulak interrupted him. “Figs are something different,” she said along side him as he finished his sentence.

“Yes, did you already have this conversation with Psychus?” Eduardo asked, looking at the two of them.

“Last night, yeah,” Neptulak said. “But I still haven’t seen one.”

“Do you want to?” Eduardo asked.

“Dearly,” she responded, clasping her hands together on her chest.

Eduardo opened a hole to breadworld Pi and pulled out a purpling fig. It looked soft as he cupped it in his hand. The stem let out a bit of milky white latex from where he had snapped it off the branch.

He handed it to Neptulak.

She examined it closely but didn’t eat it. “Can I keep this? ” she asked.

“Yeah, it's yours now,” Eduardo said. “Can I have one of yours?” he requested at the top of the stairs.

“Of course,” Neptulak said, cradling the little fig in her palm.

Eduardo stepped jauntily down the stairs and collected one of the red and yellow fruits.

He came back up the stairs using a hole. He sat down and took a bite. He nodded appreciatively. “This is good,” he remarked.

Neptulak and Psychus sat down with Eduardo. Just sitting in the sun was so pleasant. Eduardo finished the fig shortly.

“Psychus, do you think you can start teaching me to read how they write on Earth today?” Neptulak asked, setting the fig down and looking Psychus in the eyes.

“Yes, anytime is fine,” Psychus said.

Neptulak smiled, she pulled out her phone and checked the time. “Class starts in a little while, now that I’ll be turning one, I’m supposed to spend the week’s class time on independent study and college essays.”

“Sure, we can do it out here in the sunshine,” Psychus replied.

“What are these classes?” Eduardo asked.

“They’re the homeschooling mom gives us,” Neptulak said. “She does group learning in the classroom, the projectors on the desks allow her to see everything we work on. Basically, she sets us up with the curriculum for the day and just keeps us studying.

“Do you think it would be overly personal if I took your place in the classroom, to see how it works?” Eduardo asked.

“You’d have to ask my mom, but I don’t see a reason she would object,” Neptulak answered.

Eduardo stood up, “I’m going to go ask, have fun with the alphabet.” he said, bending slightly at the waist.

He left the porch and entered the house.

“Well, would you like to start right now?” Psychus asked.

“Yes, please,” Neptulak said.

“I think we need some paper and pencils,” Psychus said, as he looked around for teaching tools and only saw the fig.

“Sure, I’ll run and get some,” Neptulak said. She got up and stepped lightly to the house. Psychus looked into the sun momentarily, he looked away as it burned his eyes. The spot in his vision flickered from green to purple and gradually faded.

Neptulak returned. She had a little notebook, a few slices of scrap paper, and a cup of pencils and pens. She set the tools down on the round glass table they were sitting at.

“Thank you, this is perfect!” Psychus said as she laid down the items.

“You’re welcome,” said Neptulak, she sat down.

“Alright, the first thing to do is to determine how much you already know.” Psychus began. He pulled out the folded hackety znak key. “This key shows the pronunciations for each character in hackety znak. Do you know any of the symbols in this

column?" he continued as he unfolded the sheet and ran his finger down the portion of the slice that listed how to pronounce each hackety znak character.

"No, I don't know any of those," Neptulak said, her brow furrowed.

"Do the characters in hackety znak have a canonical recitation order?" Psychus asked.

"I'm sorry, I don't know what you mean," Neptulak said, her brow furrowed a bit more.

"I mean, is there a little song or anything like that where you list all of the characters?" he asked.

"Oh, yeah!" Neptulak said, her face relaxed. "It's the order of this column," she added as she ran her finger down the other side of the paper.

"I see! Ok good. Our most common form of written language contains twenty-six symbols, we call these letters. They are not phonemes like the characters in hackety znak, but they tend to have somewhat consistent sound patterns." Psychus said. As he spoke he began to write the alphabet in nice neat text across the long part of a slice of scrap paper.

He finished up shortly and showed Neptulak the letters. "To begin with, each letter has a name, because they aren't just sounds."

Neptulak looked at the letters, she pointed out the ‘p’ and made a ‘zz’ sound.

“P,” Psychus said.

Neptulak frowned. “Alright. ” she said. “p-,” she let out the first part of the letter, stopping with just the puff of vocalized air.

“Not quite, the letter is named ‘pea’ as in...” Psychus said. He began to write the little hackety znak characters ‘𐌲𐌶’ to spell out the sound of the name of the letter in small writing under the big ‘P’.

“Pea,” Neptulak said slowly. “Oh that's quite odd,” she said after a moment.

“So now, what we should do, I think, is go through each letter and spell out its name in hackety znak,” Psychus said. He hadn’t had much exposure to other people at the school, his ability to teach was untested despite his training.

“Sure, what's the first one? ” she asked pointing to the ‘A’ at the left side of the page.

“That's ‘A’,” Psychus said, he wrote the 𐌲 symbol in hackety znak that said ‘ayy’.

“And that one? ” she said pointing at ‘B’.

“That's B’.” he answered, spelling out the two little 𐌶𐌶 characters that said the name ‘bee’.

They continued down the list until Psychus finished up by writing down P^ψ for 'Z'.

“Ok, so now I know their names, or I’ll be learning them,” Neptulak said. “What were you saying about a song earlier? ” she asked.

“The Alphabet Song,” Psychus replied. He slowly sang the alphabet song for Neptulak. “A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z!”

Neptulak followed along on the paper as he listed the letters. “Ok, can you do that one more time, I’ll try to sing with you,” she asked.

“Sure!” he said, he took a deep breath and started slowly. “A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z!”

Neptulak did her best and with the help of the pronunciation guide, she was able to list them all.

“That's great!” Psychus said. He patted her twice on the back of her shoulder.

“Can I have a word? I want to try to read it.” Neptulak requested.

“Ok, what do you want to try to read?” Psychus asked, holding the pencil still on the paper, he looked sideways at her.

“No, no, you have to pick it! If I know what it is, it's not going to work!” Neptulak said giggling.

“Ok, right.” Psychus felt embarrassed. He picked the word ‘fruit’ and wrote it out for her.

She looked at the word. “Eff... Effare... Effareyoueye... “Effareyoueyetea!” she said triumphantly as she butchered the word beyond recognition.

Psychus blinked. He was glad she was getting the names of the letters down, but thinking about the many nuances of spelling and pronunciation made him feel like a broom against the beach, the task was daunting. “That's not bad, but it's actually ‘fruit’.” he said, running his finger along the word as he rolled out the sounds of ‘fruit’.

Neptulak didn't look bothered by the error “Oh, ok. ” she said. “Gimme some more.”

Psychus wrote out ‘fig’, ‘plum’, ‘tomato’, and ‘banana’. “I'm not sure this is a great place to skip to, I think we should probably focus on the sounds they make,” he said as he slid the slice to Neptulak.

She read the words in a similar way. As if trying to spell them aloud as fast as possible.

Psychus wrote the words in hackety znak for her under each word as she attempted them.

“I see, ok. ” she said as he wrote out ‘ᄡᄢᄣᄤᄥᄦ’ in hackety znak under ‘banana’. “This letter... ‘A’... does too many things,” she said. “Yeah, let's go back to the sounds, I don't think I'm getting this yet,” She finally agreed.

Psychus pointed at ‘A’. “This letter, A, can make the ‘ahh’ sound, as well as the ‘ayy’ sound, and also the ‘ih’ and ‘eh’ sounds occasionally. Contextual understanding of which sound is meant in whatever word or setting comes with experience.” Psychus explained.

Neptulak nodded.

He pointed to the ‘B’ next. “This letter always says ‘b-‘, there may be some case where it doesn't but it's probably not going to come up.” he continued.

“Interesting, why so many sounds on ‘ayy’ and only one on ‘bee’?” Neptulak asked.

“The letter ‘A’ is a vowel, it takes on many roles, but it's not just vowels that have multiple sounds.” he said, pointing at ‘C’ as he finished speaking. “‘Cee’, which is a type of letter we call a consonant can sound like ‘s-‘ and it can sound like ‘k-‘ but it can also sound like ‘c-‘ in specific contexts, such as when it paired with an ‘hatche’.”

Neptulak looked confused. "So, what's... How am I supposed to know when it sounds like what? " she asked.

"Well, practice is a big part of it, specific patterns have certain common sounds," Psychus said, fumbling for a good way to determine what was what. He wrote out a few patterns for 'C', 'cc', 'ck', 'ch'. He explained in depth to the best of his ability how to recognize the patterns.

Neptulak listened closely, resting her head on her arm on the table. "I think I need some Cheytle," Neptulak said after a while.

"Yes, that sounds nice," Psychus said. He wasn't hungry yet, but he had come to deeply enjoy the strange spicy drink.

They left the paper and pencils sitting on the table and walked into the house. Class was in session in the classroom, Psychus could see Eduardo quietly sitting in the back looking at a projection as he passed by with Neptulak.

In the kitchen, Neptulak made a large strong batch of Cheytle, and they carried the carafe and two cups back outside.

Upon taking a sip, each of them simultaneously and independently resumed focus upon the letters.

"Ok, give me a word with just a, b, and, c in it." Neptulak requested, her eyes focused down to a point as she looked over the letters again.

Psychus quickly wrote out a few, starting with ‘cab’, he also wrote out ‘crab’, ‘abacus’, and ‘back’.

She looked over the words, she read ‘cab’ aloud correctly but pronounced ‘crab’ as ‘sar-eab’. She got the first part of ‘abacus’ and stuck the landing by pronouncing ‘back’ flawlessly.

“Now you’re getting it!” Psychus said. He moved on to explaining the sound that ‘D’ makes.

“like ‘b’, ‘d’ only makes the ‘d-‘ sound. The symbols look alike, but the sounds are different.” he explained.

Neptulak nodded, so he moved on to ‘E’. They sipped their Cheyttle.

“Ok, so ‘E’, this letter is a nightmare, it can make many of the vowel sounds, ‘ayy’, ‘eh’ ‘ih’ ‘ey’, but it can also be silent, like at the end of a word,” Psychus said. He had to slow himself down to maintain a teaching pace.

“Ok, why would it ever be silent?” Neptulak asked.

“The redundant phonology and reduced character set make it so that to spell similar sounding words, we add silent letters to differentiate them on paper, it's another thing you pick up with practice,” Psychus answered.

“Alright, and ‘F’? ” she asked, pressing forward.

“‘F’ is another letter that pretty much behaves itself. It mostly ever says ‘f-’, but it sometimes says ‘-ve’ at the end of a word.”

Psychus said. The sun was almost perfectly over head now.

Neptulak began to speak as the sound of a machine came through the air from the front of the house. She cut herself off.

“Oh! That's gotta be the pick-up, we should go help dad.”

Neptulak stood up, and Psychus followed her through the house to the front yard.

A large segmented flat-bed shipment vehicle had been driven right up to the bushels. Joctur stood with the man discussing the logistics of loading the truck.

Neptulak called out to him “Need a hand?”

Joctur beckoned them closer. They hopped down the stairs and walked briskly over to the men.

“Great, I thought it would be just us, who’s this?” The man asked Joctur as Psychus approached.

Joctur introduced the two men, “Ontus meet Psychus. Psychus is a visitor from Earth, and Psychus this is my younger brother.”

“Cut the ‘younger brother’ crap, you’re four minutes older than me, I’m his twin,” Ontus said, shaking Psychus’ hand. “Nice to meet you.” He said, smiling.

“You too.” Said Psychus.

“Alright, let's get the bushels strapped in stacks on the truck, I've still gotta fertilize and sew the soil before sundown,” Joctur said.

The four people began pairing off and hoisting the bushels onto the bed. After lifting a few Psychus was already exhausted, solar-powered human or no, the large bushels combined with the increased gravity made for intense labor.

“Eduardo would be so much help for this...” Psychus thought. He focused on the radio chip lingering in the periphery of his awareness and contacted Eduardo.

Eduardo appeared next to Psychus silently as soon as Psychus said ‘Hey’ into the radio.

“Class was too quiet, very informative though, thank you for giving me a polite excuse to drop out,” Eduardo explained. “What do you need?” he asked looking at the bushels and the sweating crew.

“What was that?” Ontus asked, gesturing at the space around Eduardo where the hole had closed behind him. “Wait, who are you?” he asked.

“Dude relax, this is Psychus’ comrade, Eduardo. He can make wormholes and it has been making the harvest run a lot smoother.” Joctur explained casually.

“Shut up, no he can’t,” Ontus said stubbornly, even after seeing one.

“Don’t tell me to shut up, I mean it,” Joctur said.

Eduardo hugged a bushel like a bear and hoisted it by himself. He made a hole on the ground and lowered the bushel onto the truck behind Ontus. It landed with a thud on the truck-bed, Ontus almost fell over from the shock of the noise and the suspension moving. He hadn’t seen the hole at first, he had been staring Joctur down.

The hole closed. Eduardo hoisted another.

“Eduardo, stop, let us help you,” Neptulak said, putting her hand on his back.

Eduardo set down the bushel on the truck-bed before he stopped. “Ok, yeah, I’m gonna give myself a hernia or something,” he said squeezing his fingers open and closed, his palms were streaked with indentations from the force he had held the bushel with.

Ontus was staring at Eduardo. “Does Concrete know about this? It would be so up his alley,” he asked.

“Yes, Concrete met these fine gentlemen near the elevator in touchdown yesterday, he sent them my way, isn’t it fantastic!” Joctur said.

“Did you folks come with the Dr. who brought all that tech to the college?” Ontus asked.

“Yes, we came to drop her off, but then there was this billboard, anyway it's not important, I love it here,” Psychus said.

“Well that's great, but about these holes? What's with the holes?” Ontus asked.

“We don't know yet, it's just something I can do,” Eduardo said.

Ontus hopped down from the truck. “Is it safe to go through, you don't die, or lose your stream of consciousness, or anything like that?” he asked.

Eduardo opened a hole at a right angle to itself, he reached through the hole and pulled his phone from his left pocket with his right hand. The perspective through the holes was strange, a ring of Eduardos pick-pocketing themselves. He stepped through the hole back to where he was standing as he typed up a text to Dr. Inochi, the little ring of orange Eduardos stepped in sync.

He sent the message and put his phone back in his right pocket. “No, I'm pretty sure I'm continuous,” Eduardo said.

“Can I try that?” Ontus asked, looking at the corner made from holes.

“Knock yourself out,” Eduardo said.

Ontus jumped through the hole and emerged into the same spot, having rotated a quarter turn.

“Wow, that’s disorienting,” Ontus said.

“Ok, have you had your fun? We’re losing time here!” Joctur said.

“Yeah, yeah... one more,” Ontus said as he jumped through the hole while spinning in mid-air. He landed roughly and took a knee in the dust next to the bushels. “Are you coming on the hunt?” he asked, looking up at Eduardo.

“First I’ve heard of it, but sure,” Eduardo said.

“Are you talking about the rhinoceros?” Psychus asked, inferring from the news he had read that morning.

“Yeah, gotta take out the bull, if it is coming this close to the steppe it has gotta be sick,” Ontus said.

“Can we talk about this while we load?” Joctur asked.

“Right, I have a schedule too you know...” Ontus grumbled.

Together in pairs, the team lifted the bushels and dropped them into the holes Eduardo placed beneath them. In a tenth the time, they had loaded ten times as many bushels as they had done without Eduardo.

In short order, the truck was loaded.

“Hey, you guys want to take a ride with me and discuss the hunt? You can just come back here with a hole right?” Ontus asked, looking back and forth between Eduardo and Psychus.

Psychus asked Eduardo what he thought through the chip, Eduardo was willing, and he seemed to really want to talk, they quickly decided to go.

“Sure.” they said together in unplanned synchrony.

They hopped up into the wide front seat of the tremendous transport vehicle. Ontus turned it on and began a many-pointed reversal in the front yard. Eventually, he got the truck lined up with the road, and he pulled out as Joctur walked off.

“So the bull, according to reports, it’s one of the largest ever recorded. If we don’t cull it, and it goes back away from the steppe, it will savage the young within its range. If it stays near the steppe, it's gotta die anyway.” Ontus started, he was talking fast as the truck slowly headed toward the main road.

“How big is this rhinoceros?” Asked Eduardo. “Where are we going anyway?” he asked as a follow-up.

“Touchdown,” Ontus said looking at Eduardo as if he thought he was joking. Upon seeing that Eduardo was serious, he clarified, “Touchdown is the only City on this plateau-cluster, its the only place to go from Pots Steppe.”

“Hmm...” Eduardo vocalized loudly. He pulled out his goggles and put them on. The truck passed by the now empty fields and reached the flat white road.

“Could you do me a favor?” Eduardo asked, he had his hands over the goggles.

“What's that?” Ontus asked, he began to speed up a bit on the flat stretch.

“Could you pop this thing up to max speed?” Eduardo asked.

“Well, it doesn't go very fast anyway, sure,” Ontus said, the vehicle began to speed up, it gradually approached a decent speed.

Eduardo opened a hole directly in front of the truck, it had passed through by the time Ontus pressed the brakes.

“What? Why did you do that?” Ontus yelled looking at Eduardo.

“We're here,” Eduardo responded, pointing out the window.

They were sitting in the correct lane, facing the correct way, within a minute or two of the city.

“Sorry, ok. I guess you just saved me hours and hours.” Ontus said sheepishly.

Ontus pulled the truck away from the hole and Eduardo closed it. They drove in silence for a moment before Psychus broke the tension. “So this rhinoceros, how big is it?” Psychus asked, trying to get Eduardo's question answered.

Ontus sipped from a capped bottle of Cheyttle in the dashboard, he capped it again and returned it to the place he had pulled it from, he coughed a bit. “There were conflicting reports, and the pictures don’t have anything in them for scale, you know, not many trees in the plains around the steppe.”

“How about an estimate then?” Eduardo asked, raising a white-haired eyebrow on to his orange forehead.

“I’d say somewhere between thirteen-point-twenty to fifteen-point-forty,” he said, following the curved road into the city.

“Trebblemetrons.” he clarified after a moment of no response.

“How about in relative terms, how many of you tall is it? How many of your height would go into its length?” Psychus attempted to make sense of the comparison.

“What a strange way to measure... Uh, I guess... it would be between...” Ontus trailed off.

“How tall are you in trebblemetrons?” Eduardo asked.

“I’m not even one trebblemetron tall. Twelve-point-fifty-five doppelmetrons,” he said.

“Ok, how many doppelmetrons to the trebblemetron?” Eduardo probed.

“Sixty of course, everything goes up by sixty, metrons, gewichten, seconds, you know.”

Psychus thought about it, if he was reporting accurately, the

rhinoceros in question must be much larger than even the largest animals to walk or even live upon the Earth in the long and storied history of its lifeforms, by a considerable amount.

“Are you saying the rhinoceros is...” Eduardo paused. “Bigger than Joctur’s house?” he landed on the house as a point of comparison due to the implied size.

“Of course!” Ontus laughed, “The whole house is made from one rhinoceros exoskeleton, of course this one is bigger than the bones from smaller bulls.”

Psychus’ stomach turned, the white material he had been eating off of was some sort of carved alien ivory. The stairs he had walked on, he thought for a moment, feeling a bit uneasy. He looked out the window and saw the buildings of touchdown and the white road stretched out in front of them. He realized with a creeping pang of unease that the city was made of bone, the streets were paved with bone.

“Oh,” Eduardo said. “Oh.”

“Well, the bones are basically a by-product,” Ontus added, he seemed to know what the men were thinking. “The mega-bulls that start trampling the young, they gotta get culled, the rhinoceroses are a huge part of the ecology of the plains.”

“Then how did all of this..?” Eduardo asked, he seemed unable to form the question.

“As soon as the old bull dies, the males start to rut, the dominant male in each mating clique begins to grow. I’d say, each clique puts out three or so males of around the size of the one coming up currently, per year.”

“How many cliques are there?” Psychus asked, hearing about the lifecycles was making him feel a bit better.

“Oh, sixties, maybe tens of sixties, just in the lower plains of Pots Plateau,” Ontus said.

“The other thing is, since they lay eggs the population would blow up within a generation or two without the bull males trampling at least a few.” Ontus continued. “They’re the top of the food-chain, ornery, oviparous, omnivorous... The only thing that keeps them from growing forever is the ‘Holbehn-streaked Rhinoceros leech’.”

“What’s that?” Eduardo asked as Ontus pulled up to an unloading zone.

“Uh, just a sec, I gotta call my guy, I’m super early.” Ontus pulled out his phone and quick-dialed a contact.

“Hello?” a male voice answered the phone.

“Hey, it's Ontus, I’m at the unloading zone,” Ontus said.

“That's gotta be a record, what? you buy those tomatoes in town?” The voice asked, and a laugh came through the phone.

“Nah, I just floored it both ways, nobody on the roads today,”
Ontus said, coming up with a quick lie.

“Whatever man, you can leave the truck here, I’ll pay you
when you get back. I need a minute to get the carters off lunch.”

The man hung up.

“Ok, yeah. Speaking of lunch, I’ve been driving for hours.”
Ontus said looking at Eduardo and Psychus.

“Let’s get lunch,” Psychus suggested. He was hungry again, he
wondered if perhaps the increased blood sugar from his
photosynthetic skin was affecting his appetite and metabolism.

“Great!” Ontus said pulling the lever to open the door. He
hopped out.

Eduardo and Psychus followed.

Eduardo popped off the goggles with a yank after he undid the
catch. He put them back into his pockets.

“What are you guys thinking? I could go for cressek-food
right now.” Ontus said.

“Sure, cressek-food sounds fine,” Psychus said.

Eduardo was looking at the white paved road they stood on.
He looked away as they walked behind Ontus.

“Ok great, my favorite cressek-food place is only a few
blocks,” he said. He walked along the curb to a corner. A few
people passed by on bicycles. He turned and headed down a road

that ran oblique to the road with the tomato processing plant. After a short walk past storefronts and small bone apartment buildings, they reached the restaurant.

The sign read “Delightful Depths”.

Ontus opened the door and they walked inside. The restaurant had a faint floral aroma. Many of the tables were full, but many sat empty as well. A waiter approached the party. “Three?” he asked.

“Yes please, can we also get some Cheyttles?” Ontus answered.

“Of course, sir, right this way.” The waiter said jovially. He brought them to a medium-sized table and laid down their menus. He left to get the Cheyttle.

Ontus didn’t open his menu, he just looked around. “Looks like word is spreading, I’ve never seen this place so busy.” After a moment he seemed to realize something, “They could just be in town for the week I guess, but it's quite early to be coming in for that.”

“For what?” Asked Eduardo.

“New-years, it’s at the end of the week,” Ontus explained.

The waiter returned with a carafe of Cheyttle and their cups, he poured the men their Cheyttle. “Are you ready to order?” he asked.

Ontus spoke up right away, "I'll have the clam pasta with wine-sauce." he said, handing his menu back to the waiter.

"And for you two?" he asked, turning to Eduardo and Psychus.

"Make that two please," Eduardo said, after finishing a gulp of Cheyttle.

Psychus sipped his Cheyttle, he didn't think looking at the menu would be very revealing, so he ordered the same meal as well. "Actually, three. Thank you." Psychus said. He scooped up his and Eduardo's menus and handed them to the waiter.

"Great, nice and easy. I don't think I'll need to write that down." The waiter said. He left again.

The three men sat in silence for a moment, sipping their Cheyttle. Ontus pulled out his phone. They didn't have to wait long before the huge plates of light-blue pasta with four large segmented shells on top of each arrived. The shells were popped open and looked a bit like black banana peels split into four. The meat of the clams was very strange looking, the blue sauce was upon the cooked creatures. The meat appeared stringy, as strands of it connected the inside of the shell a bit.

Psychus decided to see how Ontus approached his before he tried to eat the meat. He took a thin fork, made of the same white rhinoceros ivory, and twirled up some of the noodles. The blue

sauce was flecked with tiny orange specks of plant matter. He scooped up the bite and placed it into his mouth carefully, so as not to get sauce on his face.

The pasta was nutty, the sauce was sweet and tangy with the mild taste of Adobrasigian animals. The little flecks of orange leaves were texturally relevant to the dish, as they altered the way he chewed, slowing him down a bit. As he gnawed the leaf bits with the tips of his teeth, he felt a cooling effect. It was like spearmint, or betel.

Ontus scraped the fibers off the inside of the shells and mixed them into the pasta.

“Of course!” Thought Psychus. He scraped the strands of meat out and mixed them into the robins-egg-blue pasta. He took another bite, the flavor of the meat was actually quite strong and musky, it had an almost algal taste along with the taste of animal tissue. The sweet pasta and the chewy clams weren’t Psychus’ favorite dish he had had on Adobrasig, but he washed down each bite with a sip of Cheyttle, and shortly the men had finished their food completely. The carafe sat empty next to Eduardo’s empty cup.

The waiter arrived, Ontus’ phone began to ring almost at the same time, he left the table and stepped outside.

“Don’t worry, I’ve got this,” Eduardo said, reaching under the table momentarily. He pulled out his canister of sixty-sat coins. The waiter handed him a small booklet with the check in it. Eduardo peeked inside and laid down a sixty-sat coin for the 9.6 total.

He didn’t wait for the change and went to go catch up with Ontus, Psychus followed.

Out on the curb, the sun felt sweet on Psychus again, it seemed to kick in strongly after meals.

Ontus was apparently finished with the call as they came out the door as he put the phone away. “Sorry about that, I’ll catch you next time,” he said as he noticed them. “Anyway, the truck’s ready.”

“Great!” Said Eduardo. “Do you want me to drop you off somewhere? Before me and Psychus go back to your brother’s place, I mean.”

Ontus jumped at the opportunity, “Yeah, I live on Pots Steppe too.

“No problem, I’ll take us back to Joctur’s,” Eduardo said, his tempo was high from the Cheyttle.

They walked briskly across the short distance between Delightful Depths and the tomato processing facility. The truck sat

unlocked on the flat white surface, inside on the driver's seat was a large canister of sixty-sat coins. They hopped in and started rolling out of town. A few minutes out of town, Ontus floored the pedal. The truck got up to a more respectable speed without the tomatoes.

Eduardo folded the fabric of space into a hole, and they popped out at the end of the driveway to number nine.

Ontus slowed to a stop.

"Thanks, you guys saved me so much time it's absurd, Joctur should be paying you," Ontus said, revealing that he thought his brother wouldn't pay unless confronted.

"Well, he's letting us stay in the guest room," Psychus said.

Ontus laughed. "Ok, well as long as you know the deal... I guess I'll see you when the rhino hunt kicks off," he said.

Psychus and Eduardo climbed out of the cab of the truck.

"Thanks for the trip," Eduardo said as he closed the door behind him.

The fields were still empty, but they looked wet and tilled. Joctur had finished seeding them while they were away. They walked along the dirt track between the moist fields, the house could be seen from a distance now, as the plants had been removed. The heaps of sorted plant parts were nowhere to be seen, however.

Eduardo and Psychus enjoyed the short walk through the mid-day sun. They reached the house and Joctur came to greet them at the door. “Ontus called me, he said he’s home already. You guys are incredible!”

They walked back inside the house, Psychus was a little sweaty and very thirsty.

“Are all the people of Earth like you dudes?” Joctur asked.

“Depends, but not really,” Eduardo said after a moment.

“What makes you say that?” Joctur asked.

“I can explain, but can I please have some water first? my throat is rather dry.” Eduardo requested as they walked toward the kitchen. Eduardo and Psychus each collected a cup and filled it from the sink.

They sat down with Joctur in a little triangle at the end of the table nearer to the stove. Eduardo pounded his glass. Psychus drank most of his right away as well, the water was almost orgasmically delicious, it was the perfect temperature and Psychus had had nothing to drink all day but Cheyttle while working in the hot sun. He greedily swallowed the water until his esophagus hurt. He set the cup down and took a deep breath.

Eduardo was doing the same.

“How did the Earth fare?” Joctur asked suddenly. “I read the article about your buddy, Dr. Inochi... I always thought Earth had become almost uninhabitable after the partitioning.”

“Well...” Eduardo began, still breathing deeply.

Joctur stopped him, “Hold on, would you two like a bit stiffer drink? I think, I’m gonna need one for this.” he said as he stood up and fetched a large green-glass bottle, through the bottle the contents looked almost black. He grabbed himself a cup and returned to the table.

Psychus didn’t mind alcohol, and he didn’t want to be ungracious, so he finished his water and put his cup out, “Yes please.”

“Sure, what is it?” Eduardo asked.

“Just some wine, but it's a four persect, so don’t say I didn’t warn you,” Joctur said.

Psychus thought about it for a moment, four-sixtieths wasn’t all that high. “Thank you for the warning,” Psychus said as Joctur filled his cup half-way.

Joctur filled Eduardo’s cup and his own. “Ok, I’m ready. Start at the beginning. What happened to the Earth in 2170?”

Eduardo looked suspiciously at the dark blue liquid in his cup, he gave it a sniff as he started to speak; “Many things beyond my knowledge, I assure you. The cultural effect of The Seed launching

was undeniable, revolutions began that year. One such revolution was a small personal gesture." he began.

Joctur sipped his drink. He seemed to be strapping in.

Eduardo took a slight sip of his drink and continued. Psychus followed suit as he began to speak. "In 2170, Gole was nine years old. That's nine Earth years, or thirty Adobrasigian weeks."

Psychus immediately began to feel something. The plum wine had tasted exactly like the juice of the plums, he couldn't detect the alcohol, and yet he felt it.

Eduardo seemed to be feeling it too, he started to slow down a little. "Let me back up a bit," he said.

"By all means," Joctur said as he sipped his drink again. Eduardo and Psychus each sipped as well. Psychus felt pretty tipsy within a few seconds of sipping the wine.

"Gole was the last of a tontine, the sole survivor of a family fortune, an entire Bitcoin. His grandfather, who had been his guardian, as well as an unwilling obstacle in a legally binding last will and testament, died that year. Gole's great-great-great-great-grandma had purchased the bitcoin at a very reasonable price, less than a handful of meals. She considered it a novelty but understood the binary bet. In the year she purchased the bitcoin, she personally set up a time-lock-hash-verify-multisignature-wallet and buried her treasure in bureaucracy. She organized a

trust, in the event that only one surviving member of her, or her sibling's descendants laid claim to the bitcoin, the address would be unlocked.”

“How oddly specific,” Joctur said he was almost done with his glass of wine.

Psychus was in a bit of a stupor as he listened to Eduardo. He knew the story of Gole but was enjoying it nonetheless. He sipped his drink. The effect washed through him and he felt a bit dizzy. He set the mostly untouched drink down on the table.

“Too specific perhaps, it did happen however,” Eduardo responded.

“Continue please,” Joctur said.

“Sure,” Eduardo said, sipping his drink before beginning, speaking a bit slower again than before. “When Gole got the money, he was a kid, but his first move was to lock the money back up.”

“You’re kidding me!” Joctur said.

“It's true, he set the money up on a timed release. He hired an accountant to estimate his cost of living at a minimal level. It was an income equivalent to being a scrap-picker. Every day at midnight he would receive money for the rest of the day, a paltry amount. He lived on the meager means.” Eduardo said.

“But why?” Joctur asked.

“I’ll get to that,” Eduardo said, tilting the glass slightly as he gestured.

“Sorry, go on my friend!” Joctur said loudly.

Psychus was really drunk, the few tiny sips of the plum wine had him trashed. He continued to listen, however, afraid that if he opened his mouth he would drool.

“Not only did Gole live on a very low income, all the money he had left at the end of the day he donated to charities dedicated to the preservation of wildlife. Of course, at this point, the slums had spread into the arable land, and the ocean was collapsing. His actions were not a masochistic act of self-flagellation. At the age of ten, Gole strapped a pot to his back and began to walk. He planted the seed of a locust tree in the pot. As he walked he would spread the word.”

“And what word was that?” Joctur asked, leaning in.

“Preserve,” Eduardo said, sipping his drink again. “He walked from Kenya to Egypt in the first year, the seed grew quickly and became a sapling, he transplanted it as he needed to, to keep the roots healthy, and watered it. He took it off only to sleep. He carried the tree through the northern coast of Africa. By the time he had passed the Gibraltar bridge, he had a much taller tree, and followers. Men and women who rejected the life of a consumer, dedicating their existence to the preservation of the life on Earth.

If not species, gametes frozen, if not frozen gametes, DNA isolate, if not DNA isolate, then DNA sequences to reference in the future. Gole grew along with the tree. As he carried it, his back began to bow, his legs and chest and back became very strong as he lugged the small tree around. He stopped being able to enter buildings. He consumed only the minimum amount of food to continue walking. He had worn out his shoes after the years of trekking, and he never got new ones.”

“Wow,” Joctur said quietly, he was enraptured.

Eduardo plowed on in his slow speech; “By the time he reached the port in Norway he visited to board a boat to Canada, the tree was over sixty and forty kilos, the pot and soil, another sixty and forty. He carried four-sixties kilos through his twenties in Europe, and six-sixties kilos through Canada. Eight-sixties through the rest of North America. His following grew, people joined, and split off, carrying their own trees, they collected their own following, the movement grew quickly. Seeing the ship leave the Earth got people mad and hopeful enough to finally stand up. Revolutions combined, political strife became a fight for the preservation of Earth’s most precious treasure.”

“What about the currency war?” Joctur asked. “Who won, the Sinosphere or the Anglosphere?”

Eduardo blinked at him. “The people,” he said.

Joctur smiled hopefully. "What happened to Gole?" he asked.

Eduardo waited a moment, as if to stifle his own reaction to the story. "Gole lived to a great age. When he finally collapsed under the weight of the tree, it took root. The nascent People's-Government declared his resting-place a religious monument, and established protection for the tree as it grew from where it stood. The species he had chosen was vigorous, it spread like wildfire as an invasive species. Gole's grove, as it has come to be known, is the largest stand of trees on Earth still standing today."

Joctur wiped his eyes.

"So the Earth turned around?" Joctur asked.

"Not all at once, but things started getting better... A man can count." Eduardo said. He started laughing hysterically out of nowhere. His perfect teeth chattered like a skeleton.

"What is this, this is not four-sixtieths alcohol." he said finally pointing to the wine.

"No, it is. four-sixtieths alcohol." Joctur said.

Eduardo began to disagree, but Psychus spoke up. "What's the molecule you call 'alcohol'?" he asked.

"Hold on, it's been a minute since O-chem," Joctur said, pulling out his phone. He pulled up the chemical structure of the molecule.

“Oh,” Eduardo said as he saw the molecular structure. He laid his head down on his arm and rolled it back and forth.

“That's not what we drink on Earth,” Psychus said looking at the three-carboned molecular structure of n-Propyl alcohol. “We... aww screw it,” Psychus said. He laid his head down too.

Joctur took their cups away now that they seemed to have passed out, and poured out what remained of their drinks. He crept out of the kitchen and turned out the lights.

Chapter ϕ

“They never did catch that rhino!”

- Auntie sponge, James and the Giant peach.

Psychus awoke face down in a small puddle of drool on the table. Instantly he felt the heartburn that threatened to sear through his chest. Secondly, he felt embarrassed. He had over-consumed and passed out in the middle of the host’s kitchen.

Psychus picked up his head and wiped up his puddle of drool with a wet cloth. He put the cloth in a small hand-towel bin and went to wake up Eduardo.

He put his hand on Eduardo’s back. He didn’t move.

“Eduardo?” Psychus said tentatively.

Eduardo let out a low groan.

Psychus’ radio chip played a sound like a pair of similar screams overlapping a signal tone directly into his mind. He scrolled away from the channel quickly as Eduardo woke up.

“Oh,” Eduardo said as he lifted his head. He didn’t say anything for a long moment as he blinked and looked around. He

looked out the window, the sun was beginning to set. "Is this today, or tomorrow?" he asked finally.

"I don't know yet, but it's probably today, there's no way they left us in the kitchen for sixty hours," Psychus said.

Eduardo wiped his mouth on the back of his wrist. "I need a shower," he said.

Psychus felt as if he could use one as well. They left the kitchen groggily.

Benno and Jactus darted out of the hallway and into the back of the house toward the living room.

"I want to bathe while we are here, but I'm thinking I'm not ready to use their shower," Eduardo said. He opened a hole in the entryway back to C-227. The men stepped through.

They each took a bathroom, showering and refreshing themselves. They drank a lot of the water, it felt nice in their burning esophagi.

The men met back in the main room of C-227. Two low clicking noises came from the little tank on the platform. Psychus looked in to see that there were now two of the snails in the tank.

"When did you get another?" Asked Psychus.

"Last night, when we got all those snails with Joctur and Jarby," Eduardo said, holding his pained head, the towel was tight around his waist.

“How did you pick which one to put back here?” Psychus asked.

“I took the first one I found,” Eduardo answered.

Eduardo opened a hole to the guest room back in Number nine. Psychus stepped through and changed his clothes, as Eduardo dressed himself in the master bedroom. Shortly, Eduardo joined Psychus back in the room with the bunk bed.

They were a little more rested, having passed out, and they were now clean, dry, and wearing fresh early evening clothing.

“You know, I didn’t mind the wine,” Eduardo said.

Psychus laughed, “Me neither.”

They left the guest room and returned to the entryway. The light in the kitchen was back on. The men went in to see Jarby collecting the leftover boiled eggs from breakfast on a small plate.

“Hey Jarby,” Psychus said.

“Hey Psychus, Neptulak is looking for you, the twins told everyone you woke up.”

“Oh, thank you,” Psychus said.

“Is anyone looking for me?” Eduardo asked.

“No,” Jarby replied as he started to eat the cold soft eggs.

“Good.” Said Eduardo. He pulled out his phone and started reading a message from Dr. Inochi that he had missed. He began writing a response but stopped. “Hey Jarby, can you teach me to

use the Cheyttle maker?" he requested as he set down the partially written message.

"Yeah, it's easy," Jarby said, setting down his spoon. He began to walk Eduardo through the process. Psychus left the room. He ran into Neptulak in the entryway.

"Oh, there you are Psychus," she said, happy to see him.

"Jarby told me you were looking for me." Replied Psychus.

"Well I was just wondering what sound the 'Gee' Makes... " she said, pulling out the alphabet Psychus had made for her from her pocket.

"Would you like to go back to the porch and continue where we left off?" Asked Psychus, the nice warm dusk sounded like a pleasant place to be right now.

"Absolutely! " she said excitedly. "Also, can I get your contact, so I can call you and stuff. " she requested.

"Yeah, sure," Psychus replied.

They swapped details as they headed back to the round glass table now sitting in the sunset, and overlooking empty fields of plowed soil.

At the table, the paper was held down by the cup of pencils, Psychus and Neptulak sat down.

"Alright," Psychus said. "So, 'G', it typically says 'g-' but sometimes says 'j-'"

Neptulak nodded. "I see, and this one is a... consonant too?" she asked.

"Yes, there are only a few vowels. Almost all of the letters are consonants." Psychus answered.

Eduardo came out the back door with a Cheyttle-laden tray. He set the tray down on the table as Psychus and Neptulak greeted him.

"Cheyttle," Eduardo said, looking at them.

"Thank you so much!" Neptulak said. She poured herself some Cheyttle in one of the cups on the tray.

Psychus did the same, the Cheyttle seemed to relieve the lingering feeling he had from the wine. He felt focused again.

Eduardo sipped his Cheyttle, he stood looking out over the field at the top of the steps for a while. The sun was low in the sky, but the light felt nice, albeit not as strong as earlier in the day.

Psychus continued to walk Neptulak through the alphabet as Eduardo stood watching the sky. The sun had reached the horizon when they finished up 'Z'.

Eduardo poured himself more Cheyttle when he finished his cup.

As they finished the alphabet, they ran through a quick review of what Neptulak had learned today.

“I think this is a good start,” Psychus said. He felt accomplished in having been a teacher for the day.

“Can I have a few practice words?” Neptulak asked.

Psychus thought for a moment, he wanted to give her more than a few words to practice. After all, as he had told her many times, practice was the best way to learn. “Hmm, yes,” Psychus said.

“I could grab you a physical copy of my favorite book,” Eduardo interjected. “The content is at a reasonable level,” he added. “I’ll get one of those copies in all capital letters even, that should help.”

“That would be amazing!” Neptulak said, almost cheering.

Eduardo opened a hole just off the stairs and leapt through leaving only empty space where he had been.

Joctur came out onto the deck a few seconds after the hole closed. “Psychus, have you seen Eduardo? I need to speak to both of you as soon as possible,” he said, sounding anxious.

“Oh, he just went back to Earth to get something, I’m sure he will be right back here in a minute or two,” Psychus replied.

Joctur nodded and began to pace in a small line on the deck.

“Dad, is it the rhino?” Neptulak asked concernedly.

“Yeah, it's turned toward the steppe, the hunt needs to be tomorrow morning,” he said, running his hands through his hair, seemingly without realizing it.

Eduardo opened a hole back to the porch after a while. He stepped out behind Joctur.

When Joctur turned around he almost jumped. “Eduardo! Great! I needed to talk to you guys.”

Eduardo handed Neptulak a small brown paper package.

She began to unwrap it. “Ooh, thank you Eduardo! ” she said as her bright eyes sparkled with joy. She was already digging her fingers through the paper and opening the package.

“Ok, sure what's up?” Eduardo asked, turning to Joctur.

Neptulak pulled out a small paperback book. “Sstareay... strayn... ” she began to read the title.

“You got it, keep going!” Psychus encouraged.

“The thing is, the rhino has turned, it’s headed for the steppe. We need to intercept it. I’ve been on the phone for a while, Ontus helped me organize a hunting party, but we need more men...” Joctur said to Eduardo as Psychus listened as well.

“Stranger in a Strange Land” Neptulak finally managed.

“You did it! You’re gonna be done with the whole thing in no time.” Psychus said. It felt amazing to see her reading the text now.

Neptulak smiled and hugged the book.

“Ok,” Eduardo said nodding.

Psychus spoke up, “If you need us, we’re there.”

Eduardo looked at him and nodded again. “Yes, when though?” he asked Joctur.

“Tomorrow morning. First thing we’ll head out to the edge of the steppe and try to bring it down before it gets too near.” Joctur said, he still looked anxious, but a bit less now that he knew he would have four more hands on deck.

Neptulak cautiously opened the book, taking care. She looked over the inside page and looked so happy. Suddenly she frowned, she put her hand on Psychus’ shoulder. “Psychus, what is this letter? I thought you told me all of them.”

Psychus looked over, she was pointing at an ‘&’ in the inner cover. He started to laugh, but cut himself short not wanting to make Neptulak feel bad. “That’s not a letter, it used to be, thousands of years ago. Now though, it's just an abbreviation for the word ‘and’. It's called an ‘ampersand’” he explained.

“Oh, thanks!” Neptulak said, smiling again.

“No worries, let me know if you run into any other symbols you don’t recognize,” Psychus said.

Neptulak continued to attempt to read the inside cover.

“If you want to start where the story begins, it's a few more pages,” Psychus said.

Neptulak turned the page to the opening of the book and started trying to read the actual story.

The sun was still setting, the extremely extended sunsets and sunrises of Adobrasig didn't seem special to Neptulak or the others, but Psychus happily watched the orange light play in the sky as he felt the gentle sweetness in his skin from the low light, sitting here next to Neptulak.

Neptulak struggled through the first page, occasionally asking Psychus for help with words like ‘maculate’ and ‘Michael’ where the sound the ‘C’ made wasn't clear.

As the sun dropped in the front of the house, the light from the back porch became dim. Neptulak turned on a porch light and continued to read. Psychus had finished his Cheyttle.

After a while, Lojo came to the back door. He was eating what looked like a sandwich. “Guys, dad's making nochtmeal,” he said.

“Thanks,” Neptulak said. She brought the book with her as she and Psychus entered the house. The smell in the house was sweet and bready, they followed Lojo back to the dining room.

The whole family was eating sandwiches. Joctur stood at the stove cooking the thick sandwiches on a griddle. Jannus was

almost done with a sandwich, she sat among the children as they ate their food.

“Eat up guys, you’re gonna need the energy come morning,” Joctur said slapping a sandwich onto a plate with a thin metal spatula. Eduardo took the first one. He took another off the griddle and plopped it onto a plate for Psychus.

He took a bite as he walked to the table. The deep-red bread was spicy like the ketchup, it was soft and moist with a thin crispy crust. The contents of the sandwich were alternatively crunchy, stringy, and creamy. There was a thick creamy layer of warm tangy green sauce on the inside of the bread that reminded Psychus of mayonnaise. There was a thin layer of creamy meat, he guessed that it was oobal. Beyond what must be oobal was another layer with an animal taste to it. The thick slice of meaty sandwich-topping was robust, it was stringy and chewy, it had a salty sort of squish to the strands of it as he chewed. The bottom layer of the inside of the sandwich chewed like the ragbow seeds he had had with the eggs that morning, they seemed to be diced or crushed to smaller pieces.

He liked it a lot. “Thanks, Joctur, this is delicious,” he said.

“Thanks, that's the last of our share from the last hunt, I thought it would be fitting,” Joctur replied.

Psychus hadn't realized he was eating rhinoceros meat. It didn't bother him like hearing about the bones did, he realized as Joctur spoke that the plate was bone as well. He sat down at the table.

Eduardo had already eaten most of his sandwich.

Joctur looked over. "There's more coming, who wants one?" he called.

A few of the older children, and Eduardo let him know that they would like seconds. Joctur continued assembling and cooking the sandwiches for a while until everyone was full.

Neptulak was reading while she ate. It made Psychus glad to see she was really taking to it.

After nochtmeal, the family scrambled.

The young kids went off with Jannus to hear a bedtime story.

The sky darkened out the window as night fell. Psychus reflected for a moment on how difficult it would have been to stay awake for an entire day. "What time is it?" he asked.

"It's about forty-nine," Joctur told him, sitting at his place with a few saucy crumbs of the tomato bread remaining on his plate.

Psychus did the quick math, remembering that he had gotten up at thirteen. Thirty-seven Adobrisigian hours had passed since he woke up this morning, which was twenty-seven Earth hours.

Without the alcohol-induced nap, he doubted that he would still be awake, even now he was getting tired.

“I think I’m going to go to bed,” Psychus said, standing up and clearing his place.

Eduardo followed him.

Back in the guest room, Psychus stretched out on the top bunk. Eduardo crashed on the one below. In the dark room, with full stomachs, and with the quiet noises of the house, they fell asleep.

Chapter

“It’s not the bullet that kills you, it’s the hole.”

- Vito Acconci.

Joctur woke Eduardo and Psychus up by knocking on the door of the guest room. They awoke and got dressed quickly before coming down the stairs.

“Greetings,” Joctur said. “Ontus will pick us up in a few minutes.”

“Do we have time for Cheyttle?” Eduardo asked.

“Yes, that's a good idea,” Joctur said.

They entered the kitchen and drank Cheyttle. Shortly Joctur’s phone buzzed. He put down his emptied cup and checked it.

“Ontus is at the road, we gotta go,” he said. He started for the front door.

“Hold on,” Eduardo said, he quickly finished his Cheyttle and opened a hole to the road.

Joctur had stopped, “Of course, the holes.” he said.

They stepped through.

Out at the road, the light from the cab of the truck and its outer lights was enough for the men to easily spot it in the dark. Ontus honked.

At first, Psychus didn't notice the crew of men sitting on the big flat bed of the truck. Once he did, he realized that around twenty men were holding onto the rim of the truck as it idled waiting for Joctur and his guests.

“Hey guys!” Joctur called.

The hole closed, nobody noticed it.

“Hey Joctur!” A few of the helmeted men called.

Joctur hopped up into the truck, Eduardo and Psychus followed, it no longer felt as difficult to move in the gravity of Adobrasig.

Up on the bed of the truck, Eduardo and Psychus took a seat in the group of men. Joctur walked past a few large crates and tapped the cab. Joctur kicked the hinged lid off of one of the crates and got out a few thick full-coverage noise-reducing helmets.

Ontus pulled away from the lights of the house in the distance and began to drive in the direction of Touchdown.

Once Joctur had given Psychus and Eduardo helmets they sat in silence with the men, they all seemed tense, as if they were going to war.

The ride was long, by the time they came to a rolling stop the sun was rising. Ontus hopped out of the driver's seat. "Grab the crates, start setting up the perimeter," he yelled. Psychus saw him pull out what looked like Cheyttle powder wrapped in a thin cloth. Ontus snorted a large amount of the powder.

The men hopped off the truck, and in pairs they carted the crates a short distance from the truck in the morning light.

A short distance from the truck, Psychus could see a sudden drop in terrain. Psychus and Eduardo helped the quiet men set up their camp.

The group came close to the edge of the land with their crates, they placed them a few steps back from the cliff. Down the cliff, about fifteen meters the ground continued. The cliff and the ground were covered in low-growing ground-covering orange plants.

Joctur approached Psychus and Eduardo as the setup continued. "Have you fired a rifle before?" he asked.

Eduardo and Psychus shook their heads.

"Ok, well I guess I've got to give you a quick lesson, according to reports the rhino will be passing by this drop-off soon," Joctur said, looking out to the empty horizon. He got an enormous long gun from one of the crates in parts. He assembled it in a flash as Eduardo and Psychus watched closely.

Joctur gave a breakdown of how to fire, reload, and quick gun safety. He handed the first gun to Psychus. He began to pull the parts of a second gun out, all around them the men were on their bellies, with the extended scopes of their rifles trained on the horizon.

“Rhino!” Yelled one of the men. He fired his rifle at the horizon, Psychus couldn’t see what he was shooting at without the scope. Psychus laid down and lined up the scope toward the horizon, scanning slowly using the jointed rotational stand which folded off the gun.

He scanned slowly, the men around him began to fire, Joctur ran by and laid down with his rifle. The guns were incredibly loud, each bullet caused a sonic boom as it was let fly. Suddenly Psychus spotted it. As he lined up his view with what the men were shooting he saw the rhinoceros for the first time.

Even at a distance, it was too big. Its size was correctly reported. The massive white beast had six absurdly-thick legs, they didn’t appear to have joints. It was turning, the bullets left almost imperceptible holes where they struck. The head of the creature, where the bullets were landing, was much bigger than the truck they had ridden in on. It had a long pointed head like a wedge.

Psychus couldn't make out the eyes from here. Through the scope, the head appeared to have a beard of short Holbehn hair.

In the distance it looked like it was turning slowly. Psychus took aim, he lined up the six-lined crosshair with the head of the rhino.

He pulled the trigger. The scope had been designed not to smash his eye from the recoil, but the feeling of the eyepiece pressing into his face and the gun sliding back, even against his grip revealed the power of the rifle to Psychus. His shot had missed, he saw it fly low. He thought while reloading, looking down at the gun. All the men were aiming high.

He looked through the scope again, the rhinoceros was now lined up head first with the cliff, it was massive even from this angle of reduced view. Psychus tilted the scope, he adjusted it so that the crosshairs were on the head, but the thick muzzle of the ultra-high-powered rifle was pointed over its head.

He was ready for the recoil this time, he didn't flinch as he took the shot. He saw it land through the scope this time, among the many other shots peppering the enormous animal.

It shook its head, it looked slow, but at that size it was fast. "It's charging!" One of the men yelled over the enormous blasts. Psychus' ears were ringing.

He loaded the gun again, the twenty-five cubic-centimeter bullets appeared to be lead, but the small warning label on the large accelerant portion of the bullets read 'octanitrocubane'. He looked out to the horizon, the rhino had just come into view as an indistinct point. He looked through the scope. The rhino had started running, its enormous legs slammed craters into the ground and kicked up clods of dirt and dust and plants the size of boulders. As it ran, a cloud of dust was forming and swirling around it. The way the air was behaving, it was already going fast.

Psychus lined up another shot, taking into account the fact that it was closer and coming closer still. He fired. The bullet reached it a bit faster than last time. He could see the crater form on the head now through the scope. The holbehn beard appeared to sway and move on its own as the bullets landed.

“Aim for the eyes!” Screamed Joctur.

He loaded another shot and looked through the scope, the rhinoceros had eyes after all. A long line of eyes ran along the edge of its wedge-shaped head. He aimed for an eye, his adrenaline was rushing. He landed the shot, he saw the enormous eye burst through the scope as it pushed into his own.

The rhinoceros was large on the horizon now too, perhaps only a handful of kilometers away, it appeared to be gaining speed. Psychus loaded his gun, it was hot.

The rhinoceros withstood every shot without reacting. Psychus began to hear something, it sounded like a low roar between shots. The six thundering feet were moving even faster.

He lined up his next shot, and aimed for another eye, many of them were burst. The head was covered in what must be massive craters.

“We gotta back up!” One of the men yelled.

“It’ll get to the steppe!” Another yelled back.

Psychus popped another of the many eyes, there were still a lot.

The rhinoceros was traveling at incredible speed now, its massive body had reached a momentum that even if it stopped, it would hit the cliff. Some of the men abandoned their guns and began to run. The rhino was huge without the scope now, its thundering roaring body was coming.

Psychus took another shot. He scrolled through the radio channels in his chip as he loaded the gun as fast as he could.

“Can you do something? Make it trip, turn it around, anything?” Psychus asked Eduardo through the chip.

Suddenly the rhino disappeared from view. Its entire body was obstructed by a gigantic hole. The hole looked out on the same dim blue light as the sky behind it, it was completely invisible to the men.

“Where is it?” A man yelled.

The bullets stopped flying for a moment.

Suddenly there was a crash that blew Psychus into the air.

When Psychus finally got up and looked over the cliff, he was just in time to see an enormous hole high in the air closing.

The men were all staggering around, the adrenaline and shock hadn't faded yet. The men who had run away came back to look as well.

In front of the men, a short distance from the cliff, the crumpled body of the enormous animal lay dead. Its holbehn beard still swaying as if in a breeze.

Slowly the men began to cheer. One of the men who had run away hugged another who had stayed and they both started to cry silently.

“Thank you,” Psychus said through the chip.

“No problem,” Eduardo replied.

Eduardo came to talk to Psychus in person. “That was intense,” he said first.

“Yes, it really was,” Psychus said, his hands had been steady during the shooting, but now he was trembling.

Joctur approached the two men, Ontus was on his phone but walked along side him. “... Yeah, I'm telling you, it's dead. No,

I'm not going to check, just send the gear and some trucks." Ontus said before hanging up.

"You saved us," Joctur said to Eduardo, looking him in the eye. "You were great too Psychus," he added, as if embarrassed to only praise Eduardo.

"It's really nothing," Eduardo said.

"Can you take us home?" Joctur asked.

"Of course," Eduardo said.

"One sec," Joctur said. "Hey Ontus, make sure to get my share too, I'm going home," he said to his twin.

Joctur, Psychus, and Eduardo walked off behind the truck and took a hole back to the front yard of the plantation home.

Joctur sighed a sigh of relief as they walked up the steps. "I hope it's a long time before there's another one that big," he said.

They opened the front door. In the entryway, Jannus was calming the young children as they waited around for Joctur to return. Wayn was throwing a full-blown tantrum on the floor. Upon seeing Joctur the children ran to him. "Daddy!" they yelled, piling onto him with hugs. Joctur hugged them each back.

Psychus and Eduardo walked by the heartwarming display of affection to the kitchen, they were hungry. They passed Neptulak as she walked out to see Joctur, she was holding her copy of *Stranger in a Strange Land*.

“Maybe we should go outside, actually.” Psychus suggested, the family seemed to be busy with their reunion.

Eduardo nodded and opened a hole to the space under the plum tree. They hopped through and he closed it. He got down a few plums for Psychus and himself with a hole to the higher branches.

Eduardo slumped against the trunk of the tree and began to eat. Psychus took care not to sit on one of the plums on the ground as he sat down next to him against the thick base of the tree.

Eduardo opened a hole and pulled out a joint and a lighter from his room back in C-227. He sparked it up and took a pull. He handed it to Psychus who hit it too.

Psychus became more relaxed, the cannabis helped him destress from the encounter he just had.

Around them, as they ate the plums, the plums on the ground already had white bugs and gray bugs crawling on them. Psychus watched the little bugs walk around. A white bug came into physical contact with a gray bug, they touched their single antenna together for a moment. They began to fight, they rolled off the plum as they skirmished. They skittered across the ground for a short distance before they disengaged and each limped slowly away.

“Why do you think these bugs are fighting?” Psychus asked casually as he bit into the plum, handing the joint back to Eduardo.

Eduardo poked at a fighting pair of bugs, his long finger probing their domain for just enough time to knock them apart, once separated, they both began to eat the smooshed plum they were standing on. “I’m not sure,” he said. He took a few large hits before passing it back to Psychus.

They watched and poked the fighting bugs for a little while before either of them spoke.

“I don’t get it, there are plenty of plums, there’s no way they can eat all these,” Psychus said looking around the plum-laden ground.

“They look very similar too, I can barely tell them apart,” Eduardo said. His eyes were red.

They finished their plums in silence after that.

Shortly someone called out from the front door. They were missed back in the house.

Eduardo put the joint out and put it back in his room through another hole. They stood up and brushed themselves off.

Eduardo opened a hole to the front door and they entered. The family were all in the entryway, as soon as the two men came inside they all cheered. Jannus hugged Eduardo, Joctur was cradling Granta.

“You’re all too kind,” Psychus said modestly.

“Please don’t make me do that again.” Eduardo said jokingly.

Once everyone had thanked the men, Jannus spoke up
“Alright, breakfast time. " she said.

The family moved off to the kitchen, Eduardo and Psychus slunk off back to the tree.

They sat back down and Eduardo got a few more of the plums from the inexhaustible tree. The bugs were still fighting, their bodies littered the ground now, scattered among the plums.

Eduardo retrieved and lit the joint, he took a strong pull to light it and handed it to Psychus.

“Thanks,” Psychus said. He was looking at the little bugs. They looked a lot like the bees he had seen when they turned the hives, but they were smaller and didn’t have wings, their four little legs ended in flat white discs which were angled like shovels.

Psychus hit the joint, bit the plum, watched the bugs, handed the joint to Eduardo, swallowed, and exhaled the smoke. He laughed a bit when a bug slipped off a plum and bounced away, he placed his hand out and let it walk on to him. As it walked across his hand, seemingly oblivious to the situation, he moved his hand to the plum. The little bug walked off and started eating. “I wonder what it's like to have someone transport you incredible distances in

a way that you may never understand,” Psychus said, nudging Eduardo who had watched him move the bug.

They both started to laugh.

“Wait, I’ve got a crazy idea!” Psychus said suddenly.

“Wouldn’t it be incredible to stop these bugs from fighting?”

“Sure, it's really bugging me,” Eduardo said. They laughed a bit more before continuing.

“Ok, ok, so what you should do... is put on your goggles and separate all the bugs onto their own pieces of plum,” Psychus said, pausing to hit the joint.

Eduardo laughed. “Ok,” he said. He pulled out his goggles and strapped them on. Holes started opening and closing all around them. Low-lying little holes which Eduardo looked throughout onto the plummy ground.

Eduardo opened holes in ways so that the fighting insectoids would tumble into them, as they fell through and bounced off the ground, he caught each one in a hole. The little bugs popped up out of the other ends of the holes, landing on the plums.

Eduardo sorted the fighting bugs out in no time. Soon enough the bugs were just eating.

“Nice,” Psychus said.

Eduardo took his goggles off with a pop.

“This is so much nicer!” Eduardo said looking around at the bugs peacefully eating.

“Yes, I’ve had enough strife for today,” Psychus said.

They sat and smoked the joint down to the roach. Eduardo put the scorched paper into his pocket. For a while, everything was peaceful, they sat in the shade of the tree and watched the sky in the distance.

The day grew brighter ever so slowly here.

They spent a long time just sitting under the tree, enjoying being high in each other's company.

Eventually, Eduardo’s phone buzzed. It was a message from Dr. Inochi.

Chapter †

“Life, uh, finds a way.”

- Dr. Ian Malcom, Jurassic Park.

Upon reaching the admissions office Dr. Inochi thanked Chidyik for escorting her. She went inside and was greeted by a male secretary.

“Hello ma'am, how can I help you?" he asked.

“Yes, Hello. Please I would like to speak to the head of every department and the dean.”

“Oh, my goodness!” The man said.

“I believe that it will be worth their time. I’m visiting from Earth. Using a newly discovered and poorly understood way of travel I was able to come here instantaneously. My goal is to impart the technological advancements that have taken place since the partitioning.”

The man sat shocked for a minute before responding. “That’s incredible, but I don’t just have a button to call everyone in, you’ll need to give me a minute to get a phone tree going.”

Dr. Inochi nodded and waited patiently as the man made several short calls.

“Ok, so some of the heads are teaching classes right now, or at lunch, but they should be trickling back to their offices in just a little while, it's almost thirty-two.” The man said, hanging up from the last call.

“Great! do you know if there is an auditorium or some other large presentation venue that is currently available?” Dr. Inochi asked.

“Yes, I’ve taken care of it, someone will be by shortly to escort you to the guest-speaking classroom.” The man replied smiling. “I always thought Earth flooded, turned into an ocean hot-house planet after The Seed left,” he remarked.

“Oh no, there are still trillions of people living on Earth.” Dr. Inochi replied.

The man looked shocked, he didn’t stop smiling but his eyebrows went up and he stopped talking.

A middle-aged woman in a lab coat entered the building, “Hello, I’m Blous Fluchtmann, I’m the head of the microbiology department. Please forgive the coat, I had to be the one to escort you. ” she said.

“Hello, Dr. Fluchtmann. I’m Susan Inochi, I’m a xenobiologist, lead the way.” Dr. Inochi replied.

She followed the woman out of the building.

“Xenobiology eh? So the Earth is scouting out other planets then?” Dr. Fluchtmann asked.

“Yes, the Earth is doing pretty well. Just wait until you see some of the technology I’ve brought.” Dr. Inochi answered.

“This is very exciting, all four of the other people who visited Adobrasig left Earth so long ago that the technology in their ship’s databases wasn’t novel.” Dr. Fluchtmann said.

“I see.” Dr. Inochi acknowledged.

They walked a short distance across the circular campus to a four-storied white building. They went inside. A few men and women were waiting for them already inside. As a group they walked down the hall, all of them following Dr. Fluchtmann and Dr. Inochi into the guest speaking room.

Once the people were inside Dr. Inochi set her backpack down and took a seat at the front of the room next to a presentation-sized holotelevision.

She waited patiently for the other department heads and the dean to arrive. They flowed into the room over a few minutes, all of the chairs in the room were taken quite quickly and many people had to stand at the back. A news crew arrived as well, they stood in the doorway and began to film.

“Hello, I’m visiting in the spirit of the free interchange of ideas.” Dr. Inochi began as the flow came to an end. “To demonstrate the technological advancements humanity has achieved on Earth in the time since The Seed left, I have brought several fully-loaded high-capacity memory storage devices with the schematics, blueprints, underlying formulas, and theorems. ” she continued. She reached into her backpack and pulled out a drive labeled ‘Big Ones’.

She connected it to the holotelevision by contact. The holotelevision turned on and began to display a large file-tree.

She entered the folder labeled ‘Reactor Chips’ and pulled up a schematic file for a typical fusion reactor on a chip. People who recognized some of the parts were taking notes feverishly around the room.

The schematic showed an exploded view of the components, and then showed a step-wise assembly as it would be performed.

“The documents are not in hackety znak, I will need people who are willing to translate the documents.” Dr. Inochi said as she navigated back to the file tree. She pulled up a file called ‘In-situ Organ Printer’.

The projector showed an exploded view again.

“This particular technological marvel has allowed the people of Earth to live for as long as they like. I myself, am three-

hundred-and-seventy-one Earth years old.” Dr. Inochi explained as the assembly began to play. It took a while to finish.

Dr. Inochi then pulled up a file labeled ‘Schumannization’ which contained the series of wavelengths, frequencies, and other variables required to convert a specific cocktail of organic compounds into living tissue in a sealed container. “This process, discovered in the 2200’s was used to resurrect many extinct ocean animals so that they could be farmed for food,” she said to the large crowd.

The news crew continued to film for the duration of the presentation. Dr. Inochi gave a small glimpse into many fields, each of the department heads were given a reason to chomp at the bit to work with her.

After she had finished, she offered a time for questions. The questions flowed in from the wrinkly eggheads. Dr. Inochi answered them all until the room fell silent.

The dean met with her after the presentation and offered her access to anything the college could provide. She requested a room to sleep in and enrollment in all of the highest level courses in the life sciences. This was easily granted.

Dr. Inochi spent part of the day with a team of computer scientists who carefully duplicated the drives and spread the

copies around to other universities on Adobrasig. They also loaded the hackety znak textpack onto her phone.

She spent another part in the small linguistics department helping set up a translation bucket brigade.

She had nochtmeal at the college's dining hall.

She continued to shore up small aspects of the process until she was too exhausted. She went to her room. While crossing the dark campus she sent a text to Eduardo.

“Thanks again for bringing me here, I'm doing well. Say hello to Psychus for me.”

She reached her room and crashed onto the bed. She fell asleep in less than a minute.

The next day she arose from her slumber with determination. First, she returned to the linguistics department to check on the translation, they had been able to rope a large number of other colleges' linguistics departments into the task while she was away.

She ate a quick breakfast and went to her first class of the day; plant physiology.

The lecture was only two Adobrasigian hours long but Dr. Inochi learned a lot. She learned that the seeds of the flowering plants were tetrahedral, this was ostensibly an evolutionary adaptation. Given a situation where the tetrahedral seed sat face down on the ground, the shoot would grow from the point facing

up, and the three other points would grow roots. It didn't matter which point it was. She also learned that the plants used beta-carotene as their photon receptor in the first step of their three-step photosynthesis. She learned that the fruits of Adobrasigian plants were adapted to have their seeds swallowed by a class of flying creatures called oobals which spread the undigested seed-bearing structures. She also learned that many crop species had undergone significant selective bias by farmers that altered them from their natural form.

Dr. Inochi took the time before her next class to respond to a text Eduardo had sent her.

The incoming message read: "Hey, me and Psychus really like it here! Feel free to stay as long as you need to, you can let me know if you want to go home at any time though."

Dr. Inochi responded with: "That's good to hear, I like it here too. I'm thinking about an Adobrasig week will be enough to see this through."

She went on to her next class; environmental science. She learned that the cresseks are the most important part of the Adobrasigian water cycle, the vapor from their deep waters kept the plateaus alive and orange. She learned that the ancestral lifeforms and many living fossils still lived at the bottom of the cresseks. She learned that Adobrasig was home to a hexapedal

omnivorous phylum of animals known as the Orthoplacomorpha. The most noteworthy example being a creature which the people of Adobrasig referred to as 'rhinoceroses'. She learned of the ecological position of the rhinoceros, they turned soils with their heads, they were a suppressive influence on lesser predators which they consumed regularly, and their waste mounds acted as sites of blooming and growth.

Dr. Inochi spoke with Dr. Fluchtmann over lunch at her request about the microorganisms she had seen in her role as a xenobiologist.

In the first class after lunch; Dr. Inochi was in Dr. Fluchtmann's microbial diversity class.

In the class, Dr. Inochi learned that there were four kingdoms of microorganisms on Adobrasig. The first of which was the Photista. The photists were a clade basal to the multicellular plant life of Adobrasig, all photosynthetic life on adobrasig utilize carotenes. The second was the Sackteria. The sackterial life of Adobrasig possessed a synapomorphy in that more than fifty percent of their cellular mass came from a sack-like vacuole that contained many different enzymes at high concentrations. The various forms of the sackteria used the structure in many different ways, from digestion to movement. Third were the Adobracheans. Adobracheans were a rare and poorly studied type of

microorganism that primarily lived in highly specific chemical environments, and were generally dependent on other organisms ranging from plants, to animals, and even other types of single celled life. These associations were typically formed for access specific metabolic products like amino acids, and maintained through what amounted arcane chemical bartering. Granting their associate access to their metabolism as well. They were currently uncultivable in Adobrasigian laboratories. The last being the Simprotista. Simprotista were an extremely diverse group of organisms, the multicellular animals of Adobrasig were their descendants.

Dr. Inochi took notes, and also used her brain chip to slow down her perception of time, as well as to store the data she was obtaining in duplicate.

After class, Dr. Inochi took some time to study more about the lifeforms of Adobrasig before her next class was scheduled to begin.

The next class was soil ecology. Dr. Inochi found it very interesting, it touched back on the diversity of microbes found on Adobrasig. She was glad that she had had Dr. Fluchtmann's class first, as many of the topics overlapped. The Sacteria often formed mutualistic relationships with Adobracheans. The microbes converted atmospheric nitrogen to nitrate as part of their

patchwork metabolism. The microscopic boluses of cells were typically six persect Adobracheans, and fifty-four persect or so Sacteria. The most noteworthy relationship they formed was in the symbiotic nodules of the roots of flowering plants. The nodules sapped sugars from the plant in exchange for nitrogen and increased mineral uptake through the relationship. She learned that a large number of species on Adobrasig were completely subterranean, their entire lifecycle took place in the first few centimeters of topsoil. The last topic covered by the class before it finished was that of the Adobrasigian hemimycotinoids. The hemimycotinoids were heterotrophic weblike organisms that formed from microscopic eggs. She learned that the hemimycotinoids were not considered animals or members of the four kingdoms of microbial life. Originally considered a single species, genetic analysis revealed that the hemimycotinoids clade is actually highly diverse and paraphyletic. The egg-producing structures of the hemimycotinoids were produced above the ground. The small structures contained several compounds that were feeding-deterrent for the animal life of Adobrasig.

Dr. Inochi pegged the hemimycotinoids as the Adobrasigian answer to fungi. She looked deeply into their traits over the few hours she had free before her trip to the college mess hall for nochtmeal.

At nochtmeal many people approached her, they alternately thanked her or asked her questions about Earth. Dr. Inochi did her best to be polite and friendly even though she had been awake for almost 30 Earth hours. When she reached her room after a meal of tomato noodles with chunky fig sauce, she took a quick shower and passed out while trying to read more about the things she had learned.

The next morning she looked into the cressek fossil record before class. She started setting up a trip by contacting the heads of the departments which were relevant to the endeavor. She intended to collect biological samples and see the lifeforms in person.

After her zoological physiology class, Dr. Inochi sent a message to Eduardo.

Chapter 9

“She could tell right away that I was bad to the bone.”

- George Thorogood, Bad To The Bone.

Under the shady tree in the warming air, Psychus waited as Eduardo read Dr. Inochi’s message.

Eduardo re-read the message aloud when he had finished going through it the first time. “I’m trying to set up a trip for tomorrow to the cressek surrounding the local plateau cluster around Touchdown, would you two like to come? If so, please let me know as soon as possible.” he read aloud.

Psychus was still a little high, his mind wandered at the sound of the word ‘cressek’ he still hadn’t seen one. “That sounds fun, we should go,” he said when Eduardo finished.

Eduardo nodded. He sent his affirmation to Dr. Inochi.

They sat under the tree until they had come down. Ontus’ truck pulled up to the house, they hadn’t seen or heard it coming. The back of the truck was stacked high with crates, huge slabs of

what looked like orange meat, and some thick flat white plates. The goods were strapped down.

“Oh, looks like Joctur’s share is here,” Eduardo remarked.

“Hmm, maybe we should go help them unload, that looks like a lot of stuff,” Psychus said.

They hopped up from their peaceful spot among the silently eating bugs and walked around the fallen plums toward the truck.

Ontus hopped out of the cab and approached the front door. He knocked on the door just as Eduardo and Psychus reached the truck.

Psychus looked at the crates, they were letting out a large number of quiet thumps. “What do you think is in here?” Psychus asked.

Eduardo opened a hole and peaked inside the box. Many slightly moving conical creatures with holbehn streaking along their length were packed inside tightly. He closed the hole. “I’m not certain,” he said.

Joctur and Ontus came up from behind them as they looked at the meat.

“Hey Eduardo, thanks for what you did,” Ontus said.

“No worries!” Eduardo replied.

Joctur looked over the haul. “This is all us?” he asked.

Ontus looked at him. "Well when the gear came, and they took it apart, it was the heaviest individual ever recorded. Would you expect any less?" he asked.

Joctur chuckled. "Great, I was just making sure," he said. "Ok, let's get started," he added, rubbing his hands together.

Jarby came out of the house. He was carrying a large sack over his shoulder. He came over to the truck and dropped the sack. "That's a lot of rhino... I'm gonna get another bag of salt..." he said, turning around and returning to the house.

The four remaining men hopped up into the truck. One by one they began lifting the white slabs. They were exceptionally heavy, but with four people they were able to toss them off the bed of the truck. They slammed onto the dusty soil and bounced slightly off the ground which flexed like a trampoline. A cloud of dust puffed up from the sheets as they landed. They got the sheets down off the truck and moved on to the crates. Two by two they carried the crates down carefully.

Jarby returned with the second sack of salt. He hopped up onto the truck bed and pulled out a serrated knife from his back pocket. He began slicing off massive chunks of the brown-orange meat. He laid the chunks down where the plates had been.

Joctur and Ontus each pulled out blades of their own and began to carve the chunks of meat that were so big they hung over

the edge of the truck bed. Ontus climbed up onto the meat with a boost from Joctur and Jarby. The meat was so tall, that if he fell off all the way to the ground from the high truck bed he would probably die. He crouched down and started hacking off rough chunks of meat.

Eduardo and Psychus watched for a moment before Jarby spoke up.

“Could you guys start rubbing the meat with salt, the longer it spends in the sun without salt the more we gotta use to preserve it.”

Jarby said.

Psychus hoisted a sack, and Eduardo did the same. They hopped up and started salting the meat. Jarby and Joctur’s cuts were smooth, Ontus created ragged pieces.

They rubbed the salt liberally into the meat. It seemed to flex a bit as the salt first touched it. They piled up the salty meat a bit down the truck bed from the unsalted meat.

It took hours, but the blocks of meat were gradually converted into large salty chunks and slabs by the four men.

They took turns moving loads of the salted meat to a chilled room in the shed for curing.

Once the meat was processed, and everything else had been unloaded. Ontus reached into the cab and pulled out several large canisters, he continued to pull them out until his arms were full.

Ontus handed the canisters to Joctur. "These are for the portion we sold, and one of these is from the tomato harvest, I forgot to give it to you the other day," he said.

"Thanks," Joctur said. "Eduardo, Psychus, a third of this each is yours," he added, addressing the men. "Oh and I guess some of the plate, the meat of course too," he said as an afterthought.

Psychus looked at the plate. He thought about the forks he had eaten off of, that had been ornate with finely detailed scrimshaw work. He tried to think of anything he could do with it. He landed on a plan for a ring. "I only need maybe a piece this big," Psychus said, holding his fingers a few centimeters apart.

"Oh," Joctur said. "Right, I guess you probably don't need several sixty trebblegewichten of rhinoceros bones," he said, looking a bit embarrassed to have offered the plate.

"I would like a few small cubes, maybe a thin disc too," Eduardo said.

"What's yours for?" Psychus asked.

"I'm thinking a set of dice and a coin, for games," Eduardo said.

Psychus nodded. "I'm thinking about making a ring," he said.

“I’ve got the grinding tools, they’re in a box in the shed,”
Joctur said.

“That’s great, do you think I could break off a piece?”
Eduardo asked.

“Not really, it's difficult to break, easy to work with though. I
think you will need a chisel.” Joctur said.

“Well anyway, I’m going home,” Ontus said, he hugged Joctur
who failed to hug him back with his arms full of money, and
hopped into the cab of the truck.

Ontus pulled out as Eduardo opened a hole to the shed.
Eduardo stepped through and Joctur and Psychus followed.

“The bone working tools are in that crate,” Joctur said
pointing to a box made of the bone itself. He stepped back through
the hole and headed to the house. Eduardo and Psychus carried the
heavy crate through the hole and back to the front yard. They set it
down with a thump on the dry ground.

Inside the crate were many tools for bone-working. Most of
them were manual. Psychus pulled out a hand-cranked drill with a
bit about the size of his ring finger, perhaps a bit bigger.

Eduardo pulled out a chisel and a hammer.

With some effort, Eduardo chipped off a few cubes of bone
and handed one big enough to become a ring to Psychus.

Psychus looked over the chunk of bone. Its surfaces were slightly different textures, one side seemed perfectly smooth where it had broken cleanly as Eduardo hammered the chisel in, the other side which had been the narrow side of the slab seemed to have a slight ground texture, as if a rotary saw had been used to cut the slabs apart. He turned it over and lined it up with his fingertip. It looked plenty big, so Psychus got started.

Attached to the inside of the box was a manual clamp. Psychus clamped the bone tightly into place and took the hand-cranked drill to the chunk.

The bone was surprisingly easy to work with, despite how tough it was, these tools seemed perfect for the job. He was able to drill a perfect hole through the chunk. He unclamped the holed bone and caught it in his other hand as it dropped out of the clamp. The edges were still sharp, but the hole fit around his finger, albeit a little uncomfortably.

Eduardo was using the chisel to flatten out his cubes, he took very thin flakes off the surface and placed them into his pocket. One of the cubes was becoming more like a sphere. Soon enough Eduardo had an icosahedral die as well as a cubic die.

Psychus took out a thin rounded file and began to grind the sharpest parts of the ring into a smooth curve.

Eduardo opened a hole to his kitchen counter and rolled the proto-dice on the countertop from where they stood. Once he was satisfied with how they rolled, he picked up another hand-cranked drill from the box. He began drilling tiny dots into the cube, he placed the four dots on the other side of three, two with five, and one with six. Once he had finished the first die, he pulled out a thin pick from the box and began to carve the little ornate symbols for one through twenty in hackety znak.

Psychus ground the ring into an almost perfect thin torus. He slid the ring onto his finger, it was comfortable.

Eduardo pulled out the chisel again and chipped off a flat slat of bone about five millimeters thick, and five centimeters wide on its thinnest side. Eduardo reached into his pocket and retrieved a fifty-cent piece.

Psychus recognized it right away by the perfectly straight stripe of textural ablation that ran down the center of the coin.

Eduardo lined up the edge of the coin with the slat. He got out a large flat file and began to thin the bone chip.

Psychus took out a pick of his own. It was the smallest and sharpest one he could find in the box. He took out his hackety znak guide and started carving the phonemic symbols around the outside of the ring. The bone held its form fantastically, Psychus was able to get all of the symbols in a perfect ring around the

torus. He repeated the process with the digits zero through fifty-nine. He looked at the little ornate bone ring. He decided that it was finished, he put it on again and left it there.

Eduardo had ground the flattened slat into a circle. He flipped the heavy disc and caught it and put both the metal coin and the bone coin into his pocket.

The sun was shining on them through the whole process, it had moved across the sky quite a bit during their work.

“Well, that was fun,” Psychus said.

“Yes.” Eduardo agreed.

They packed the box back up and returned it to the shed through a hole.

As they approached the front door of the house Neptulak came out and intercepted them. “Psychus, I have a question,” she said holding her book open with her thumb a few pages in.

“Sure, what’s up?” Psychus asked.

“I can’t read the page numbers, I’m getting lost when I set the book down,” she said. It wasn’t a question but Psychus understood what she needed.

“I can’t believe I didn’t think to teach you the numbers!” Psychus exclaimed.

They went to the kitchen.

Eduardo walked off into the house.

“I think you will get this pretty quick, I’ll just use the pages themselves as teaching tools.” Psychus started.

Neptulak handed him the book, he took note of her page number before setting it down. The cover and a few pages stayed partially open as it sat.

“The base of the numeral system used on Earth is ten.” Psychus started.

“What’s a base?” Neptulak asked.

Psychus hadn’t expected the question. “Maybe we should have some Cheyttle,” Psychus said, realizing that he may need a bit more time to explain the difference in the numerals than he thought.

The Cheyttle was already made in the carafe, Neptulak grab it and a pair of cups. They sipped the focusing drink and returned to the lesson.

“Alright, so a ‘base’ is the quantity that is written as ‘10’ in a numeral system. So for you, it would be sixty.”

“Hmm, I think I need to see an example, let me go grab the paper and stuff,” Neptulak said, she left and returned with the paper. Psychus waited and drank his Cheyttle.

Psychus started by writing the numerals for the quantities zero through nine in both base ten and base sixty. “These,” he said,

pointing to the top row. "So these are all the symbols we use for digits," he said.

"Ok," Neptulak said, she was looking closely at the neatly written little symbols.

"So what happens is if I write the quantity eleven, is that it is a two-digit number, and its only one more than the base of the system, ten, so it is written as 'one-one'" he said. "Do you see what I mean?" he asked, checking if Neptulak was with him so far.

"Yes I think so," she said, sipping the Cheyttle.

"Good, ok so from there the rules are simple, just like in base sixty the digit positions correspond to the quantity of the power of the base taken to the digital position... if you start counting from zero that is." Psychus explained.

"I think I need an example," Neptulak said.

"Sure," Psychus said. He picked the quantity one-thousand, two-hundred and thirty-four. He wrote out the '1234' and also the hackety znak version 'ϕζ' writing out the twenty-sixties-and-thirty-four with the two symbols.

"Right, so... here with 'ϕζ' we have sixty to the power of zero times thirty-four in this digit, and the next digit up is sixty to the power of one times twenty."

“Sure.” Neptulak granted, nodding as she watched the demonstration.

“So here, with ‘1234’ we have, from right to left, ten to the power of zero times four, plus ten to the power of one times three, and then ten squared times two, and then ten cubed times one,” Psychus said, slowing down to tap each digit with the pencil.

“OH!” Neptulak said, she had just had an epiphany. “So, I just take the place and multiply by the digit against the power of ten... That makes so much sense! ” she explained to confirm her understanding.

“Yes, that's exactly right,” Psychus said. He wrote out ‘2345’ and handed the pencil to Neptulak. “How about converting this to base sixty as practice,” he said.

Neptulak furrowed her brow and bit the pencil a bit. She began to write out the hackety znak representation of the powers of ten up to one thousand. One, ten, sixty and forty, and sixteen-sixties-and-forty. She multiplied the quantities by the digits and summed the results.

“Thirty-nine sixties-and-five? ” she asked finally, writing the two digits and circling them among the scratch work.

“Yes! Excellent job, I think you’re good to go.” Psychus said. He handed the book back to her.

“Thank you so much Psychus! ” she said. They picked up the table a little bit and Neptulak left the room. Psychus stared out the window. From here he saw something that he hadn’t noticed before; if it had even been there.

The field out the window had what must be millions of tiny orange sprouts coming up. The tomato seedlings were tiny, but their little shoots popped up and opened into four little embryonic leaves. He also noticed many small holes in the soil, the burrows of the snails had been plowed over, but they had returned to the surface in many places now.

Psychus looked at the little orange plants under the afternoon sun for a while before he went to find Eduardo.

He walked through the quiet house, the kids were in class. He walked out on to the back porch and found Eduardo sitting with Joctur at the glass table.

“Hey guys,” Psychus said, greeting them as he came outside.

Joctur and Eduardo looked up from the sprouting plants in the back field. “Hey!” they greeted him.

Joctur saw Psychus’ ring. “Wow! That's really fine work, have you ever scrimshawed before?” he asked, pointing at the ring as Psychus sat down at the table with them.

“Oh, no. But thank you.” Psychus said.

Psychus pulled off the surprisingly heavy ring and spun it on the table. It made a quiet ringing noise against the glass as the ridges at the edges of the hackety znak characters interacted with the smooth table.

Psychus picked it up and put it back on as it began to falter in its rotation. "Eduardo, did you tell Joctur about Dr. Inochi's invitation?" he asked.

"We have just been discussing the weather, I didn't bring it up," Eduardo said.

"Invitation?" Joctur asked.

"Yeah," Psychus said. "Our friend Dr. Inochi invited us to go on a trip to the cressek surrounding this plateau," he explained.

"When?" Joctur asked.

"Tomorrow," Eduardo said.

"Yes, by the way, Eduardo, did she get back to you about when and where to be?" Psychus asked.

"Yes, she asked me to be at Touchdown Peripheral Community College's central area tomorrow at twelve," Eduardo said.

"Hey! Concrete is at the college, if you guys are going there, do you think I could tag along to visit him?" Joctur asked.

"Of course," Psychus said.

"Yes," Eduardo said.

The three men sat out in the sun and just reveled in the light and heat, eventually, Joctur got out the bottle of wine from the kitchen and three glasses. He poured a tiny trickle for each Eduardo and Psychus before filling his cup.

The men sat and slowly consumed the extremely potent alcoholic drink. Psychus and Eduardo became tipsy but stopped there.

Joctur was much better able to handle the booze.

Psychus asked Joctur about the bugs under the tree and Eduardo pulled out a joint from his place.

“The ants?” Joctur asked, eyeing Eduardo as he pulled out the paper-rolled cannabis. “What’s that?” he asked.

“Yeah, the ants I guess, and it's a smokable plant called cannabis,” Psychus said.

Eduardo lit the joint and took a pull. He handed it to Psychus who also hit it. Psychus offered it to Joctur.

Joctur took it without question and started smoking it as well. He let out the smoke in a cloud. He blinked slowly and his eyes opened wide. “This is tasty,” he said, handing the joint back to Eduardo.

Eduardo hit it twice and handed it to Psychus. The joint ran a few times around the triangle of men before it was consumed.

Joctur was jovial, he was smiling. He nodded side to side as if he was listening to music. He laughed a little. "Let me get you one of mine." he chuckled.

Joctur staggered into the house, his glass was mostly empty and he had had about a quarter of the rather strong joint. He returned after several minutes with a small bone box. He set it down on the table and unwound a fibrous thread from the two pegs which held the box shut.

He pulled it open slowly and turned it around. Inside there were several dry-looking chunks of some kind of lifeform, perhaps a plant. The little chunks of dried something were brownish-white and about the size of marbles. The box also contained a small metal grinding tool, a stack of thin papers, a strange-looking lighter with three buttons around the ignition zone, and a little cloth bag that looked full of something.

Psychus had moved on from the question about the ants. "What are those?" he asked.

"Hemimycotinoid fruiting bodies, the effect is pretty intense, they contain quite a bit of miprocin," Joctur said.

"Interesting," Psychus said.

Joctur took one of the chunks and began to chew it with a crack, it sounded like he was chewing gravel as he obliterated the structure of the egg-bearing nugget.

He picked up two more and offered one each to Psychus and Eduardo. Psychus had liked every drug he tried so far, so he took it easily. Eduardo took one as well. They began to chew.

The texture of the little dry orb was like a nutshell, as he cracked into it, a dry powder spilled out. Psychus chewed it for a while, it was bitter and he liked it for that.

Psychus swallowed as best as he could but his mouth was gritty. "I'm going to get some Cheyttle to wash this down," he said.

"Oh, could you grab us some too?" Joctur asked.

"Sure," Psychus said

"Thanks," Joctur replied.

Inside the house class was still in session, Psychus collected the carafe of Cheyttle and brought it to the men. He didn't grab any more cups because he and Eduardo had emptied their meager portion of wine, and Joctur was almost done too.

He returned and sat down. Eduardo and Joctur were discussing the 4-hydroxy-*N*-methyl-*N*-isopropyltryptamine which joctur had referred to as 'miprocin'.

Psychus poured some Cheyttle and rinsed the grit and smoke from his mouth with the spicy drink. The effect combined with being high and having had some of the wine to produce a feeling of flow. He felt focused but calm and relaxed, his mind wandered,

but as it did each topic he crossed came into focus. He wondered about the ants again. He began to feel a relaxing warm feeling as if the sun was slowly brightening up a bit.

He started to feel a faint tingling in his fingers. Joctur was smiling out at the horizon.

Eduardo poured himself some Cheyttle and drank a bit.

Joctur took the last of his wine with a gulp, he filled his cup with Cheyttle as well and drank some of that too.

“Oh, there it is,” Joctur said suddenly. His smile curled outward.

As Psychus looked at him he began to take on a strange vividness of color, he seemed to reduce to just the primary colors cut jaggedly by the light. His orange skin appeared red, he seemed to be flushing with blood.

“I see what you mean,” Eduardo said.

Psychus began to feel as if his body didn't stop at his skin. He couldn't move the space beyond that, but he began to feel as if the world around and himself were connected.

The colors of Jocturs face were intense, his skin began to swirl as Psychus looked at him. He looked away to the horizon over the back field past the trees at the bottom of the steps.

The sky seemed much more blue, a more true blue, the real blue. The furrows of the soil began to wave along their path to the

horizon. From the vanishing point until where the treetops obscured the start of the field, they vibrated like guitar strings.

He began to hear something, like a musical beat, after a moment he realized he was listening to his own heart. The sensation was distorted and had sounded like piano keys to Psychus.

He heard Eduardo speak and turned away from the horizon, the field was out of his sight but the feeling of the lines stayed in his vision. They began to curl into elaborate fractals with impossible geometry like a thin pearlescent film draping across everything he saw.

His nose began to run and he sniffed. His eyes were watering. His skin felt as if he had recently been swimming as if it was becoming more permeable to let water out.

He wiped his forehead, he hadn't realized how much he was sweating. The fractals continued to iterate, they formed a mandala in his vision and began to spin counter-clockwise while the individual spiraling fiddly bits of the fractal appeared to spin clockwise. He stopped thinking about what was behind the fractal and looked straight up at the sky.

Psychus saw something fly by, but he kept his focused but cross-faded mind on the fractals.

He was having some kind of mix of delusions, this all seemed so real. He reminded himself that he had taken several drugs and that this was the combined effect.

He stared up into the blue as the fractal film wound and unwound. He started to laugh, the sensations combined into a truly wonderful feeling, he felt like he was continuous with the universe. He tried to delineate the feeling, he thought of the Adobrasigian ants under the plum tree and their strange seemingly self-inflicted plight.

Psychus saw the fractal lose an arm as it unwound smoothly, it was a differentiable topological process. As he watched it began to count down. He watched the fractal curl through a ten-sided mandala. It counted down to nine and Psychus finally realized, the shape was losing sides too, it now only had nine equal sides, each corner ended in the curling patterns which seemed to spiral off of each other, all turning in the same direction.

The shape became a distortion of an octagon.

“Oh, it's counting down.” Psychus thought.

The shape became a heptagon, flowing cleanly between the shapes without any asymmetry. The fractal was hard to describe, Psychus tried to ask about it, but he couldn't explain.

It had reached five sides when Psychus stopped trying to explain it.

“The thing is, it's counting down...” he said, culminating his foray into speaking again.

It reached four. He thought for a second, “What is it counting to?”

Three.

As the shape began to go past three into an impossible shape that instantly gave Psychus a piercing jolt of psychotic delusions it became a two-sided shape spiraling.

One.

The shape continued, Psychus wanted to stop but he couldn't look away, it was in his eyes.

Zero.

The zero-sided spiral hit Psychus like a brick. He howled like a wolf in mental anguish as the concept bounced around his mind.

Psychus' vision returned to normal after that, he began to feel calm again, the rest of the trip back down was slow and pleasant, but he kept running over the error in reality he had just witnessed. His perfect memory allowed him to look at the thing. He didn't know how to call it, or how to describe it, it wasn't something he could draw, no matter how much time he had, the experience went beyond his vision and despite being projected into his visual field, the thing was not a visual being.

Joctur and Eduardo were experiencing their own trips, Joctur seemed a bit conked out from the wine, and Eduardo was sitting calmly with sweat running down his temples as he stared into the distance. They had both looked when Psychus had howled, but he didn't explain and seemed ok.

Over time they became more normal, they sipped their Cheyttle as they came down, it had an interesting new taste, Psychus felt as if he was one with the Cheyttle as he picked it up and sipped it. He wasn't sipping from a cup, the cup was always part of him, but there was no him and there was no cup.

The feeling of unity and interconnectedness was profound and made Psychus feel both insignificant and grand in scale. He thought about the apparent discontinuity between what he perceived to be himself and what he considered to be other. Deep down he knew that as an organic life-form he was made of discrete particles and chemical reactions. Nothing truly distinguished him from what he wasn't except his perceived limits.

The men sat around and came down from the many things they had consumed over a few hours, they didn't speak much, just enjoying the time.

Eventually, Jannus came to the door for Joctur, classes were over and she wanted his help to cook up some of the freshly cured rhino meat for nochtmeal.

Psychus' stomach felt hollow, but not empty. He was hungry though. Eduardo perked up at the mention of cooked meat. Joctur left the porch with Jannus.

Psychus and Eduardo sat in the late-day light and waited for the call to the kitchen to come, not wanting to obstruct the process.

Soon enough Jarby came and told them to come to the kitchen.

They walked through the house, it smelled a bit like sulfurous bacon and the kitchen was audible from the back hall. As they entered the kitchen, the children were eating thin pan-fried strips of the dark-orange cooked meat.

Jannus was slicing slats of meat off of a large cube, Psychus recognized it as one he had rubbed with the fine high-quality salt. Joctur was frying up the slices with some orange oil on a griddle.

“How hungry are you guys?” Joctur asked, stirring the thin stringy strips of meat around in the oil.

“Pretty hungry,” Eduardo said.

“Yeah, I've only had plums and wine and Cheyttle today,” Psychus said omitting the hemimycotinoid egg-bearing structure as food despite the fact that he had eaten it.

Joctur grabbed a big stack of slices Jannus had made and spread them around in the oil. He scooped the ones that had

already cooked out with a two-pronged skewer and slid them off into a pile he was making in a basket full of orange stained cloth.

Jarby grabbed a handful of the crisped meat slices. Jannus continued to slice the meat. Neptulak was holding Granta in her arm, but also eating and reading with her free hand.

Shortly Joctur had crisped the new slices to dry flaky strips. Psychus and Eduardo each took a big pile of the crispy strips and sat at the table. Psychus took a bite once he had sat down between Vitsam and Wresse. The texture was almost exactly like good bacon that had been perfectly overcooked. The taste was almost unbearably salty, but it was just enough below the threshold that it was still delicious. The oniony taste of the oil was barely present, Joctur had cooked the meat right up to the point where the oil would start soaking back in before taking out and drying off the oil on the cloth.

Psychus was still coming down, and he felt strangely guilty eating the enormous monster but he was hungry. He ate almost a full kilogram of the cooked meat and drank about four liters of water with the meal.

After nochtmeal as the snails hissed in the late dusk, Psychus was exhausted. He had finally made it through a full Adobrasigian day. The little children went off with Joctur to hear him read from a children's book.

Eduardo and Psychus headed off to the guest room and fell asleep.

Chapter Ζ

“There is a crack in everything, that’s how the light gets in.”
- Leonard Cohen, Anthem.

Eduardo shook Psychus awake at eleven-thirty. They headed out of the room and knocked on Joctur and Jannus’ door. Joctur answered, he looked wide awake. The three men headed down to the kitchen and Joctur cooked up some of the sliced rhino from yesterday while Eduardo and Psychus drank Cheyttle.

After the short breakfast they put on their shoes and Eduardo pulled out his goggles and did a quick search from over the city to find the college square. He opened a hole to Touchdown. The view of the other side was dark with a few lights visible in buildings near the hole. They stepped through one at a time and Eduardo closed it and took off his goggles.

Nobody was around. Once the hole to the kitchen had closed the circular square was vacant of all sound and motion.

After a moment Eduardo pulled out his phone and texted Dr. Inochi, “Heyo, we are in the square.”

Psychus began to shiver a bit in the cool early morning air.

Eduardo’s phone buzzed after a little while, he pulled it back out and read the message aloud, “Great, we’ll be down shortly.”

“Well have fun guys,” Joctur said. “I’m going to go surprise Concrete,” he added as he walked off toward a path away from the square and deeper into the campus.

The sound of a door opening alerted the men to turn and see the crowd of people who began to flow out of one of the buildings around the square. Dr. Inochi led the group.

“Hello!” Psychus called out to the group.

“Good morning!” Dr. Inochi said as she approached them.

Dr. Inochi gave Eduardo and Psychus each a hug and thanked them for coming.

The crowd of people stood back from their interaction and watched as if expecting a show.

“Eduardo, would you mind taking us directly to the cressek?” Dr. Inochi asked.

“Yeah, no problem,” Eduardo said. He paused for a long time and didn’t do anything. “Sorry, I don’t know where it is,” he said as the silence became deafening.

“Right. Here’s a map of the local plateau cluster.” Dr. Inochi said while she opened a satellite picture of the area around Touchdown on her phone.

“Ok, I just need to check it out first,” Eduardo said. He pulled out his goggles and put them on. He turned on the projection chip and began to project the distorted view of the crowd. He opened a series of holes but the goggles stayed dark. The projection showed several dim views of a marsh terrain. “How about this one?” Eduardo asked as he closed all but one hole.

The view was dim, but there was a sort of beach that crept down to the water. Dr. Inochi looked at the projection. “Yes, that looks like a good place to start,” she said.

Eduardo opened a big hole, wide enough for several people to step through. The projection showed the hole, with the people visible through it. Some of the crowd cheered upon seeing Eduardo open the hole.

“Alright, come on people.” Dr. Inochi said. “Don’t trip on the hole,” she called back as she headed through the opening.

Eduardo turned off the projection and started to remove the goggles, the crowd of students and professors began pouring through the hole to the bottom of the cressek carrying crates and large bags.

Psychus waited for Eduardo before they both stepped through the hole.

At the bottom of the cressek the air was humid, it was very dark and there were people all around them. The people began to set up equipment that they had brought with them. They set up floodlights which came on with a buzz.

Light spilled across the area. As soon as the light came on, many kinds of small gnat-like species of bugs began bouncing off of the bulbs. The water's edge was still, and the other side of the water could barely be seen in the light. The edge of the water had tall skinny plants growing from it. Dr. Inochi was already scooping up samples. The soil, the water, the air, all of it went into little jars and into a metal storage case carried by a student with long hair.

Eduardo and Psychus looked around in the artificial light. The plants were interesting, but not by enough to justify the trip yet.

There was a light splash sound that came from the water. A small creature had jumped out and fallen back in with a splash. A second splash came, and then a third. The water suddenly began to ripple at the shore as many small creatures began to jump out of the water to feed on the gnat-like bugs that had taken flight as the lights came on around them.

The people running around the artificially bright beach seemed very coordinated. Dr. Inochi caught a few of the bugs and put them into a jar as well.

Some of the students had brought shovels and other soil sampling equipment. The students began digging shallow holes and picking out small creatures as they came into the light, and putting them into jars. A few of the students used picks to break the ascending wall of the cressek, taking the time to pick out the little animals and plants that lived in the cracks and around the water and put them into more jars.

Collectively, the crowd of people sampled everything in the area several times. Each of the samples was given a quick label to describe the conditions of sampling.

Dr. Inochi came to speak with Eduardo when the area had been scoured. "Hey Eduardo, can you catch one of those animals jumping out of the water?" she asked.

Eduardo nodded, he trained his focus on the water's rippling surface. After a moment a creature jumped out, it was highlighted by the harsh floodlights. Eduardo opened a hole under it as it fell, the other end of the hole being low to the ground on the beach. The creature fell through the hole and landed on the moist marshy ground. The creature had lots of tiny appendages which flailed as it lay on the soil.

Dr. Inochi scooped the animal up into a slightly bigger jar. “Thank you so much! ” she said as she capped it. Looking through the glass of the jar against a light Dr. Inochi hastily wrote a label. When she had finished it read “Site-1, Aquatic, Macroscopic (microbiota analysis)”.

“You’re welcome,” Eduardo said as he and Psychus watched Dr. Inochi fill out the label.

“Ok, everyone pack up, we’re moving on!” Dr. Inochi yelled as she handed the jar to the long-haired student.

As the people began to pack up Dr. Inochi turned to Eduardo and Psychus. “So when did you guys become orange? ” she asked.

“A few hours after you headed off to the college,” Psychus answered.

“We got some other stuff too, the full complement actually,” Eduardo added.

“Interesting, maybe I should look into it... if I get some free time that is.” Dr. Inochi said.

“We went to ‘The Sense Clinic’ in Touchdown,” Psychus said.

“Good to know.” Dr. Inochi said.

Everything was packed up as quickly as it had been put out. A single light was left standing until everything else had been put away.

“Eduardo, could you take us up a layer?” Dr. Inochi asked in the dim light, the sky was beginning to show a very faint sign of morning from deep in the cressek.

Eduardo pulled his goggles back out after the request and put them on. He opened a series of holes going up the cliff face, he searched a bit for a cliff to open on to. Once he found the next level up the cressek he opened a hole on the beach. Light shined through to the next level up, the ground was covered in tiny plants. The little plants had verriyellow petals on the flowers that were barely visible because of how small they were.

Dr. Inochi led the charge through the hole. A few people carried the operational light through and soon enough, everyone was through. Eduardo and Psychus stood on the cliff looking down at the marshy area beneath them as Eduardo closed the hole.

The crew of people began repeating the process, they took samples of everything.

As the lights came on one by one the light-filled the area. The cliff they were standing on curved along the wall of the cressek and continued around a corner on each side of the gathering.

Psychus looked around the corner, only a small amount of ambient light was reaching the area around the corner. Psychus saw some big black lumps on the ground. “Hey Dr. Inochi!”

Psychus called out as he saw the lumps. As he did, the lumps began to move, suddenly they seemed to bloom outward.

Dr. Inochi came by just in time to see the lumps inflate heads and legs which had seemingly been inside of them. The creatures stood up and looked at the people like deer in headlights. Their birdlike heads had flat wide beaks. The black surface of the creatures appeared ruffled like feathers in the low light.

One of the creatures crouched a bit and with a puff of dust, it jumped like a flea. The horse-sized duck-headed quadruped jumped high and out of sight. The others followed suit and within a few seconds, they had leapt far out of the light and up through the dark cressek.

Psychus could hear them landing and jumping again in the distance as they fled.

“Good find Psychus!” Dr. Inochi remarked. She walked to where the creatures had been and scooped some samples of what appeared to be a pile of their waste and some soil from where they had been resting.

The students came around the corner and began digging little holes and scooping up more creatures from under the plants and soil, a tiny six-legged sort of salamander-like creature with four thin two-jointed fingers at the end of its legs, something that resembled a small white cigar with an opening on one end and

with dark tendrils exuding, wiggling limply, something from the soil with a pair of flat spinning appendages. They scooped up the plants too, an oily yellow one with sharp-looking leaves, a seemingly primitive blood-red one that was trailing its thallus in the water, and a translucent orange orb peeking out of brown sepals with a single short root connected beneath.

Dr. Inochi supervised the sampling, taking more herself and labeling them.

After a while, the sky began to become brighter as the crew scoured the cliff for anything they could stuff into a jar.

As the light came down into the cressek, the floodlights gradually became redundant. Some people packed up the lights into crates.

Once this cliff had been heavily disrupted by the sampling, with holes in the ground and patches of ripped-out plants, Dr. Inochi came to Eduardo.

“Alright, this layer is clear, can we move up again? ” she requested.

Eduardo was still wearing the goggles, he had simply stood around looking through them as the sampling had occurred. He opened some holes up the cressek and found another area that would support the large group.

He opened a hole to the next layer and the migration began. Students carrying the sample-laden crates filed through the hole. Once everyone else had gone through, Eduardo and Psychus followed.

Up on the next layer, the light reached them a bit better. People were already digging up samples and running around. The scene was distilled chaotic science.

“Good job everyone, keep it up.” Dr. Inochi called out as she watched the process.

Psychus looked down over the edge. Far below was the layer that had just been on, and even farther down again was the water. From here the water looked like it was bottomless.

“Man, how deep is this thing?” Psychus wondered aloud as he looked up. From here the top of the cressek appeared to be several kilometers up. Each layer they had been to so far had been wider than the one before it. Psychus wasn’t sure if he was seeing the top of the cressek or simply the edge of another layer much higher up.

Dr. Inochi had heard him. “This cressek is pretty shallow as far as they go, only thirteen kilometers from the top to the bottom,” she said.

Psychus thought for a while. He did a quick calculation using the gravity of Adobrasig. According to his math, it would take more than a full Adobrasigian minute to fall from the top to the

bottom. He thought about the article he had seen about an elderly woman falling into one of these. He decided she must have hit a layer on the way down, there's no way she fell from the top to the bottom and lived.

Soon enough the crew had scoured this layer too. Dr. Inochi approached Eduardo again.

“Yeah, I know, next layer coming up,” Eduardo said as he looked at her approaching through his goggles.

He opened a hole, having already taken the time to look while the crew was taking samples.

This process was repeated nine times. Each layer up, the light from the sky became clearer as the day wore on.

Eventually, Dr. Inochi called everyone into a huddle. “Excellent work today. As you know, it isn't over yet. It's time to analyze these samples. ” she said to the group of people. “So, now let's go back to the university,” she added.

Eduardo stepped out of the huddle and opened a hole back to the center of the college campus. Everyone carefully carried their loads back through. The square had a few people milling around the buildings between their early classes for the day. Some people stopped to stare as a crowd of people emerged seemingly from nowhere, but as college students, they were too busy to investigate.

Once everyone was out of the cressek Eduardo closed the hole and popped his goggles off.

The crowd walked off with the samples. Dr. Inochi stayed back for a moment. “Thank you both, I’ve got to go be part of the analysis,” she said.

“You’re welcome,” Psychus said.

“Glad I could help,” Eduardo said.

Dr. Inochi jogged after the people as they entered the same building they had come out of earlier that morning.

“I guess we should try to find Joctur and Concrete,” Psychus suggested as Dr. Inochi disappeared into the building.

“Right, he went this way when he left,” Eduardo said, pointing down the walkway Joctur had taken.

The two men began to walk away from the college’s central area.

The sun was out now, the early morning light shined on to the low growing ornamental orange plants along the path, they sparkled with dew.

“It’s nice here,” Psychus said, looking at the plants.

The path curved around and split. “Which way should we go?” Asked Eduardo.

“Hmm, maybe you should just call him,” Psychus suggested.

“Right.” Said Eduardo.

They walked over to a smooth white bench. Psychus wiped the dew off with his hand before they sat down. Eduardo pulled out his phone and called Joctur. It rang for a while before he answered.

“Hello!” Joctur’s voice came through the phone.

“Hey, the expedition is over,” Eduardo said.

“Oh! Well me and Concrete are at the repek field, the morning practice is going on so we decided to watch it.” Joctur said.

“Where’s that relative to the square?” Eduardo asked as he pulled out his goggles.

“Uh... hold on let me give you to Concrete,” Joctur said.

There was a rustling through the line before words came through, in the meantime, Eduardo put the goggles on.

“You go down the path past the plants, keep walking until you get to the gentle slope and take a wide left, not the first one, then you’re gonna need to go straight for a while then take a right at the edge of campus, once you come around that corner you should be able to see the field. We are in the stands, I’ll keep an eye out for you guys.” Said Concrete.

While Concrete gave the directions, Eduardo’s goggles filled with swirling images of the path as he described it.

“Ok, be right there,” Eduardo said. He ended the call and put his phone away.

Psychus and Eduardo stood up as Eduardo opened a hole to the last step of the instructions. They stepped through to the base of the stands.

“Hey guys!” Joctur called.

“We’re up here.” Concrete yelled.

They walked a short distance to the base of some long stairs going up to the stands, behind them was a big wide field with a hill in the middle sloping down toward two wide metal goals.

As they got up to where Concrete and Joctur were sitting alone in the stands they turned to see that there were sixty men on the field wearing thick pads and helmets. At each end of the field there were many more men, they jogged in place or did jumping jacks to stay ready to be subbed in.

“How are you guys doing? I see you made it to the clinic.” Concrete said as he looked at Eduardo and Psychus.

“Adobrasig is a nice place to be,” Psychus said first.

“I really like it here, the clinic was a good choice,” Eduardo added.

“Right, well, take a seat. The next scrimmage is about to start.” Concrete said.

Psychus and Eduardo sat down next to Concrete and Joctur on the end of a row of metal seats. They began to watch the men lining up on opposite sides of the hill in the middle of the field.

“Jarby told me a little bit about this, but I don’t know the rules,” Psychus said.

“Oh, it's simple!” Joctur said.

“Yeah, I can explain.” Concrete said. “There are halb dudes on each side and they try to bring the ball to the goal. You can kick, punch, and all that. Typically there is a core group that does the lifting, the lifters if you will, and everyone else is a brawler.” he explained.

Psychus thought it sounded dangerous, his suspicion was confirmed as six of the people at the end of the field carried an enormous metal ball with handles to the center of the hill and placed it on the peak. The ball was covered in handles and was easily big enough to flatten someone.

There was a loud noise from a speaker behind them. The line of men on each side began to sprint up the hill toward the ball. As the first man reached it, he tackled it with his full body weight through his shoulder. The ball barely moved, but it was enough for it to start rolling. The men on the other side formed a scrum and before it could get much momentum they were able to stop it.

Shortly the scrum dissolved into a perimeter around the ball and six extremely burly looking men squatted low and gripped some of the handles. They hoisted the ball and slowly began walking up the hill. The perimeter became a war zone, men

throwing punches, head-butting, elbowing, kicking. The perimeter did its best to advance over the hill, pushed back at every step by the other thirty men trying to go the other way.

“Holy shit,” Psychus said upon seeing how intensely they fought, even in a scrimmage.

“You haven’t seen anything yet,” Joctur said.

The fight crept back and forth near the top of the hill until a few of the players reached the men carrying the ball. They stomp-kicked the ball and the men, the perimeter closed around them. One of the men who had gotten through was picked up by a pair of dudes who were immediately tackled off their feet by one guy. The man who had been hoisted into the air stood up first and drop-kicked one of the people who had lifted him in the head.

“Wow... this is ridiculous,” Psychus said.

“No, seriously hold on, wait until they score a point.”

Concrete said.

Psychus watched the preposterously brutal scrimmage until the ball slipped loose from the scrum. It started to roll down the hill knocking two men aside like bowling pins. The team that had rolled it did their best to hold back the men from the other team so that they couldn’t stop the ball. It slammed into the goal with a huge crash. The men all pulled off of each other at the sound. They

all walked to their ends of the field and a completely new set subbed in.

The same six men carried the ball from the goal back to the top of the hill again. The loud noise played. The sprinting began. One man from each team tackled the ball from opposite sides at the exact same time. It didn't move. The two men put their arms over their heads as they were quickly trampled by their own teammates. The ball shifted off the position, it crept sideways along the peak of the hill as the two groups of men brawled over it. The men who had been trampled got up and began to fight each other.

“So... how long does this go on?” Eduardo asked.

“Well, this is practice, so they will probably call it soon and hit the weight room. Real games though? They are twenty hours.” Concrete said.

“Twenty!?” Psychus said incredulously, he was certain he must have misheard.

“Yes, well... with the time it takes to place the ball and all that, it's a bit more, maybe twenty-two to twenty-four” Joctur said.

After a long brawl that was even more violent than the first, the ball slammed into the goal again. The men ran and limped off the field. Another set subbed in.

The six men set the ball up. The noise played.

“What else is on this campus?” Eduardo asked. He didn’t seem to be enjoying the display.

Concrete noticed Eduardo’s frown as he looked up from the sprinting men. “Well, we don’t have to be on campus, you can go anywhere. I have some time before my next class,” he said.

“That’s true.” Psychus agreed.

“Would you like to visit your family?” Eduardo asked.

“That’s a good idea,” Joctur said.

“Sure, let’s go home. I’m excited to experience wormhole travel.” Concrete said, smiling.

Eduardo stood up and opened a hole at the end of the row they were sitting in. He stepped through right away. The others followed close behind.

They emerged on the back porch. “Go surprise your mom,” Joctur said to Concrete.

Concrete opened the back door and walked inside.

Psychus looked out into the field, the little sprouts he had seen yesterday were quite a bit taller already.

“Maybe I should make lunch, we can have some of the leeches,” Joctur said. He left the porch.

Psychus and Eduardo sat down at the table. From inside the house, they could hear the children excitedly reacting to Concrete’s presence.

The day was still warming up, the sun lapped their skin. Psychus let out a relaxed sigh. He felt a bit sticky after spending time in the cressek. “Hey, do you think we could hit up C-227 before lunch, I would like to take shower,” he said.

Eduardo nodded. “Good idea.” he stood up and opened a hole above the first step down the stairs.

They left the plantation and entered the main room. As soon as he stepped out, Psychus saw that Psybie looked very dry. It was sitting still on the dry plate. “Oh no!” Psychus said. He scooped up the little protopet and brought it into the bathroom. He ran water over it in the sink until it puffed back to full hydration. He set it on the counter where it shook itself dry. He turned on the shower.

Psychus and Eduardo met back in the main room after their showers. Psychus brought Psybie back with him.

“Ready?” Eduardo asked.

“Yep,” Psychus said.

Eduardo opened a hole to the guest room of the plantation home. They dressed in fresh clothes and returned.

Upon leaving the room they smelled something buttery. They came down the stairs and followed the smell to the kitchen, they could hear Concrete loudly telling a story in the living room.

Upon entering the kitchen they spotted Joctur sitting at the table and scrolling through something on his phone.

“Hey, Joctur, What’s that smell?” Psychus asked as he laid eyes on the same tall pot that Jannus had used to cook the plum and snail soup. A large heavy-looking lid was on it.

“Leeches.” he said, continuing to scroll, “I’m trying to see if I have a substitute for lemon,” he said. “I started cooking them before I checked but I really prefer them with lemon.”

“Lemons?” Psychus asked, already anticipating that they were not normal lemons.

“Yeah, they don’t really grow on this plateau cluster, so they’re an import and I don’t buy them very often,” Joctur explained.

“Where do you get them?” Eduardo asked.

“Pot’s Steppe Top Stop Spot,” Joctur said quickly. “Yeah, I don’t think I can really sub anything for lemon, oh well,” he said putting down his phone.

“Where’s Pot’s Steppe Top Stop Spot?” Psychus asked.

“It’s about an hour past Ontus’ house,” Joctur said as he walked over to the large pot.

“Eduardo, do you think we could go get some lemons?” Psychus asked.

“Oh sure!” Eduardo said. He opened a hole and retrieved his money canister from the guest room. “I just need to see it on the map, and also can I have some Cheyttle?” he added.

“Sure, it's in the carafe, and yeah if you just type in Pot's Steppe Top Stop Spot it should be the first hit,” Joctur said as he peeked through a wall of steam into the pot before closing it again.

Psychus searched using the house network on his phone, he scrolled through the hackety znak advertisements to the page for the store, he tapped a link that said ‘find us’.

Eduardo poured himself some Cheyttle. “Would you like some too?” he asked Psychus.

“Sure, also here's the map,” Psychus said as the map popped up on the screen.

They swapped items, phone for carafe. Psychus got a cup and drank some of the warm Cheyttle as Eduardo zoomed in and out on the map.

“Ok, I got it,” Eduardo said finally.

They put down their Cheyttle and Eduardo opened a hole to a patch of dirt behind a wide white building. Eduardo closed the hole and they walked around to the front of the building. There were a few people around the front door. A pair of men stood talking and smoking some kind of orange-rolled smokable.

Eduardo and Psychus walked inside. The store had cool air. A female clerk stood leaning lazily on the counter.

They walked deeper into the store, to their left was what looked like a produce department. Eduardo and Psychus headed that way passing many things they didn't recognize or investigate.

Surrounded by the Adobrasigian produce they began reading the little labels with prices on them to determine what was a lemon.

Among the small furry green fruits, long purple fruits that tapered like a carrot, and lumpy brown fruits were plums and tomatoes which Psychus recognized, he didn't see figs.

"Here they are!" Eduardo called from around a display.

Psychus walked over to him and looked down at the little black fruits. "Lemons huh, ok." Psychus said looking at the pyramid of fruits set up for sale. "two sats each, let's get a few." he said looking at the tag.

Eduardo started to grab the little fruits. "Ok."

"Wait." Said Psychus. "Let's try to get some that are different from each other, I don't know how to tell if they are ripe," he explained.

"Right," Eduardo said. He began inspecting the fruits.

Together they picked out about ten of the apricot-sized round fruits. Their skin felt rough like sandpaper as they picked them up.

They carried them to the counter, the clerk stood up straight and began to ring them up.

“Just lemons huh? ” she asked.

“Yes, thank you,” Psychus said.

“Alright, your total is eighteen sats,” she said.

Eduardo pulled out a sixty-sat coin and handed it to her.

She pulled out a drawer of coins and placed it into an ordered row of sixty sat coins. She pulled out a thirty-sat coin, two five-sat coins, and two one-sat coins and handed them to Eduardo. “Have a nice day,” she said.

Eduardo carried the lemons out of the building and walked past the smoking men who were now sitting down. They walked around the side and Eduardo opened a hole to the front yard of the plantation.

They walked up the stairs and Psychus shifted the lemons he was holding into one hand so that he could open the door.

The buttery smell in the house had grown stronger. Psychus and Eduardo carried the lemons into the kitchen, Joctur was back at the table sipping a glass of wine.

“Wow, that was fast even for a guy that can teleport,” Joctur said. “The leeches aren’t quite ready yet,” he added.

Psychus set his lemons down on the table.

Eduardo added his to the pile.

“Perfect, thanks, guys!” Joctur exclaimed. “I only really needed one, but they keep for a while,” he said, inspecting the lemons.

“Can I eat one?” Eduardo asked.

Joctur looked at Eduardo like he was crazy, a single eyebrow raised on his dark-orange forehead. “Sure, but I wouldn’t. They’re for sauces and stuff,” he explained.

“So you don’t eat the skin? Can you show me how to get the edible part?” Eduardo asked.

“How about this, I’ll make the sauce with half a lemon, and you can have the other half,” Joctur said picking up the biggest one they had bought. He brought it to the counter and pulled out a paring knife.

“Yeah, sounds good,” Eduardo said.

Joctur began making a thin circular cut around the skin of the fruit. Once he had cut the skin in a ring around the outside, he pulled the skin off in two pieces. A translucent juicy looking orb of fruit fell out. Psychus could see seeds sitting silently in the center of the orb.

Joctur cut the orb in half with a chop. The inside looked gelatinous. He flicked the seeds out with the tip of the knife and handed a half to Eduardo.

Eduardo popped it into his mouth and started to chew. His arms rose up with his elbows bent. His fingers started to spasm. His face crumpled like a slice of paper being sucked into a vacuum.

“I warned you dude,” Joctur said.

Eduardo swallowed and let out a small cough. “Can I have another?” he asked.

“Yeah...” Joctur said, looking at him with concern. He took the other half and began to make a sauce. He poured a small amount of orange oil into a pan and dropped in the fruit. He gathered a small amount of Cheyttle powder and added it to the mixture. He got out a fork and mashed up the fruit with the powder. Once the lemon was disassociated to a liquid, he turned on the heat to low and began to stir. He took a peek under the lid of the steaming leeches and nodded. “Ok, could you go get the kids? Lunch is almost ready.”

Psychus went to go tell the kids while Eduardo peeled a lemon with his hands. He found them all in the living room, Jannus was there too. Concrete was standing on the holotelevision and acting something out.

“Hey everyone, lunch is almost ready,” Psychus said.

“Leeches!” Yelled Gahmba.

There was a scramble, the kids ran out of the room and Concrete hopped down. Jannus was the last out, carrying Granta. She flicked out the light as she left the room.

Psychus stood back as the stampede of children rushed down the hall. He followed behind Jannus back to the kitchen. When he reached the kitchen the air was humid and buttery. The children had silverware but no plates. There was a large cloth laid out on the table.

Joctur was draining the pot carefully into the sink, he looked like he was going to pop from the effort, his face was flushed.

The hot water had a slight Holbehn tinge to it as he poured it into the sink. Once he had finished draining the water he set the pot down and took off the lid, he fished out a large steaming tray from the bottom of the pot with a pair of tongs.

Joctur hoisted the pot and came to the end of the table. "Back up, hot!" he said as the children leaned in. They leaned back.

Psychus came to sit next to Eduardo.

Joctur tipped the huge pot, the conical creatures which had been in the crates Ontus had brought after the hunt spilled out. They had taken on a crimbehn color. The creatures tumbled down the length of the table. Plenty to go around.

Joctur fetched a ramekin of the lemon sauce and put a few of the leeches into the fridge before he came to sit down as well.

The children each grabbed a leech and pulled the thin flexible shell off of the acoelomate animals like the sheathe of a sword. The leeches seemed quite unlike the other life on Adobrasig. Psychus was most reminded of the small creature Eduardo had caught for Dr. Inochi that morning in the cressek.

Psychus picked up one of the hot wet leeches by the thick part, all around him the children were happily eating the leeches. Psychus pulled off the shell with a sucking noise, the creature didn't appear to have a mouth, just a suction cup. He looked over the meat of the leech, the children seemed to be eating the entirety of theirs, they had all started at different parts of the cone, but from what he could see the leech was solid meat all the way through. He sliced a disc out of the middle, the soft meat was fibrous but not stringy. It had a mild salty flavor.

Psychus detected the faint taste of adobrasigian meat, but the dominant taste was like crab. He ate his way through the disc on his fork and sliced off another. He ate disc after disc until just the shell and suction cup were left. He grabbed and shelled another.

Joctur had finished two of the large leeches with his oil and Cheyttle and lemon dipping sauce. He stood up and washed his hands before collecting all the shells back into the pot. He ran water over them and poured it out. He kept doing it for a while.

Psychus took a bite of the second leech, it was a bit smaller and the meat was much softer. He savored it as he ate bite after bite of the pale crimbehn-streaked meat.

Eventually, the shells were all washed and the leeches Joctur had cooked were all eaten, except the ones he had put away in the fridge. The children washed their hands one-by-one and scattered throughout the house. Jannus rolled up the wet cloth from the table. Concrete gave his parents each a hug before he approached Eduardo and Psychus.

“I’ve got to get back to class, can you drop me in the center of campus?” Concrete asked.

“Yeah, no problem,” Eduardo said. He opened a hole to the middle of campus.

Concrete jumped through and Psychus could hear a woman yell “What Th-“ as the hole closed.

“I’m so full,” Eduardo said. He had eaten three of the leeches.

“Yeah, I think I need a nap,” Psychus said.

“I could use one too,” Eduardo said.

They headed off to the room and laid down. Psychus rolled onto his front and fell asleep face-down.

Chapter

“The power of love is a curious thing, make a one man weep, make another man sing.”

- Huey Lewis, The power of love.

When Psychus awoke it was mid-afternoon. Eduardo wasn't in his bed. He hopped down from the bunk and looked at the color wheel. He felt peaceful looking at the pattern Neptulak had made.

Psychus left the room, stretching his arms above his head as he yawned. He felt like he needed some Cheyttle.

Psychus walked down the steps to the entryway, the house was quiet, class must be in session. He walked into the kitchen. Neptulak was sitting with a cup of Cheyttle and the carafe. She was reading from *Stranger in a Strange Land*.

Psychus grabbed a cup and sat down across from Neptulak.

“Hello,” she said.

“What did I miss?” Psychus asked as he poured himself some Cheyttle.

“Well, Jakiah lost a tooth. That's about it,” she said.

Psychus took a large sip of the Cheyttle, it woke him up completely as soon as he did. "How's the book?"

"Fascinating, I'm much better at reading now too," she said smiling. She let the book close and sipped her Cheyttle.

Out the window, the day had worn on in Psychus' absence.

The large pot Joctur had used to cook the rhinoceros leeches was on a low heat, something was stewing.

"What's in the pot?" Psychus asked.

"Dad's making stock from the shells, I think he's making a bisque tonight," Neptulak said.

Psychus thought for a moment about the animals he had seen on Adobrasig, the leeches, the little creatures in the soil, the pictures of oobals, the rhinoceros, at the thought of which he shuddered a little, the jumping lump creatures in the cressek, the honeybees, the ants. "Do you know why the ants under the plum tree are fighting?" he asked.

Neptulak looked at him eyes wide. "I always wondered the same thing! When I was younger I used to pull them apart! " she said.

"Eduardo was able to sort them onto their own plum chunks with his holes, but they probably started fighting again as soon as we left them alone," Psychus said lamenting the foolishness of the ants, he frowned.

“If they could understand, I’m sure they would appreciate it,” she said, putting her hand on top of his.

They sat in silence for a moment. Psychus looked into Neptulak’s eyes. She had such an interesting face, bright orange with hazel eyes. Her head was a bit boxy.

Neptulak smiled and withdrew her hand. “The thing with the ants is, I realized eventually that I couldn’t stop them. Eventually, when I talked to my mom about it she reminded me that they fight in nature, without the competition they provide to each other, they would reproduce to unsustainable levels,” she explained.

Psychus felt better, his momentary malaise had passed. “Thank you, that is a good perspective,” he said. He leaned on his hand with his elbow on the table. He felt the short tightly curly beard on his chin that had grown in since he left the school. He hadn’t shaved since the morning he came to meet Eduardo.

“It’s strange to think you have only been here a few days.”
Remarked Neptulak.

Psychus nodded. “According to Eduardo, Dr. Inochi says she will need to stay here about a week,” he said.

“Wow! That’s great!” Neptulak said smiling. “You’ll be here for my birthday! ” she added, sipping her Cheyttle.

“Yes, I suppose so,” Psychus said. He thought about what it would mean to spend sixty Adobrasigian days on Adobrasig.

Already it had been the strangest few days of his life. “You’re going to need to explain some things to me while I’m here,” he said, once he had finished thinking.

“Sure, but you too,” Neptulak said, she started to laugh. “Some of the stuff in this book, I just don’t get it,” she said shaking her head with a smile.

“I haven’t actually read it, but I could do a pass when you finish,” Psychus suggested. He was able to read quite fast.

“Ok! It will be a few days though. I’m picking up speed, I can almost read as fast as in hackety znak now.” Neptulak said tapping the book. Her other hand was wrapped around the hot Cheyttle cup.

“Alright, I’ve got another question,” Psychus said. “Have you ever been into a cressek?” he asked.

“Oh no, well... I went down a layer with my uncle once, but not to the water.” Neptulak answered. “My turn! How long have you known Eduardo?” she inquired.

“In Adobrasig time, less than half a week,” Psychus answered.

“You seem so close though! I would have guessed he raised you.” Neptulak said, tilting her head to one side slightly.

“He almost did actually, now that you mention it. He designed the training I told you about.” Psychus explained. “When we met, I don’t know how to explain it, but I felt that we were like kindred

spirits." he continued. "I'm not sure I would have ever met him if he didn't open the first hole he ever made in public." he finished, sipping his cup dry. He reached for the carafe.

Neptulak passed it to him. "How did that go? " she asked, referring to the incident with the first hole.

Psychus poured the Cheyttle as he answered. "Well it exploded, if it weren't for the med-tech we have on Earth he would have died, no question," he said.

"Oh wow! So how can you be so confident stepping through the holes he makes? " she asked.

Psychus himself didn't consider the holes dangerous until the rhinoceros hunt, but he trusted Eduardo. "Well I watched him practice for a while, and the thing is, I never mentioned but we both have the same rare condition that impacts our ability to repeat actions from memory. Once I saw him go through them I didn't think about it much," he explained.

"Condition?" Neptulak asked, she looked concerned for a moment.

"Because of Eduardo, I was able to face a much shallower slope to climb. We're both functional now." Addressing her concern first. "We have a condition called Bifurcated Neocortex - Extreme Hippocampal Hypertrophy type three. The major

symptoms are repetitive behavior and reduced skill retention.”

Psychus said.

“Do you feel like it has been a disability for you?” Neptulak asked.

“No, I don’t,” Psychus said, he thought about his life. The first few months were a strange pit he rarely entered intentionally.

“Because of Eduardo’s insight into the condition, I was able to overcome the major difficulties at a very young age,” he explained.

“I’m pretty sure Concrete is autistic,” Neptulak said, it was all she could relate to the topic.

“What makes you say that?” Psychus asked, he thought back through his interactions with Concrete.

“When he was younger, he was such a know-it-all! He used to correct me about all kinds of minor things, mostly science.”

Neptulak said. “Maybe it was because he was my older brother... But he always seemed so interested in the life sciences.” Neptulak continued. “He spent most of his free time reading about bugs and the like,” she finished.

“I see,” Psychus said, unsure how to respond.

At that moment Eduardo walked into the room. He was wearing his goggles.

“Hey man.” Psychus greeted him.

The goggles were swirling. “Hey guys,” Eduardo said as he made his way to the table. “How's the book?" he asked Neptulak.

“I love it so far,” Neptulak said.

Eduardo opened a hole to the cabinet and retrieved a cup without standing up. He poured himself some Cheyttle and took a sip. “Dr. Inochi says the analysis is going well Psychus,” he said.

“That’s good,” Psychus said idly. He was looking out the window at the field. From here the tomato sprouts looked to have grown quite a bit.

“I’m excited for nochtmeal,” Eduardo said. “I really enjoyed the leeches,” he added.

“They were really quite nice.” Psychus agreed.

“You should let my dad know you liked them,” Neptulak said. “He’s very proud of his cooking,” she explained.

“I’ll make sure to let him know.” Said Eduardo.

They sat in silence for a moment sipping their Cheyttle. Neptulak opened the book again at the silence, flipping a few pages to find her spot.

Psychus used his radio chip to contact Eduardo silently. “Should we just leave her to read? She seems so engrossed,” he asked.

“Perhaps,” Eduardo answered.

Eduardo stood up quietly.

Psychus followed.

They walked out to the back porch.

Joctur was sitting with a glass of wine overlooking the fields.

“Good evening, how was your nap? Those leeches will get to you!” he greeted them.

“It was nice, those leeches were delicious,” Eduardo said, sitting down at the table.

“Yes, they were excellent.” Psychus agreed.

“I’m glad you liked them,” Joctur said, smiling toothily.

“Everything I’ve had since I got here has been really good,” Eduardo said.

“Well, the cressek food was a bit strange,” Psychus said.

“When did you have cressek food? Did you eat in the cressek you went to this morning?” Joctur asked.

“No, it was when we went with Ontus to Touchdown,” Psychus explained.

“I see,” Joctur said.

They looked over the trees and sprouts in the afternoon sun, the light giving them energy and happiness.

“What’s been the best part of being on Adobrasig?” Joctur asked.

Eduardo spoke first. “For me, it’s gotta be the stuff from the clinic,” he said.

Psychus thought for a moment. His first thought was the color wheel Neptulak had made him, his second thought was teaching Neptulak to read. He felt strange admitting it though. “I enjoyed making this ring, also turning the hives,” he said. It wasn’t far from the truth, he had enjoyed himself.

“Well, that’s good,” Joctur remarked. “Bisque tonight, by the way,” he added.

“Very exciting.” Said Eduardo.

Joctur sipped his wine. “I should probably go check on the stock,” he said as he put down the emptied glass.

Joctur stood up and swayed a bit before walking into the house through the back door.

Eduardo and Psychus sat looking out over the orange plants. They just took in the light, they themselves being orange plants to an extent now. Psychus twisted his ring in circles around his finger, it moved smoothly and was comfortable in any position.

“Do you want to play a game or something, seems like not much is going on right now,” Psychus suggested.

“Yeah,” Eduardo said. He opened a hole and pulled out a deck of cards. “Ninety-nine?” he asked as he pulled the cards out of the box.

“Never played it, but sure.” Psychus agreed.

“Ok, the rules are simple. Sevens, eights, nines, and tens are special, everything else is worth just its face value. So I flip the first card...” he said as he pulled the top card off the deck.

“Alright, a queen, so all the royals are ten, but aces can be one or eleven but you have to call it when you play it. So the count is ten right now. We take turns laying down one card at a time until the next guy can’t play one because the count would go over ninety-nine” he explained.

“Ok, what about sevens, eights, nines, and tens?” Psychus asked.

“Sevens cut the count in half, if the count becomes a decimal you get to round up or down but you gotta call the total whenever you play a card. Eight flips the digits, so something like forty-five would become fifty-four, sixty-one to sixteen, and so on. Nine takes the count to ninety-nine, even if the score is already ninety-nine, so it's a very safe card to have. Ten can be used to add or subtract ten from the count.” Eduardo said as he laid three face-down cards for Psychus and himself.

Psychus nodded and picked up his cards. He had an ace, an eight, and a four.

“Alright, I’ll go first this round,” Eduardo said. He laid down a king on top of the queen. “Twenty!” he called as he laid down the card.

Psychus thought for a moment. Given the rules Eduardo had described the dominant strategy would be to accumulate the special cards. His preference should be to play the highest value non-special card he can every turn. He laid down the four. “Twenty-four?” he said, he was still getting the feeling.

Eduardo drew a card, so Psychus drew one too. He received another eight.

Eduardo slapped down a five. “Twenty-nine!” he said.

Psychus played his ace. “Forty, right?” he asked as he laid it down.

“Yes, that’s valid.” Eduardo agreed as he drew another card.

Psychus drew a jack. He watched Eduardo play the same card he had drawn.

“Forty-three!” he called, laying the three down onto the small stack.

Psychus analyzed the play a bit before making his move. If Eduardo knew the dominant strategy too, then by playing the three he had revealed that his two other cards were either lower than three, or were special cards. Psychus considered that there were only eight cards lower than a three, and sixteen cards that would

be too special to play. He held two of the special cards of course, and he had already played an ace. The remaining portion of the unplayed cards led him to believe that Eduardo probably had at least one seven, nine, or ten. Based on what he could do with those cards, Psychus laid down his jack. "Fifty-three," he said slyly.

Eduardo drew his card and Psychus drew his. Psychus collected a queen into his hand.

"Ninety-nine!" Eduardo said as he laid down a nine.

Psychus stared at it for a moment. He hadn't seen if it was the card he had drawn. "Well, you leave me no choice," he said as he pulled a card up out of the trio. He laid the eight down and it slid a bit across the heap of discarded cards that was forming. "Ninety-nine," he said quietly, as if aloof.

Eduardo nodded and pursed his lips appreciatively.

They drew their cards. Psychus pulled a two.

"Ninety-nine," Eduardo said sternly as he laid down yet another nine.

"I believe you will find that the count is ninety-nine," Psychus said as he laid down his second eight.

They drew. With a pang of relief, Psychus received a seven. He tried not to react as he added the card to his queen and two.

Eduardo laid down his cards. He had a six, a king, and an ace. "Well played. Again?" he asked.

“Yes, that was fun.” Psychus agreed.

Eduardo collected up the cards and shuffled the pile before he handed it to Psychus. “You start this time,” he said.

Psychus laid out a card and they began to play.

They played many rounds before Jannus came to fetch them for nochtmeal, the sun had moved across the sky as they played.

Eduardo placed the cards back where he had got them from with a hole and they went inside.

The house smelled like spicy moisture. They followed Jannus to the kitchen.

At the table, the children sat eating from bowls of creamy orange soup.

Joctur Scooped a large bowl full of the soup and handed it and a spoon to Psychus with a smile, he filled another for Eduardo.

The soup smelled delicious, it had a bit of a licorice scent among the balanced aroma.

Psychus sat down and began to eat the soup. The bisque had large chunks of leech meat in it, they had retained their quality since lunch. The orange creamy portion of the soup had a taste a bit like Cheyttle but with more depth. There were some small flecks of brown material and orange leafy specks in the soup. Psychus ate happily.

The family quietly ate the soup before Jactus burped loudly and the younger children began to laugh and talk.

Psychus ate his soup until the last cooled, scraped-up bite. “Well done Joctur, this soup is fantastic,” he said graciously.

“Thank you, it's the homegrown tomatoes that make the difference,” Joctur said.

The sun was setting, the orange sky outside the window gave the time more than a clock.

“Alright, almost fifty, bedtime!” Joctur called as the children cleared their dishes and the snails chirped outside. “Who’s turn is it to pick the book?” he asked playfully.

“Me!” Yelled Raddlei.

“Alright, you six, go get ready for bed!” Joctur said, chasing the younger children out of the kitchen and up the stairs.

“I could sleep,” Eduardo said.

“Yeah, me too,” Psychus remarked.

The two men cleared their places and carried their tired bodies to the guest room.

As the young kids stampeded around the house getting ready for bed, Psychus and Eduardo fell asleep.

Chapter §

"Work expands so as to fill the time available for its completion"

- Cyril Northcote Parkinson, Parkinson's law

Dr. Inochi took a secondary role to Dr. Fluchtmann as the analysis began. For the entire remaining portion of the day she worked in a lab. Laboratory environments were soothing to her. She took infrequent breaks for Cheytle with Blous. She sent a text thanking Eduardo again, she let him know the analysis was coming along. Together with a large crew of students, they extracted the DNA present in every sample, the DNA was sequenced in high fidelity by an automated nanofluidic sequencer. The technology was a bit outdated from Dr. Inochi's perspective, but she knew how to use it.

As each sample came through sequencing the DNA sequence returned was added by comparative analysis to a phylogenetic tree. By nochtmeal, the tree had grown to tens of thousands of species of microorganisms. A few soil-borne multicellular simprotista bridged the gap between the single-celled simprotista and the gnat-

like bugs Dr. Inochi had collected, as well as the small animals the students had collected and the creature from the water that Eduardo had captured for her, which Dr. Fluchtmann called a fish.

Dr. Inochi loaded the extracted DNA from the material contained in the coelom of the small creature from the water. The machine began to sequence as Dr. Fluchtmann suggested that they get something to eat.

Dr. Inochi had had very little today, and despite the Cheytle, she was exhausted. “Yes, let's get something quick, but I want to wrap this up so I can focus on my classes and the tech translation,” Dr. Inochi agreed.

They walked briskly to the college dining area, as they walked they discussed the results. Dr. Inochi had learned a large amount about the microbes of Adobrasig today, looking at the samples through a high-powered optical microscope had given her more context for what she had read so far.

The two women each ate a plate of bland boiled oobal with ketchup and more Cheytle.

“I'm amazed by the biodiversity we have encountered so far.” Dr. Inochi remarked as they headed back to the lab.

“It's fairly typical, most bioprospecting expeditions only return a tiny fraction of the microbial population in the soil. It took

generations to account for the species present in the biomass early Adobrasigian scientists observed.” Dr. Fluchtmann said.

“Well, this has been a great thing for my own knowledge, even if it didn’t break new ground.” Dr. Inochi said wistfully.

“I’m sure my students appreciated a chance to do this type of fieldwork and laboratory analysis. It would have been hard to set this up, so I’m glad you came along. Thank you for pressuring the dean.” Dr. Fluchtman replied.

As they entered the lab only a few dedicated students were still studying the results so far. Dr. Inochi went back to the automated sequencer and took a look at the results.

“Blous!” Dr. Inochi yelled as she looked at the results.

Dr. Fluchtmann had been discussing a specific result with one of the tired-looking students. She walked briskly over to Dr. Inochi. As she laid her eyes on the projected screen she put her hand to her face. “No, that can’t be right,” she said. She leaned in across Dr. Inochi and began to manipulate the results.

On the projection, the new results had been slotted into their positions on the phylogenetic tree. All except one. A single point sat alone, a label dangled off of it like an afterthought. The label read ‘incertae sedis’.

“Two persect homology... What in the world?” Dr. Fluchtmann muttered as she navigated into the genome of the

organism the sequencer had detected. The genome lit up with flashing red blocks representing the open reading frames. Every single open reading frame was labeled as 'unknown protein'. Only small fragments were labeled, possibly erroneously as homologous to previously discovered life on Adobrasig.

Dr. Inochi read the hackety znak labels. "Is this what I think it is?" she asked.

"No, no, it can't be," Dr. Fluchtmann half answered, half muttered as she scrolled through the completely novel genome. "Not photista, not simprotista, not adobrachea, not sactera, obviously not hemimycotinoida." Dr. Fluchtmann listed as she checked the homology. "This thing doesn't have any shared traits with anything in the database," she said, she was beginning to sound excited.

The few students gathered around to look.

"I think... I think this is a type species for a newly discovered domain of life." Dr. Fluchtmann finally said.

"Ok, just to be sure, the database has Earth life in it right?" Dr. Inochi asked.

"Yes, for historical reference and structural data all of the organisms known on Earth at the time of the partitioning are in the database." Dr. Fluchtmann said as she navigated to compare the organism to life on Earth.

“Zero persect match.” The screen flashed.

“What was this sample from?” Dr. Fluchtmann asked.

“The fish, it was part of its gut contents.” Dr. Inochi said.

“We need to go back. The ecology of the deep cresseks is poorly understood. With a discovery like this, we can get funding to do a dive!” Dr. Fluchtmann said, almost jumping for joy.

“That’s fantastic, but I just have one question.” Dr. Inochi said.

“Of, course, anything.” Dr. Fluchtmann said, looking Dr. Inochi in the eye.

“Well, it's a new domain, kingdom, phylum, class, order, family, genus, and species... What are we gonna call it?” Dr. Inochi asked.

Chapter Z

“The animals we feature, you know would never eat’cha. We sing so very sweet to you”

-The Topiary Creatures, Putt-Putt Saves the Zoo

Psychus felt a shaking in his sleep and opened his eyes.

Eduardo was waking him up by jiggling the bunk bed. Psychus sat up, “Yo?” he asked.

“I’m thinking maybe we could visit a museum today,”

Eduardo said, looking Psychus in the eyes.

“Oh, yeah, that sounds like fun, we could learn more about this place,” Psychus said as he stretched. He swung his legs out from under the light-blue blanket and hopped down onto the hard floor next to Eduardo. “Maybe we can make a field trip out of it, for the kids you know,” he suggested, a brief thought of Neptulak’s smile flashed through his mind.

“Of course, I’ll talk to Jannus,” Eduardo said as Psychus pulled on a pair of pants.

The two men headed out of the bedroom and out into the house. No sooner than they had entered the second-floor landing Jannus walked out of the kitchen, her face trained on her phone.

“Hey!” Eduardo called out.

Jannus looked up and pocketed her phone. “Yes, do you need something? ” she asked

“Not particularly, but I was wondering if there would be merit in an excursion to a historical institution today in lieu of typical class,” Eduardo suggested.

“A trip? Sure. What did you have in mind?” Jannus asked.

“I’m not certain, perhaps you could help me pick?” Eduardo offered as he hopped quickly down the stairs to speak with Jannus, two steps at a time.

Eduardo and Jannus walked off toward the classroom as they discussed the options for a day trip.

Psychus shrugged inwardly and headed to the kitchen. As he entered he saw the tomato sprouts had grown even more overnight through the window at the end of the table.

“Good morning,” Jarby called out from the stove. He was cooking something with a quiet sizzle.

“Good morning, looks like we’re going to a museum today. Eduardo’s got a notion.” Psychus said informatively.

“Ok,” Jarby replied, focusing on the food.

“What are you making?” Psychus asked, walking over to Jarby’s side. The square pan with a long handle appeared to contain plum skins in oil.

“Fried plum skins,” Jarby said as he flipped them with a thin wooden skewer. The undersides of the skins that had been touching the pan had visibly taken on a foamy light-blue color and texture. “I can make more.” Jarby offered.

“Well, if it’s not too much trouble,” Psychus said. The smell of the plums was faint throughout most of the kitchen, but right over the stove, the smell was richly sweet and appetizing. “Can I help?” Psychus asked.

“Not really,” Jarby replied, moving the skins around in the oil with the skewer with a fresh sizzle.

Psychus went to sit down at the broad white table. He pulled out his phone. He scrolled through a newsfeed briefly looking for information about the progress Dr. Inochi was making in her mission. He spotted a rather sensational headline that seemed relevant: “New Life? Touchdown Community College Staff Confirm!”.

Psychus began to read the article, scanning for Dr. Inochi. About halfway through the surface-level article, Psychus spotted a picture of a small group of tired-looking people in a dimly lit laboratory, he recognized them from the trip to the cressek, and

among them was Dr. Inochi. “Called it,” he said aloud, absentmindedly.

Jarby brought over the plate of hot sizzling crispy plum skins and a pair of wooden skewers. He rolled a skewer over to Psychus and speared the end of one of the skins.

Psychus put his phone down and followed Jarby’s lead.

Jarby dipped the hot cyan skin up and down over the plate to allow for any extra oil to drip off before taking a large bite from the bottom with a crispy shattering noise.

Psychus bit his in the same way once the dripping had stopped. The texture reminded Psychus of a prawn cracker, but the strange almost caramel sweetness was a fresh take on the consistency.

When Psychus finished his first one, Jarby had already eaten three. Psychus plucked one more plum skin from the plate with his skewer and took a bite. The second skin was a bit cooler and less crisp already since it had been cooked.

Eduardo walked into the kitchen with Joctur.

“Hey guys, Jannus and Eduardo have worked out a great plan for today. Since we can use Eduardo’s holes to go all over, they have picked out entertaining and educational institutions all over the planet.” Joctur said.

“Ok, cool,” Jarby replied as he deftly poked the last of the plum skins.

Word spread quickly through the building, within minutes the family was ready and assembled in the entryway of the farmhouse.

“Alright, first stop, Outreach Zoo and Botanical Gardens,” Jannus announced as she pulled up a map for Eduardo.

Benno cheered.

As Eduardo scrolled around on the map the kids talked excitedly. He pulled out his goggles and put them on his face with a quiet tap of the magnets engaging.

Psychus approached Neptulak sitting with her book on the bottom step of the stairs. “Oh, this is exciting. I’ll get to see all kinds of animals. Want to be my guide?” Psychus asked.

Neptulak quickly folded the corner of the page she was reading so that the corner pointed to where she stopped. She put the book down on the stairs and stood up. “Sure thing! ” she said happily.

“Alright, got it,” Eduardo said, putting his goggles into his pocket. He made a bit of a flourish and spun on the spot before spreading his arms and opening a hole to the parking lot of the zoo in outreach city.

The family began to file through. Jannus carrying Granta in the lead. Psychus and Neptulak crossed last, except for Eduardo.

The high noon sun of Adobrasig shone down hot here Psychus felt wide awake as the sun energized him. The air was humid with a faint hay-like odor.

Jannus corralled the children into a huddle and began grouping them up. "Jarby and Ponta, you take Benno and Jactus." She began. Jarby and the twins split out of the circle and headed to the entrance, Jarby's pockets loudly jingling as he walked. Ponta followed quickly behind the twins who were already hitting each other.

"Vitsam, you take Wayn. Neptulak can you take Villi? Jerrika, take Gahmba, Hetra, you go with Jerrika too actually. Fidrick, Lojo, look at me, buddy system, ok?" she continued.

"Alright, Wresse, Raddelei, Pendecha! You guys are with me and daddy." she finished.

The groups broke out, Joctur handed out pocket money to the elder of each group and sent them off to the entrance. As he handed several sixty sat coins to Neptulak he told her and the others, in turn, to meet back in the parking lot at the specified local time.

Eduardo walked with Neptulak and Psychus to the entrance which was made from orange stones arranged into an arc forming an opening in the outer wall of the zoo. There was a clear donation box mostly filled with coins of various sizes, but no till.

Directly inside there were several paths to take, wooden signs pointing to exhibits that were separated by habitat biome.

Neptulak was holding Villi's hand as they walked. "Which one do you want to see?" Neptulak asked Villi.

Villi put the fingers of her free hand in her mouth for a moment and jumped haphazardly in place. "Uhm! " she exclaimed looking around.

"Read the signs." Neptulak prompted kindly.

Eduardo pulled Psychus aside for a moment as Villi began sounding out the words. "I'll catch you later, I'm going to try to see everything, plants first though," Eduardo said, he patted Psychus on the back of his shoulder and began to walk away.

"The small world!" Villi said excitedly as she decided.

"Ok, let's go," Neptulak said.

Psychus followed along. "Small world huh?" Psychus asked. He had no idea what to expect.

"It's just going to be terrarium stuff mostly," Neptulak said.

"Hmm, Eduardo probably would have liked that, he has a terrarium back on earth. It has a snail in it, two now, come to think of it." Psychus remarked.

Villi pulled Neptulak along the orange brick road as fast as her short legs would allow. The trio passed a sitting pavilion that was serving iced drinks to people at tables as they walked.

The plants along the sides of the path looked different than what Psychus had seen on Adobrasig so far. Many of the plants bore small metal plaques that announced their species and origin.

“Wow! Those plants are quite pretty.” Psychus said pointing a bit down the path a short distance to a clustering bloom of crimson stalked cyan flowers.

“I’ve never seen them before. What does the plaque say?” Neptulak asked as Villi yanked her along with the strength of a small child.

Psychus jogged ahead a few steps and knelt to read the plaque. The smell of the flowers was powerfully sweet, almost to a miasmatic degree. “Woozy Ambrodesia, *Mutuusa ambrosensis*” Psychus called out as he read the hackety znak plaque title. He committed the rest of the plaque to memory and stood up just as Villi and Neptulak caught up with him.

“I’ve never heard of that,” Neptulak said.

“The plaque said it grows on cressek walls in ‘equatorial territories’” Psychus reported.

“Well at least it's not something I saw before and forgot then, I’ve never been to the equatorial territories. I’d be surprised if I had forgotten a plant like that.” Neptulak mused as they approached small world.

Small world was a large building made of the same orange bricks as the path and walls they had seen. The building was windowless and surrounded by mechanical equipment clusters that were emitting heat through the metal grates surrounding them.

Psychus opened the door for the two girls and followed them inside. The air in the building was cool and dry, almost cold. Directly inside were many large wall-terraria, several of them were filled with moist soil to varying degrees. The room was dark except for the lights in the terraria. One housed a sort of pond with continuous flow from a nozzle at the back of the tank. The three were alone in the room.

Neptulak let Villi run to the tank with the running water, as it had caught her eye.

Villi pressed up to the tank and looked with fascination at the little creatures in the pond.

Psychus and Neptulak walked up to a long wide terrarium and read the plaque together. “Fossorial ecosystem sample of northern pole,” they said in synchronous speech. They walked along the dimly lit tank looking at the tunnels visible through the glass.

Some of the tunnels were large and seemed to go for long distances before turning inward to the interior of the tank, others were narrow and wiggly, only coming into contact with the glass for short curvy bursts. The surface of the soil had many holes of various sizes where the small creatures living somewhere in the cold block of dirt had risen to the light for their own reasons. Small orange plants with bristly spindles for leaves sat still and frost-covered in the tank.

“Oh! Look there, something is moving!” Neptulak said.

“I want to see!” Yelled Villi, who came running over.

Neptulak picked Villi up to look.

Psychus peered into the tank.

A sort of segmented black insectoid creature was moving small pieces of balled-up dirt out of a hole at the base of one of the plants with two pairs of long spindly legs with spoon-like tips.

“What’s that?” Asked Villi.

Psychus looked at a key of the animals and plants in the exhibit that was displayed along the moulding above the tank. It took a moment to see which it was.

“Seems to be an ‘Ice-Born Egliops Beetle’,” Psychus said, reading the plaque.

“OK!” Villi Said.

Neptulak put her down. She hopped away to another tank.

“Let's look at that one,” Psychus suggested, pointing to the tank with running water.

They looked into the tank together. Many small segmented and ornamented creatures bedecked the small body of water. Psychus had trouble visually interpreting where one ended and another began.

“Wow, where is this from?” Psychus asked. The many small colorful creatures moved around slowly, their small dance seemed to be based on not making physical contact. As the water flowed over them, they moved only enough to stay where they were.

Small trails in the orange photist biofilm on the stones in the tank behind some of the creatures showed where they had been as they ate their way along. Some of the creatures looked like the leeches. Others looked like nothing Psychus had seen before, body parts that almost resembled flags, an orange cone here, a pulsating ring of purple and red there, slowly crawling along with each pulse.

“Lake Thobak bottom-dwellers.” Neptulak read from the plaque.

“Lake Thobak?” Psychus asked.

“It’s the largest body of water on Adobrasig, besides the cressek network,” Neptulak answered.

“Hey come look!” Villi called from across the room.

Neptulak and Psychus walked over to the tank where Villi was standing on her tip-toes to see.

A small mechanical duct at the back of the tank was releasing a sort of pulpy mash of plant material into the tank.

Psychus had a momentary flashback to Breadworld Nu as he recognized the function of the machinery as a feeding apparatus. He shook off the feeling of disgust by looking closely at the pulp. It was glisteningly moist and colored in a swirl of red through yellow. It looked appetizing.

As the machine finished depositing the material, it let out a small puff of air that cleared the line. It retracted silently behind the glass.

As the three watched the tank, a large number of very small low-slung crawling animals emerged from small crevasses scattered throughout the bright yellow foliage within.

They approached the pulp almost in unison and began to crawl on it. Their little bodies were rounded near the front and tapered off into a point, they looked like little skittering gray teardrops. As they crawled around they pushed the pulp into small balls and each began to roll theirs away in turn. Within a minute the creatures had taken their share and left.

A stone in the corner of the tank shifted slightly. Villi watched with wide eyes.

From beneath the stone a scuttling creature, which walked sideways much like a crab, emerged and crawled between the plants to the pulp. It was much larger and the plants shifted slightly as it pushed past them. It reached the pulp and turned to face it. The top of its body began to open along the middle. A three-segmented mouth unfolded from the slit in its back and plunged into the pulp. The pulp began to indent around the feeding appendage as the thin dark tube filled with orange material.

Psychus looked up to the list of creatures in the tank, the very first image he saw fit the appearance of this scuttling animal. “*Siphonosaprus ambulatus*, ‘The Walking Saprotrite’.” Psychus read from the description.

“Oh wow, I didn’t realize saprotrites could move like that!” Neptulak remarked.

An elderly couple entered the room from the staircase in the back. They quietly made their way to the exit.

The saprotrite drank a large portion of the pulp and began walking back to the stone it had emerged from beneath, albeit much slower. It retracted its mouthparts as it walked and closed its body.

Villi had grown bored of the pulp-eating creatures and moved on to the last tank. The last tank was in the center of the room.

Neptulak and Psychus turned around as well and followed her.

The tall tank contained a large mound of small twigs and soil. The mound had many small familiar creatures crawling on it.

“Oh, it’s an anthill,” Psychus observed.

The three watched the ants moving around for a little while.

“Ok, Villi, do you want to see the rest of the things in small world? Or do you want to go see some good big animals before we leave?” Neptulak asked in a leading way.

“Uhm! Big animals.” Villi said.

Neptulak checked her phone, they still had a few hours.

They left the cold dark room into the hot bright outdoors. The humidity was a bit oppressive compared to the dry air of small world, but the light from the sun on their skin offset the feeling.

They headed down a second path leading to somewhere else in the zoo and away from small world and the buzzing machinery. A small stand of short trees with oddly wide and flat trunks dangled their wispy orange branches above the path, bugs fluttered around them. They walked under the branches in silence for a moment, the air was peaceful out of earshot of the small world cooling machinery.

They came upon a fork in the path with a pair of signs. One pointing left, advertizing “Creatures of the Cresseks” the other pointing right, offering “Nocturnal Hunters”.

“Ok Villi, what do the signs say?” Neptulak asked.

“Nocturnal Hunters!” Villi said first.

“Y’and?” Neptulak prompted.

“Creatures of the Cresseks!” Villi read.

“Good job! Which one then?” Neptulak asked.

“Cresseks!” Villi cheered.

They began down the path toward the Creatures of the Cresseks exhibit.

The path wound down a gentle slope with terraced rocky plantings of small dark orange succulents. A few of the succulents were in bloom, they displayed short fleshy stalks with little bell-shaped blooms of varying colors from white to holbehn.

At the creatures of the cresseks exhibit, there were a few small groups of people standing around glass-walled pits. The exhibit

was within a small valley surrounded by thick orange shrubbery of many varieties on the sides of the paths leading to it.

The first pit the trio came upon contained a series of craggy stones with many small crannies across their surface. The bottom of the pit was full of clear shallow water with small floating orange plants dotting the surface. Beneath the surface were a few lurking lumps. The lumps sat nearly still, the only indication that they were animals came from their slow rhythmic gill-breathing, their bodies expanded and contracted beneath the water.

They moved on to the next pit after a moment. The exhibition area was quiet except for the soft conversations of the groups of people around them. The next pit was quite a bit deeper, it also contained water but much more. The water appeared brackish, orange-brown from the photists growing in it, small bits of debris floated in the swill.

After a moment of staring into the pit, Psychus recognized a pattern he had seen before. “Oh look there, those two rows! I think those are eyes.” Psychus pointed out. Neptulak and Villi peered through the glass to see the eyes Psychus was talking about.

The creature was almost completely submerged except for two rows of eyes arranged along ridges on the top of its head.

The arrangement of the eyes strongly reminded Psychus of the rhinoceros. He walked around the pit a bit to find the plaque. The plaque was on the ground beneath the glass.

“*Orthoplacomorpha superprehendere*, The Cressek Crocodile.” Psychus read aloud to himself. The plaque had a small image of the creature carved in relief into the metal. Its body was stocky, with six jointless legs and a long head with a large mouth. The plaque went on to explain some anatomy and ecology, including the system of gas-bladders within the exoskeleton that allowed it to float just beneath the surface, as well as its preferred method of ambush hunting and its natural prey ranging from small fish to cressek-leapers.

Villi was hugging Neptulak’s leg as she watched the eyes in the pit.

“Hmm, let’s move on,” Neptulak suggested, turning Villi around.

They walked out of creatures of the cresseks down a path marked with a sign reading “Humongous Herbivores”. As they walked down the path the shrubs gave way to patchy grasses. They rounded a curve in the path where the path-stones were placed around a tree with benches. Under the far side of the tree, Jarby, Ponta, Benno, and Jactus were sitting on a bench.

“Hey guys. Taking a load off?” Neptulak said, greeting them on sight.

“Hey,” Jarby replied, tapping a pebble from his shoe. “Yeah, we’ve been going really fast,” he explained.

“So far so good?” Psychus asked.

“Nocturnal hunters was cool!” Benno interjected.

“Are you headed this way then?” Neptulak asked.

“Well in a minute, yeah, but I need a break,” Ponta answered.

Psychus looked at the tree. Its broad trunk was flaky at the surface. Thin oily-looking layers of dark orange bark were in various stages of peeling as Psychus looked up the base of the tree. The tree’s height was roughly triple that of psychus. It spread its spindly branches above the small resting area. The long yellow leaves of the tree were ovate and appeared in tufts along the branches.

Psychus knelt and inspected the plaque nestled among bark flakes at the base of the tree as the children rested. It read “Rhosquamosa yahtenze - The Dwarf Flakebrush Tree”.

“Neppy! I want to see animals!” Villi proclaimed suddenly.

“Ok, see you guys later,” Neptulak said.

Psychus followed with her as she led Villi down the path to the herbivore exhibits.

Down a gentle slope, the edge of the first exhibit was bounded by thick metal bars roughly twice Psychus’s height. Villi began to pull Neptulak along as they went down the hill.

“Mantalorts!” Yelled Villi joyfully as she spotted the large animals in the distance.

Psychus looked at the mantalorts, they stood hunched like toads, a large fleshy mantle extended from both sides of the animal

above but connected to the head, the mantle tapered smoothly into the lump-like body. Upon the faces of the mantalorts sat a pair of large glossy dark eyes facing in almost opposite directions. Some sort of thick appendage extended from between the eyes.

Around the front of the exhibit, a small group of people had gathered to watch the mantalorts.

The trio oozed into the crowd smoothly. Neptulak gently hoisted Villi up onto the footing of the exhibit fencing.

The mantalorts meandered around the pond in their enclosure. The largest of the mantalorts stood under the shade of a tree and periodically made a loud rumbling sound.

Villi stamped one of her feet on the orange brick footing. “Why is it making that noise?” She asked.

“She’s uh... calling for a friend,” Neptulak answered.

Psychus inferred from Neptulak’s hesitance and vagueness that it was probably a mating call.

“We can be friends!” Villi blurted gleefully. She began to imitate the sound of the mantalort, albeit at a much higher pitch.

Psychus and Neptulak made brief eye contact and smiled.

They stood and watched the mantalorts for a while as the crowd around them grew and ebbed. After some time had passed, Neptulak guided Villi to move on. “Hey Villi, do you want to see some more animals?”

“Yes!” Villi answered. She hopped down from the footing on

her own.

The three began walking along the path they had been following again.

Chapter †

“A river in a dry land
The last ace in a lost hand
A heartbeat for a tin man
Oasis in a singed land
I'm keeping the balance, but I'm standing On razor's edge now
Move quick or my life is over
One strike, just a feint, then...
I'm outta his field of vision
Don't ask why I'm ready but I'm ready to
Strike him down now
A chance at a new start
There's no time for indecision
A river in a dry land
The last ace in a lost hand
When the hope of new beginnings burned our feet
Now we need it:
A heartbeat for a tin man
An oasis in a singed land
Remind us what we're here for:
Creating new life
Creating rivers in the desert”
- Rivers in the Desert, Persona 5

Dr. Inochi woke with a start. “Oh fuck!” She thought. The dorm room she inhabited was bright from the light of the Adobrasigian sun of the early morning.

“How long have I been here?” She asked herself. Checking her phone calendar proved pointless as the clock was set to Earth time.

She counted through the days, the hours before cementing the realization.

“I’m late,” she thought.

Dr. Inochi felt her abdomen. It had been centuries since she had borne a child.

“He has to know.” She thought as she remembered her night with Eduardo on Breadworld Sigma.

Dr. Inochi pulled up the text interface to send a message to Eduardo and found only a loss for words. “Today though.” She thought as she put her phone away.

She brushed her teeth and showered with tension, things suddenly got a lot more complicated. She dressed in a black button-up sweater and a pair of jeans as well as a pair of thick socks and tennis shoes.

Rationalizing for a moment as she left her room, Dr. Inochi calmed down. She began slowly gaming out the chain of decisions that would naturally arise as consequences of one another.

She briskly made the short trip through the campus to her first class.

Dr. Inochi was early.

The entomology class would start in about half an hour, and at this time of day, the building was silent. Susan sat in the brightly lit dome-shaped room. She didn't want to look at her phone.

"How do I say it?" Dr. Inochi thought, her lips tight and her jaw weakly clenched. "He didn't ask for this..." Dr. Inochi began down a train of thought but shook herself. "This isn't productive, I don't even know if I'm pregnant yet." She reasoned.

She did a more precise accounting for the time she had been on Adobrasig, considered the time since her previous menstruation, and the pattern of her previous menstrual cycles which she viewed as memory from her chip. Upon further analysis, she found that it would be statistically anomalous to be this far past her expected period due only to stochastic variance.

For a moment she felt happy, allowing herself a moment of unadulterated joy that she would be a mother again, followed by a thin pang of guilt.

Susan heard the footsteps of someone entering the classroom and looked back to see the professor.

"Good morning." Said the tall, thin, balding, bright-orange man with black hair as he walked down toward the front of the room to set his briefcase in its place.

“Good morning.” Dr. Inochi said enthusiastically as she prepared to silence her inner monologue with wholehearted learning.

“I know of you by now obviously,” The professor said in a friendly manner, “I’m Dr. Petraseg the instructor for this course. Have you enjoyed it here so far, I imagine you are beyond busy.” He said as he placed his green coat and briefcase in a chair behind the interface for the holoprojector. He walked a few feet back toward Susan but stayed at the lower elevation.

“I’m very happy to be here, and the classes offered by this university have been extremely enlightening.” She replied.

The professor smiled. “For what it’s worth” he began, swallowing before continuing. “Thank you.” He said, his voice suddenly choked and his eyes pink. He blinked and wiped his eyes. “Sorry.” He apologized.

“It’s quite alright, you know, I’m not a hero, just a messenger.” She said. “And you’re welcome, for what that’s worth,” She said smiling.

Dr. Inochi suddenly felt better. In the grand scheme, she reasoned, there wasn’t any downside to being pregnant right now.

The professor composed himself as well and he returned to the interface to start the class, students began to enter and the lesson began.

A projection of several large highly-detailed looping animated 3D models of Adobrasigian insectoid animals started up from the holoprojector.

“Welcome to Arthroplacology $\mathfrak{F}\mathfrak{F}$. This class will cover the biochemistry, ecology, and anatomy of the Arthroplacomorpha and the Ooarthroplacomorpha. If you are in the wrong classroom, please contact the university scheduling department.” Dr. Petraseg announced in an upbeat voice.

Dr. Inochi toggled her chip and began taking mental notes.

“Arthroplacomorpha and their sister taxon the Ooarthroplacomorpha are both found in every known ecosystem on Adobrasig. From the smallest Ooarthroplacomorph: *Oogonis microplacomata* which at imago, consists of only four-sixties-and-seven living cells and a thin layer of calciferous protein matrix...” The projector showed a small but unremarkable creature with four short legs and a round body. “...To the truly gargantuan Arthroplacomorph: ‘The Jug Saprotrite’ *Siphonosaprus amphorii*...” The projection shifted from the small creature to a visage of the side of a small decaying shrub which sported a large gourd-shaped saprotrophic creature with diminished limbs and tiny eyes.

Dr. Petraseg continued jovially, his eyes gleamed in the light of the projector as he primed the class with general information, no doubt curated over many weeks of teaching.

Shortly into the introduction, Dr. Petraseg transitioned into listing the details of attendance and grading, “This is a week-long twelve credit course with twelve one-hour lectures including the final, class is every five days. Given that the end of this week is new-year’s eve, please do note that the final will be hosted here at the same time, but on the fifth-ninth.” He explained while pacing slowly in front of the projection.

“Now.” Dr. Petraseg said, advancing the projection to an anatomical diagram. “The stereotypical Arthroplacomorph.” He continued, pointing to the animated projection. “Although there are many cases of morphological modification and diminishment to the point of vestigially, this general structure holds across the three extant subphyla: the Alatusplacota, the Trullaplacota, and the Amphibioplacota. However, the extinct subphylum the Spiroplacota does not follow this body plan.” He explained, advancing through type-species of each subphylum on the projection.

Dr. Inochi couldn’t help but make connections to other organisms she had seen and studied, Eduardo’s pet snail prominently figured in her thoughts. Although she had already learned in her personal study time that the Adobrasigian snail and the Adobrasigian rhinoceros were more closely related to each other than to anything Dr. Petraseg had been showing in this class, she wondered if the cryptobiosis exhibited by the snails was a

common trait among the animals of Adobrasig.

“A noteworthy anatomical difference shared by the Alatusplacota and Trullaplacota but not the Amphibioplacota is the malate gland. The malate gland is a relatively large tubular organ that runs through this section of the body cavity.” Dr. Petrasedg said, pointing out a membranous organic tube running through the dorsum of the diagram projections, it dimly flashed for emphasis.

“The malate gland is a storage organ, similar to the glycogen storage functions of the liver in humans, however, it is not used for processing exogenous compounds, and simply provides quick bursts of chemical energy.” Dr. Petrasedg explained further while progressing the projection to that of a biochemical pathway.

“Beginning with the depletion of GTP in the intracellular space, muscle nodules of the Alatusplacota and Trullaplacota secrete temondegine, a thirty-six amino-acid peptide molecule.

Temondegine generates what was originally interpreted as a fearful change in behavior, leading to fleeing, however less direct and invasive observation methods have elucidated that the natural effect and currently theorized reason for its secretion is to trigger the malate gland to release the stored malate directly into the medulla, providing all energy-dependent systems with immediately utilizable chemical energy.”

Dr. Petrasedg gently cleared his throat before continuing.

“Between the Alatusplacota and the Trullaplacota, the most

obvious morphological difference is the presence or absence of wings respectively.”

Advancing the projection to show two creatures side by side Dr. Petrasedg paced a few steps and continued “The Trullaplacota, seen here on the left are named for their spade-like forelimbs.” He said, pointing to the projection with his head slightly bowed.

“While the Alatusplacota on the right are named for the way in which their exoskeleton protrudes to produce wings for flight.”

“Lastly, the Amphibioplacota...” Dr. Petrasedg began, advancing the projection again. “... Named for their ability to survive both fully submerged in water, as well as on land for extended periods. This feat is accomplished using external gills at the base of the junction between the head and the body, seen here.” He said, zooming the projection into the relevant section of the projected anatomical model.

Dr. Inochi was reminded of an axolotl by the frilly gills protruding from the creature in the projection.

“Fossil evidence has shown that the Amphibioplacota are basal to the Arthroplacomorphs, while the Alatusplacota and the Trullaplacota evolved more recently.” Dr. Petrasedg noted.

Around Dr. Inochi in the class, the students listened and took notes on their devices.

“Starting in the antemensaic the fossil record for both the Arthroplacomorphs and the Ooarthroplacomorphs is robust due to

their characteristic segmented calciferous exoskeletons, which fossilize well.” Dr. Petraseg said as he progressed the projection onto images of smooth tan-toned fossils of ancient Arthroplacomorphs.

For a moment as she looked at the ancient fossils Dr. Inochi considered her own legacy. Her reasoning for bringing the Earth technology to Adobrasig had been to help the colonists here, but her name was in the news now, and as far as Adobrasig was concerned she already had a place in the scientific history.

While Dr. Petraseg continued through the material, Dr. Inochi made up her mind. Quietly slinking out of the class she left the building. On this part of the planet, the Adobrasigian sunrise almost an hour to complete, and it was just beginning on the horizon. Dr. Inochi took a deep breath in the morning air and started walking toward the center of Touchdown.

She made a brisk pace along the paths of the university, her shoes were comfortable. Dr. Inochi passed a few tired-looking students on their way to their morning classes. As she left the university and entered Touchdown proper she passed the short white buildings under street lamps. While walking past them, some of the lights inside came on, the city was waking up.

Before long vehicles began to pass along the road beside her. She pulled out her phone and searched for a drugstore nearby. As

it was, she could keep walking along the road she had been walking on.

Once she reached the drugstore she walked the aisles alone, the bright sterile light inside was comforting. Perusing the hackety znak labels on the packages on the shelves she realized she probably couldn't pay for anything. She had bitcoin in the wallet on her phone, but she had only seen people using coins. Rather than embarrass herself by trying to explain the situation to the checkout clerk, she opted to call Eduardo.

She pulled out her phone and called him. After only a moment he answered. "Hey Eduardo, I need to tell you something." She began.

"Want to just have this conversation in person?" Eduardo asked.

"You know what, yeah, actually that would be better, maybe." Dr. Inochi replied.

"Where are you?" Eduardo asked after a brief pause.

"I'm in Touchdown, I'm in a drugstore on the corner of University street and Spring street." She explained

"Ok, just a second," Eduardo said as he hung up.

Dr. Inochi heard someone enter the drugstore and walked toward the entrance. It was Eduardo, he was wearing his goggles.

She hastened to embrace him. They hugged for a moment under the sterile light. Upon release, Dr. Inochi looked Eduardo in the eyes through his goggles. “I think I’m pregnant.” She said.

“Great!” Eduardo said. “Do you need anything?” He asked, removing the goggles from his face.

“Well, so, I wanted to ask for some money for a pregnancy test, and actually... I think we should move on.” Dr. Inochi requested.

“Move on?” Eduardo asked. “From Adobrasig?” He clarified.

“The translation is progressing really fast, and I want to try to find the other colonies, bring the same tech. And we can stop back on Earth for a little bit.” She explained.

Eduardo looked a bit disappointed, but he acquiesced. “Ok, we can go back tonight, but I’m at the zoo right now, and Psychus will probably be a little disappointed. Still, we can come back whenever maybe we could visit for new year...” he rambled.

“Right, new-years, sounds like a plan. Can I have some coins to get the test?” She asked.

“Yes, of course,” Eduardo said as he reached into a hole and pulled out a mostly full canister of Adobrasigian sixty sat coins.

“This should easily cover it, I’ll give you some privacy, but let me know if you want to visit the zoo, you could join us on our day out. We’re going to a museum after as well, with paintings and such, and a natural history museum too.”

Dr. Inochi nodded and gave him a quick peck on the lips. “I’ll keep you updated, thanks for the money.” She said.

“No worries, see you soon,” Eduardo said as he put on his goggles again. His goggles briefly lit up with a series of tiny holes, and Eduardo fell through a hole under his feet before it closed.

Dr. Inochi was alone in the aisle again. She smiled and walked a bit lighter as she read the odd labels. Though reminiscent of packages on Earth, the products were all a little alien. Bottles of ‘Boontun’s Extra Virgin Fig Oil’ next to bags of ‘Dryland-Brand Whole-Seed Ragbow Bagels’. She realized that she was hungry.

Snatching up a ‘ten cubic metron’ carton of drinkable plum yogurt, a cheyttle-infused protein bar, and a pre-made rhinoceros deli sandwich from a refrigerated section of the store. Grabbing a pregnancy test on the way to the counter, she placed the small pile of items on the surface in front of the dark orange man with white hair behind the till.

“Just this?” The man asked. “Not to pry, but I think we do have something for your lips in the skincare aisle.”

Dr. Inochi laughed a bit, “Oh, no, it’s genetic.” She replied as the man rang the items. She paid with a single sixty sat coin and received quite a bit of change, she jammed the irregular coins into the canister and added it to the reinforced paper bag of items she had purchased. “Do you have a public restroom?” She asked.

“Sure, it’s that way.” The man said pointing to a small hallway next to a staircase.

Dr. Inochi carried her bag down the hall and into the large single-person restroom. The room was clean and well-lit, and Dr. Inochi felt comfortable. A large mirror ran along the wall next to the door. Upon the tiled wall across from the mirror, there were a few clothing hooks, as well as a wide-mouthed trash disposal slot.

She placed the bag onto one of the hooks and looked in the mirror. She smoothed her clothes a bit and turned around in a circle to see her own body.

Unbuttoning her sweater she pulled it off and hung it next to the bag. She looked at her torso in the mirror, placing her hands on her abdomen, she imagined herself in the coming months. It had been centuries since she had been pregnant. She removed each shoe using the opposite foot and unbuttoned her jeans.

She shimmied out of her jeans and hung them on the same hook as the sweater. She admired herself in the mirror before fetching the pregnancy test from the bag.

Dr. Inochi walked across the clean tile floor in her thick socks and pulled her blue panties down while sitting until they were suspended between her shins.

She unboxed the test and placed the box on the floor. She read through the instructions which were written in hackety znak. The test was shaped like a lollipop with a plain white bulb at the end of

a short wand. The instructions indicated that a few moments after exposure to moisture the bulb would change color, blue for positive and red for negative.

Dr. Inochi lowered the kit to within range of her blue genitals. She relaxed and took a deep breath. She urinated onto the test briefly before pulling it back a bit to finish. She let it drip clean into the water as she waited for the result.

After a moment Dr. Inochi took a look, the bulb had become a solid blue. Dr. Inochi nodded, she felt a bit of relief. Disposing of the test in the trash slot, cleaning herself up, and getting dressed, Dr. Inochi took the bag of food with her and left the bathroom. She thanked the clerk on her way out, and exited the drugstore onto the sidewalk.

By now, the sun was almost fully over the horizon. Faint wisps of cloud were illuminated in a fruity orange glow. The sky was becoming brighter and Dr. Inochi was feeling light on her feet. More people were out, Dr. Inochi smiled at people as she passed them, walking in no particular direction. She passed a vendor setting up a fruit stand, and a man selling intricate hand-made rhinoceros-bone knives off of a cloth draped over a flat foldable stand.

As she passed more businesses, she saw their wares in the windows, from kitchen appliances to seasonable clothes. Suddenly she remembered what Psychus had said about getting new sensory

input at a clinic in town. She thought for a moment and recalled the name. If this was her last day here for at least a little while she wanted to see what it was like. She looked down into the bag of food and looked at the canister, it would probably cover whatever she wanted to get done.

Dr. Inochi pulled out her phone and searched up the clinic that Psychus had mentioned. It wasn't too far away. Dr. Inochi weighed the logic of eating while walking, she was still hungry, and her food would be warming up while she waited.

She decided to start walking, and to eat as she made her way to the clinic. Starting with the rhinoceros sandwich, she pulled it out of its paper sleeve and put the crumpled sleeve back into the bag. Holding the surprisingly sturdy sandwich in one hand she took a bite. Walking along and chewing, the sandwich was tender but not mushy, with a strong salted-meat taste. The meat itself vaguely reminded Dr. Inochi of enoki mushrooms in texture. The bread had little hard bits of the seed which presumably remained from the grist this bread had been. A single orange leaf of some plant was inelegantly placed between the meat and some sauce on the bread, it tasted a bit like minty-ginger, while the sauce was oily and sweet.

Dr. Inochi easily finished the small sandwich within a few blocks of walking, watching the street signs as she went. Dusting her fingers off in midair she retrieved the carton of drinkable plum

yogurt from the bag. Holding the bag with her ring and pinky fingers, she popped the carton open with both hands. The bag swayed a bit and Dr. Inochi sloshed a few drops onto the bone sidewalk and onto the knuckles of her hand.

Dr. Inochi deftly licked the yogurt off of her hands, it was quite sweet and thick. She took a gulp of the yogurt from the carton and was thrilled by the taste and consistency. The yogurt was light blue in the carton as she swigged it on her way to the clinic.

Part way through drinking the yogurt she realized that there are no cows, or access to cows in general on Adobrasig. She cautiously looked at the ingredients as she swallowed her current mouthful. Listed out in hackety znak under the nutrition information the ingredients list was short in items, but long in text.

‘Plum puree, pulverized craankle, water, Live cultures: *Endolobiditia filariaformis*, *Margimenis euphilaria*, *Margimenis fructivorans*.’ it listed.

Dr. Inochi closed the carton for a moment and placed it in the bag against the canister so that it wouldn’t tip over, she stopped walking. She pulled out her phone and looked up craankle. The results included a Wikipedia page describing some species. She tapped the hackety znak link, already feeling a bit relieved that it was apparently something alive. Skimming through the page for ‘*Oogonis testameli*’ she saw that the creature was analogous to Earth honeybees. The subsection relating to culinary usage

contained a passage and a link to a page under the title ‘Craankle’ she followed the link. Reading from the introductory paragraph explained everything. ‘Craankle are the encapsulated exoskeletons of *Oogonis testameli*, typically containing the concentrated nectars of flowers as well as root secretions, and hemimycotinoid hemolymph’ “Well I guess that makes sense...” Dr. Inochi thought, returning her phone to her pocket.

Dr. Inochi retrieved the carton and returned to walking. She sipped more slowly at first but she really enjoyed the taste and ultimately drank the entire carton before going much further. She was near to the clinic by now, so she decided to save the cheytle protein bar for after visiting. She slipped the thick, paper-wrapped bar into her pocket with her phone, extracted the canister from the bag, and disposed of the rest in a public trashcan on a corner as she passed.

Carrying the canister in hand Dr. Inochi arrived outside the clinic, apparently just as it was opening. Walking into the clinic she was immediately greeted by a dark-orange man wearing a white lab coat.

“Welcome to the Sense Clinic. I’m Dr. Ceenafax,” The man said.

“Hello Dr. Ceenafax, my name is Susan Inochi, I was recommended this clinic by a friend,” Dr. Inochi said. “I’m

interested in the full compliment, but I'd really like to know a little more about each procedure upfront" She requested.

"Sure, absolutely, I've got informational material right here" Dr. Ceenafax replied, pulling a card with a scannable out of his breast pocket. "This should cover anything, but if there's any clarification you need, feel free to ask. Oh, and have a seat if you please, it's exhaustive." He said gesturing to an armchair by the door.

Dr. Inochi took the card with the hand holding the canister and pulled out her phone as she sat. The chair was comfortable. Upon scanning the small card her phone downloaded a large text document which opened automatically.

Starting with the index Dr. Inochi read the contents of the document. The procedures were listed by category alongside their page numbers in base sixty. 'Auditory enhancements, Chromatic optical implants, Dermatological services, Gravitropism, Gustatory enhancements, Olfactory enhancements, Radio communication implants.'

Dr. Inochi started with 'Auditory enhancements'. She tapped the item in the list and the document jumped to the relevant section.

The auditory enhancements section was a relatively small part of the document. Dr. Inochi read from the description. The

procedure itself involved placing an array of minuscule bioelectric ultrasonic microphone chips into the helix of the outer ear, and connecting their output to the basilar membrane.

Scanning ahead Dr. Inochi saw that the way in which the new perception of the sound would work was different from what she had expected.

She had anticipated that the audible range would collapse to contain the new frequencies, but according to the informational document, the higher-pitched sounds which cannot naturally be heard, will be automatically layered under sounds which are normally audible, and typically beyond notice without general silence in the other frequencies. Additionally, the sounds are altered by the chips so that the range 20,000 hertz through 40,000 hertz is mapped bijectively to 77.5 hertz through 18000 hertz.

Dr. Inochi read on into the safety information and disclaimer. The only listed side-effect was dizziness within the first day following the procedure, if exposed to loud ultrasonic sound.

Dr. Inochi didn't anticipate that happening, so she was fine with the risks as presented. She moved on to chromatic optical implants.

Within the chromatic optical implants section, Dr. Inochi saw that the procedure would involve an injection to each eye.

The injections would apparently carry a thin micro-mesh sheet

of genetically engineered human stem cells which were programmed to adhere to the retina. Once adhered, they quickly differentiate into bipolar receptors for holbehn and verrigeaux, as well as nerve cells to connect to the current retinal nerve fiber layer of the optic nerve.

One noteworthy listed side-effect was ‘total genomic integration’, which was described as complete somatic and germ line integration of the genes required for endogenous maintenance of the effect.

Dr. Inochi was excited about this one.

The dermatological services section was short as well, listing the one procedure. ‘Implantation of photist endosymbiont throughout dermis’.

The procedure required minor genetic alterations to interface human cells with the photist cells, and the safety information listed the same warning about total genomic integration verbatim.

Dr. Inochi was satisfied with that, having learned of photists already, so she scrolled ahead to gravitropism.

The gravitropism section had an animated diagram. It showed a tiny organelle embedded inside of a sensory neuron, the organelle was labeled as an amyloplast. The amyloplast fell through the cytosol of the neuron before the animation reset.

Dr. Inochi read from the section a bit after watching the

diagram loop. Apparently, through microinjection of transposons and functional amyloplasts, the neurons responsible for sensing touch would also function as statocytes. Compared to similar results produced on Earth, which she had witnessed but never partaken in, it seemed both wonky and ratchet. Still, she decided not to skip this procedure since Eduardo and Psychus had gotten it, and decided to read on through gustatory enhancements.

The gustatory enhancements section was the longest she had seen so far. Listed on its own full page was the table of proteinogenic amino acids, including selenocysteine and pyrrolysine.

The description stated that a virus would be applied orally which would insert a large set of genes required to platform the production of new surface receptors and transductive pathways into the tissues used in taste recognition. Dr. Inochi had used a cosmetic virus back on Earth to make her mucus membranes blue, so she was familiar with the idea enough to move past the specific genes and to read the safety disclaimer.

The Disclaimer stated effectively that everything will taste different, virtually everything that humans consume contains amino acids, and that this procedure will change your perception of everything you eat.

Dr. Inochi was curious, and she figured she would get used to

it. She was willing to get this one too. Moving right along into the olfactory section, she saw that it was very similar to the gustatory section.

The olfactory enhancements section was very long, but upon scrolling through and back to the top Dr. Inochi saw that the vast majority of the section was taken up by a list of categories of new chemical moieties that would be detectable with this enhancement.

This description stated that another virus would be used, but applied intranasally, doing the same sort of insertions of genes for platforming new surface receptors and pathways, but into the tissues used in scent recognition. She was more interested in the specifics, so she moved on and tried to inspect the list of chemical groups.

Upon starting to read the list, Dr. Inochi realized that despite her knowledge of chemistry, in hackety znak she could only make out one item with certainty; carbon monoxide. She glanced past to see if anything else popped out, seeing maybe some sort of organoborane, long chemical names written phonetically blurred together and she gave up.

In the risks and safety information, there was a short disclaimer regarding immunocompromised patients, it didn't apply to her, so Dr. Inochi went on to the last section, radio implants.

Yawning as she scrolled, Dr. Inochi blinked and realized her

eyes were watering. Gently wiping them, she continued through the section. It listed a specific make and model of radio-interface brain nanochip. The scale of the chip was absolutely minuscule, the safety data was reassuring, and having seen that her friends had taken to the chips without issue, she decided to opt in.

Putting her phone away in her pocket, Dr. Inochi stood up and caught Dr. Ceenafax's attention from behind his phone. "Yes, I think this is all fine, although the informational document didn't contain pricing." She said as she handed him back the scannable card.

Dr. Ceenafax smiled, "Ah, I apologize," he said. "If you want to do all the procedures at once, it saves a lot on cleaning the instruments between people, as well as being faster overall compared to multiple appointments. Also, considering you got here by word of mouth, I'd knock three percent off, consider it a loyalty discount" He offered.

"Great, but, what's the total then?" Dr. Inochi asked.

"Right, let's call it 13,300 sats," Dr. Ceenafax said, still smiling with his perfectly white teeth. "My assistant is off today, so I will be performing the procedures" he advised.

Dr. Inochi looked at her canister, "Sorry, I'm not great with coins, could you tell me if this will cover it?" She asked, holding it out to him.

Dr. Ceenafax ran his index up the canister as he approximated the count. “Oh yes, easily.” He said, handing it back to her.

“Great, well I’m ready right now then, shall we get started?” Dr. Inochi asked.

“Yes, right this way please,” Dr. Ceenafax said as he placed a small plaque in reception that read ‘Procedure in progress’. He walked toward a small floral-smelling room with an operating table in the center.

Dr. Inochi and Dr. Ceenafax entered the room and he closed the door behind them.

He asked her to undress and lay flat on the operating table.

Dr. Inochi complied.

Once she was laying down, Dr. Ceenafax approached her with a small mask, “Alright, this will render you unconscious, just take a few deep breaths”

Dr. Inochi let him place the mask on her face, and she breathed deep before quickly dropping into unconsciousness.

Chapter §

“If you don’t know history, then you don’t know anything. You are a leaf that doesn’t know it is part of a tree.”

- Michael Crichton

Walking along the sunlit path Psychus, Villi, and Neptulak made their way through the zoo and botanical garden in the shade of some tall overhanging trees with long trailing red branches with small succulent-looking orange buds studded along their draping length.

“These smell nice too,” Psychus remarked about the trees.

“Yes, I think so” Neptulak replied. “Can you smell them Villi?” She asked.

“Yes!” Villi responded, accompanied by a short hop forward from between Psychus and Neptulak.

Psychus chuckled and Neptulak giggled.

They came upon an exhibit along the path which was apparently mainly subterranean, with Neptulak leading they

followed a staircase down into the ground and around the exhibit.

Once they reached the interior they saw a large, dimly-lit complex with a few people standing in it, looking into some pits with tall clear railings or watching narrated video projections placed nearby. On the reinforced hewn wall, there was a large bronze plaque with information printed in relief on the metal.

“Subterranean megafauna!” It read at the top. Psychus stopped to read as Neptulak and Villi continued on to the pits.

“Within these expertly designed and humane enclosures hidden deep beneath the soil, you will see some of the largest creatures that spend the majority of their lives underground. From the greater equatorial anteater to the Thobakian lantern creeper, the animals shown here are rarely seen and in some cases threatened in their endemic range. Donations to Outreach Zoo and Botanical Gardens support the conservation of the plants and animals shown here” it read.

Psychus hastened to catch up with the girls. They were standing by one of the pits. “What’s this one?” He asked.

“Giant ground snail” Neptulak replied. “I can’t see anything in the enclosure though.”

Psychus looked at the projection, it was displaying a model of the tunnel system that connected to this exhibit along with markers for the positions of the individuals in the tunnels. The tunnel

system ran at sloping angles up and down throughout the structure that had been built underground to keep the animals from digging out. The podium for the projector had a few labeled buttons on it. Psychus approached it and pressed 'cycle view'. The projection changed to a view of one of the giant ground snails stationary on its wheels picking away at a wall with sharp jointed forelimbs.

"Hey Neptulak, check this out," he said while watching the projection.

"Oh!" Neptulak said, turning around. She ushered Villi over to the projection. "Wow! it looks so much like the snails back home! Well, except for the arms, and I can't tell how big it is."

Psychus looked at the buttons again and pressed one labeled 'information'.

"*Rotampoda rex*, the giant ground snail, is the largest of the genus *Rotampoda*. Individuals can reach a length of eighteen doppelmetrons and weigh as much as twenty verviergewichten." A voice began narrating over the video.

"Oh wow, that's so heavy! Did you hear that Villi?" Neptulak asked hoisting villi up onto her hip so she could see more easily.

"Wow!" Villi replied.

The narration continued. "Unlike the smaller relatives within *Rotampoda*, the giant ground snail does not exhibit true cryptobiosis, under stressful conditions however it is able to

reduce its metabolic demand by more than 80% as well as its requirement for water commensurately. Due to the scale of the giant ground snail, the wheels definitive to the genus are thicker and shed less frequently.”

Villi Reached out and pushed a button. The view changed to another of the snails, this one was pressed close to another individual as they rubbed their forelimbs together.

“The social nature of *Rotampoda* is demonstrated in their shared territory and tunnel networks.”

Villi squirmed down to the floor and started walking away toward the center of the underground area.

Neptulak and Psychus followed her to another exhibit.

In the center of the room, the pit was covered by a clear dome and filled to floor level with water. Deep beneath the clear water, Psychus saw a long row of slowly pulsating yellow and purple lights, indistinct in the darkness.

They edged around the enclosure to the projector, which was displaying a series of deep branching tunnels going almost straight down from this pit. Neptulak pressed the information button and picked up Villi so that she could see.

“*Urodelatoides troglodytus*, known commonly as the Thobakian lantern creeper, is an anomalously large creeper found exclusively in the submerged tunnels and caves running through

the Thobakian lakebed. While unable to dig these tunnels itself, this creeper has claimed this niche well. Geological and paleontological evidence suggests that the tunnels which this animal calls home were formed by the ancient ancestors of some of the creatures shown in this exhibit, long before the asteroid impact basin filled in with precipitation over eons.”

Psychus turned to Neptulak, “Lake Thobak is an asteroid impact crater?” He asked.

“That’s what they say!” Neptulak enthusiastically replied.

“Interesting,” Psychus said quietly as the narration continued.

“...Hunting strategy consists of waiting at the interchange between the murky anaerobic depths of their chosen opening and the exceptionally clear waters of lake Thobak in order to entice small animals within range of its grasp using its dazzling bioluminescent sensory tendrils as lures, this behavior was what lead to its common naming. Despite being related to creepers found commonly in the cresseks, the enormous size seen in the Thobakian lantern creeper is a case of ‘insular gigantism’. Having been isolated genetically within lake Thobak for trisexals of years has allowed the unassuming common ancestor of the creepers to grow up to thirty-four doppelmetrons in length, without including the sensory tendrils.”

The narration ended and the projection cycled to an upward

angle from the bottom of the pit, partially from beneath the body of the creeper Psychus had seen producing the lights. Through this angle, perhaps intentionally, the holotelevision could be seen through the dome, and the three people looking at it as well.

“You know, I talked to Ontus about ‘doppelmetrons’” Psychus began.

Villi started walking to the next exhibit.

Neptulak and Psychus followed as he continued.

“From what he said, and I’m making some assumptions here, it goes metrons, doppelmetrons, trebblemetrons, and more, am I right so far?” He asked.

“Yes, that’s right.” Neptulak agreed.

“Just a bit of context for why this is interesting to me if that’s ok?” Psychus requested, not wanting to bore Neptulak.

“Go on, I love hearing about your perspective!” She answered.

“Oh, thank you, well on Earth, with the exception of the second for time, for all of the base scientific units, the meter for distance, the kilogram for mass, ampere for electric current, kelvin for thermodynamic temperature, candela for luminous intensity, and the mole for quantities of material, follow a scaling pattern where each unit has prefixes, like yours, that correspond to changes in magnitude.” Psychus said recalling his training about physical reality effortlessly.

“But here, your way of keeping time, it’s sixty, everything is sixty of something else. You have sixty seconds to the minute, sixty minutes to the hour, sixty hours to the day, sixty days to the week, sixty weeks to the year, and speaking of that, what year is it right now?” Psychus asked.

“Fifty-nine-fifty-nine, fifty-ninth week, Viersday.” She answered.

Psychus knew it was the fourth day of the week because he had discussed the date briefly on the first night he had spent with the family. “I didn’t realize it was fifty-nine-fifty-nine, no wonder people keep talking about new year!” He said.

“Yes! It’s a big deal!” Neptulak said.

Psychus thought for a moment. “Wait, how can it be the year fifty-nine-fifty-nine? It’s only the year 9861 back on Earth, and the Adobrasigian year is eighteen times as long!” He asked as Neptulak pressed the button for Villi on the holoprojector at the exhibit she had stopped at.

“*Arthroplacophagus equatorus*, the greater equatorial anteater, is the largest of the Arthroplacophagus. Like other anteaters, it is named for its propensity to eat ant colonies out from beneath them.” The narration began.

“Oh, that’s an easy one, but like time in general it’s a bit arbitrary how we counted here,” Neptulak started to explain.

“While rarely delving deeper than twice its own length, the greater equatorial anteater digs enormous galleries of wide, flat tunnels. When seen all at once as a pattern, they resemble the venation of a leaf, or an oobal feather. The galleries are within the depth to which ants will produce their underground colonies as well, allowing the anteater to peruse the gallery for ant colonies that have dug into it within its large range.” The narration continued.

“When The Seed left earth they started counting at zero, and for the fifty-six-sixties-and-four years of the voyage traveling through space, including the passage through the wormhole, they counted in earth years. Upon landing, where touchdown is now, The Seed’s calendar was upon year fifty-six-sixties-and-four, in the morning of the five-sixties-and-fourth day.”

“The greater equatorial anteater’s long sticky eyes are used to probe the colonies, and are then retracted into the shell for consumption.” The holoprojection ran on as Villi giggled.

“So what did they do next? That puts it at year 3364, or fifty-six-sixties-and-four, for you, but 5533 on the Earth calendar.”

Psychus calculated on the fly.

“...Able to consume an entire colony within minutes using its rows of retractable eyestalks. This is made possible by the straight, sharp shell-teeth at the end of its snout, used to poke holes into the

colony for the flexible eyestalks to plumb,” the projection described.

“Well, they started counting in Adobrasigian years immediately, which means, I think on Intday next week, the first day of the new year, it will be the three-sixties-and-fifty-sixth year added to the count in Adobrasigian time, bringing us to one and zero and zero!” She said finally.

“The paralytic substance secreted by the eye prevents damage from the struggling of the ants by freezing them in place, but it is harmless to humans.” The narration concluded.

Psychus thought for a moment. “Ok, that’s close enough for me. Thanks for explaining that.” He said.

Villi wandered off again, as soon as the narration had ended she had lost interest in this exhibit.

“Speaking of time,” Neptulak said as she checked her phone. “We should head back to the parking lot.”

“Whoa, time flies!” Psychus said.

They followed Villi to an exhibit, she was standing behind some people as they watched the projection.

Neptulak took her by the hand, “Come on, we gotta go meet up with everyone else,” She said, guiding Villi back toward the stairs they had come in through.

The trio headed up the stairs. They exited the subterranean

structure and returned to the light of day, and the sweet-smelling draping tree branches. The sun felt nice on their skin, but not in their eyes after the time spent in the poorly illuminated cavern.

They walked briskly, at a pace that Villi could sustain without complaint. She waved as they passed the mantalorts again.

They passed the rest area and the flaking tree. Making great time in passing the creatures of the cresseks and small world. They walked a bit slower through the sweet intoxicating scent of the woozy ambrodesia, and retraced through to the parking lot.

Upon exiting the zoo past the donation box, they were greeted by Jannus and Joctur and the three girls Wresse, Raddelei, and Pendecha.

“Great, you guys are back,” Joctur said. “Wait, where’s Eduardo?” He asked.

“He said he was going to see everything, so honestly he may not even be in the zoo,” Psychus joked, to say he wasn’t sure.

“Well that’s ok, but we can't leave without him, obviously.” Jannus replied.

“I’m sure he will be back soon,” Psychus said.

The young girls ran around in circles in the open space outside of the zoo.

Shortly, Jarby returned with Ponta, Benno, and Jactus in tow. “Ah-ha, I knew we could be back on time!” Jarby said, his pocket

still jingling from the coins.

The family mingled, waiting for the remaining members to return.

Fidrick and Lojo were next. They came running through the entrance.

They were followed shortly by Jerrika and her two wards, Gahmba and Hetra.

Eventually, Vitsam exited the zoo carrying Wayn on his back. He set her down next to Jannus and bent over to catch his breath. “She stopped walking when I told her we were leaving,” he said angrily.

Jannus handed Granta to Joctur and crouched down with a bit of difficulty to discipline Wayn.

Neptulak tapped Psychus on the back of his shoulder as he watched the interaction. “Hey,” she started.

“Yes?” Psychus asked.

“Can you call Eduardo?” She asked

“Good idea, just a moment,” Psychus replied.

Psychus directed his focus to the radio chip, he reached out to Eduardo. “Greetings,” he began, the etiquette for talking on the channel was unspoken, but both men seemed to have agreed not to abuse it independently.

“Hey, time to go?” Eduardo asked shortly.

“Yeah, everyone’s ready,” Psychus said.

Just then, Eduardo walked out of the exit of the zoo.

“Ah, hey, perfect! Just in time,” Joctur said. “Everyone is here, let's go back to the plantation for lunch.”

Eduardo nodded, “Sure, one sec,” he said. He placed a large hole to the front porch from the parking lot and they all filed through.

Outside the house the family climbed the few steps to the front door, but Eduardo approached Psychus. “Hey, I need to talk to you for a minute,” He said

“Sure what’s up?” Psychus asked.

“Dr. Inochi is pregnant, and she has decided the process of integrating the technology is proceeding well enough that she is no longer needed. Effectively, I think we’re going to leave tonight.”

“Leave Adobrasig?” clarified Psychus.

“Yes, she wants to do the same thing for all of the colonies, so we would stop back at my place for a little while. Maybe a day or two, and then we would probably be going to Contigonia, since it’s the only other colony-ship population to establish radio contact with Earth.”

“I see,” said Psychus. He was a little disappointed, he had been enjoying his time here, but he hadn’t made any progress in his assignment. While there was no express time-limit, he was

curious about the holes, and staying behind wasn't really an option. If Eduardo was leaving, he would be too. "Can we visit?" he asked.

"Yes, of course, I really like it here too. I want to be here for the new year celebration," Eduardo agreed.

Psychus was glad to hear it, he felt better knowing that he would be back. "Well that's all fine then, is that all?" he asked.

"Yeah, it's just that, let's get lunch!" Eduardo said.

Psychus suddenly realized he was very hungry, the fried plum skins he had for breakfast were hardly substantive, and he had walked quite a bit with the two girls. Despite the sugar he has synthesized endogenously in the sun, he felt a bit tired already. "Good idea," he agreed.

The men hopped up the stairs two at a time and entered the house.

Within the warm home the family had migrated to the kitchen. Someone had put on some music, it's synth-kick beat was relaxing despite the high tempo.

Eduardo and Psychus entered and integrated with the group silently.

Neptulak she sat with her back to the window, she was reading again.

The kids were discussing their favorite parts of the zoo as

Joctur boiled a huge pot of dark red noodles and large eggs over high heat.

Jannus sat with Granta opposite from Neptulak at the end of the long white table.

Psychus sat down at the end Neptulak was occupying, and Eduardo sat at an empty place closer to Jannus.

Psychus saw that Neptulak still had enough left in the book that she probably wouldn't finish before he left with Eduardo and Dr. Inochi. He was feeling tired, he glanced over to the cheyttle machine, which was running. He was glad to see it, he put his head down for a moment.

Neptulak dog-eared the page she was on after a moment. "Are you ok, dude?" she asked.

Psychus sat up and blinked a bit before answering. "Yes, sorry, I'm just a little tired."

The cheyttle machine had finished, Jarby was already pouring himself a mug of the red-brown drink.

"Hold on, let me get you some cheyttle," Neptulak said empathetically.

Psychus put his head down again and listened half-heartedly to the family chatting about the animals.

Villi was telling Jannus about the mantalorts, taking the time to imitate them for effect.

Neptulak set down two mugs of hot cheyttle as she sat back down.

Eduardo was getting a mug as well.

Psychus sat up when he felt Neptulak set the mug down near his head. He took a sip and thanked her. He immediately started feeling better as he tasted the spicy drink.

Joctur was tossing the noodles in a large mixing bowl with some orange-colored oil, a few dry leaves which he crumbled into flecks as he added them, and salt. He had pulled out the eggs from the boil and he grated them into the mix. Once the mixing was finished he retrieved a tall stack of plates, and two handfuls of forks and placed them on the center island with the bowl of noodles. He scooped a pile of the oily red noodles onto his plate and joined Jannus at the end of the table.

The kids began to get noodles, using the stack of plates the older kids helped the younger ones who couldn't safely reach, and the noodles were divided.

Jerrika placed a plate in front of Jannus as she returned to her seat.

Psychus served himself some noodles. They were thick like udon, just a little translucent, and covered in salty oil. He sat back down with Neptulak who was already slurping some of her noodles. He cut one of the thick noodles and then speared it with

the ivory fork. The noodles seemed to have been made extra piquant, they were a little gummy. Psychus found them overly spicy, but they also had an addictive feeling to them where he immediately wanted another bite. He took a larger bite. The thin strips of shredded boiled egg had a contrasting texture, and were a lot more mild. They balanced out the flavor of the noodles a lot as if they washed away the heat in his mouth.

Neptulak smiled seeing the way Psychus was eating.

The people around the huge table ate the noodles down until the plates were clean save a few puddles of the salty orange grease.

Joctur stood up and collected the plates and forks around the table before placing the stack in the sink and spraying them a bit. He addressed Eduardo mainly, along with the group, “Alright everyone, ready to go?”

Eduardo nodded, he finished his cheytte and gently placed the mug in the sink from the table using a hole. He turned to Jannus, “Where is the natural history museum?” he asked.

“Hinge,” She replied. “We can just go to Hinge and walk in to the museum normally though.”

Eduardo pulled out his phone and looked for Hinge, he zoomed in and out for a moment on the map before he retrieved his goggles from his pocket. Placing them onto his face with a soft

puff of air as the magnets pulled the straps tight, he started looking into holes and only seconds later closed all of the holes within the lenses and stood up. He pulled the goggles off with a light pop and placed them and his phone back into his pants pockets. “Ok, I’ve got a spot,” he said with a bit of a smile.

While this was going on, Psychus had cleared the rest of the mugs from the table, leaving it empty except for Neptulak’s all-caps copy of *Stranger in a Strange Land*.

Eduardo made a gesture like pulling the cord of a lamp, and as he did, a large wide hole opened. It was facing out over a safety railing at the ledge of a cressek, about ten meters back from the sturdy-looking white guardrail.

Joctur looked through the hole with an expression of pleasant surprise. “Well chosen Eduardo! We can take the gondola into the city.”

Everyone stood up and pushed in their chairs, and they began to pour through the hole.

Joctur turned out the light, the kitchen was left almost the same as it had been when they had come in, as when he stepped through the hole, except for the tall stack of dishes.

On the other side of the hole, it was even earlier in the day than it was at the plantation.

Some of the children looked out over the railing, Psychus and

Eduardo approached it as well.

Out over the railing the view of the cressek was laid out like a painting.

Across the enormous gap Psychus could make out structures carved into the opposing wall of the deep divide. The walls and tiers of the cressek seemed to go down forever. On the surface of the plateau across the way, which was quite a bit lower in elevation, Psychus could see haphazard clusters of short round-topped orange trees growing like a lawn under misty low-lying clouds. Down beneath the trees, the carved structures sat like teeth in the mouth of a shark, rows and columns of pyramidal structures coming up from the floor that had been carved deep into the wall of the cressek, and more rows of upside-down pyramids interlocked between them with only small gaps to be seen. Even from across this distance, Psychus could see small white support structures, allied with the stone carvings.

“Look! there’s the gondola!” Ponta called out, pointing as she spotted the speck of a vehicle making its way across a cable as thick as a human torso.

Around them, this side of the cressek was apparently drier than the opposing one. Dust kicked up under their feet, and from the trees on the other side it was clear that the relative precipitation on the opposing shelf was much higher. A small vehicle storage

lot was set up along the railing and a bit back from it, as well as a home-sized structure with a sign out front written in hackety znak. ‘Hoochen-Hinge Gondola Station’.

A narrow white road, nearly covered in the orange dusty soil ran away from the station and inwards across the plateau they were standing on. Along the sides of the road were the openings of burrows and a few shrubby clusters of dry orange brush, perhaps more able to access water at the interface between soil and bone.

After getting their fill of the view, some of the kids were following a large bug as it scurried across the dust.

The gondola was coming along at a nice pace across the massive space.

Neptulak had come to stand with Eduardo and Psychus as they overlooked Hinge.

“Have you been here before? Where are we on the planet anyway?” Psychus asked with a bit of a crack in his voice. He made a mental note to drink some water.

“This is the equatorial territories, I haven’t ever been here, but I’ve seen pictures of Hinge from roughly this spot in class. This is the Hoochen plateau cluster, over there is the Tief plateau cluster” she said, pointing over the forested lower terrain across the gap. “This cressek is one of the widest and deepest, this part is called the Stulpung sink,” she finished.

“It’s beautiful,” Psychus said.

“Yes, I’m glad I will remember this,” Eduardo remarked, watching unblinkingly as the wispy clouds continuously changed form over the trees.

The gondola was close now. Joctur cupped his hands and shouted “Roll call!”

The children came running and even Neptulak pulled away to line up with the family.

Psychus and Eduardo edged into the group as Joctur counted the kids.

“Ok,” he said when he had finished his third count, “let’s get ready for the gondola ride.”

The family followed joctur, with Jannus taking up the caboose as they entered the gondola station.

The inside was well lit through windows facing over the cressek as well as by a triangle of lights in the ceiling.

Once he was inside Psychus spotted a foot-operated drinking fountain between a pair of bathroom doors. He split from the group for a moment a took a drink of the water. It came out warm at first, and then lukewarm, but he was happy to have it. Once he finished his drink he let out a puff of air and dried his moistened mustache on the pack of his wrist before returning to Eduardo’s side.

The gondola was docking, it pulled up almost silently, its base just above the ground. An accordion-like seal extended between the side of the vehicle and the station, sealing with the thump of electromagnets.

The door within the station opened, the windows were nearly blocked by the front of the gondola itself.

Through the door Psychus could see the interior. Despite being sparse and gray, it was large and portioned with wedge-shaped booth-style metal tables with rounded edges as well as bolted seats oblique to long windows along the walls. A wide central isle ran between the booths, the floor was textured steel.

The family poured in, there was no one getting off here.

The children spread out to the booths.

Eduardo, Neptulak, and Psychus took one together. Gahmba sat down alongside Neptulak across from Eduardo and Psychus.

After a short wait, looking out mostly onto the Hoohen plateau, the door closed and the gondola disengaged from the station. It began to crawl along the cable, gradually picking up speed as it left.

Gahmba was already nudging Neptulak to let her closer to the window, despite the angle of the seats.

Neptulak let out a small sigh and scooted out of the seat to swap positions with her.

“Are the cresseks on Earth like this?” Gahmba asked suddenly.

Psychus and Eduardo exchanged a brief glance at each other before Eduardo answered. “Earth doesn’t have anything like this, and cresseks aren’t even something people have heard of.”

“Yeah,” continued Psychus, “The closest thing we have to this would be the gaps between the towers, but it’s not the same.”

Eduardo interjected again, looking down the side of the Hoohen plateau. “Here, for instance, you have plants, like more than one kind. On Earth all wild plant life has been superseded by a genetically engineered sustenance crop,” He said, watching the cliff become more and more visible, he saw the change in color of the plants as they rose up this side before they gave way abruptly at about the same altitude as the Tief plateaus.

“What?” Gahmba asked plainly.

“It’s true, they’re these sort of clinging vines that cover all the buildings, they produce nutritious fruit, and spread easily, but they evolved the ability to synthesize this one chemical within a few millennia of being introduced, it’s called indole, the chemical I mean, it’s indole, the plant is called ‘stinkmelon’. Well, that is, it’s what people call it, but they were introduced as ‘sustenance melons’, they are a very different plant than what you have here on Adobrasig,” Psychus tried to explain.

“Why?” Gahmba inquired.

Neptulak was watching the men explain to her young sister with silent amusement so as not to distract either party.

Eduardo took a turn, “See, the plants on earth are green, so...”

“Green!?” Gahmba exclaimed, before Eduardo could go on, “Green is the best color!”

“Yes, I’m quite fond of green as well,” Eduardo said, dropping his case.

Gahmba seemed to be in her own head now, she was moving around a bit in her seat and she closed her eyes. With a protean expression, she stopped talking and got lost in daydream.

Psychus looked down the cliff beneath and now behind them as they traversed the distance. He spotted small figures leaping between layers of the depths. Like feathered fleas, they popped from layer to layer. He recognized them as the same kind of creature he had awoken when visiting the cressek, but they were slightly different, their limb length and the tropical coloration of their plumage made him wonder about their evolutionary relationship to each other.

He pointed the figures out to Eduardo and Neptulak, they watched the horse-sized animals from high above them. Deeper down the cressek the light became less apparent. Occasionally a creature would leap out of the shadows and to a higher layer, or

descend down into obscurity.

Gahmba had fallen asleep.

The gondola was full of voices and laughter as they all rode along, the ride felt much shorter than the wait had.

Psychus' ears popped.

Granta began to cry, but she was quickly comforted and returned to quiet cuddling in Jannus's arms.

Once they had reached the penultimate position, and had gone down in elevation toward Hinge, Psychus could see small misty waterfalls spraying from between cracks, as well as small ravines running short distances before taking to the air once more as a spray. The mist was wafted upwards on a draft from the cressek and onto the plateau again as clouds.

The plants growing around the waterfalls were delicate-looking and had decadent body plans, their long pale unbranched stalks bore trapezoidal tufts ranging from canary-yellow to a muddy red rust in color. They shook and bobbed as the water droplets collided with them, and the tufts waved like the ribbons of a dancer.

Shortly the gondola came to the hinge station.

Neptulak gently jostled Gahmba awake.

She sat up from where she had slumped against the window and looked around.

“We’re docking in the city,” Neptulak said.

Gahmba yawned, then wiped a sleepy tear from her eye. “Ok,” she said, shifting a bit in her seat and stretching her skinny arms above her head.

Eduardo’s phone buzzed. He pulled it out as the gondola docked.

Joctur ushered the family from their seats and to the far end of the seating area. The group milled around the door a bit until it opened.

The family poured through the door and over a short wide ramp onto a large circular stone platform. Joctur was the last out.

The platform was elevated by a few rings of short steps carved into the rock above a flat level with many people walking around.

Behind the family, the flat level extended a bit. The gondola had passed through a pair of white railings which wrapped away and outward along the cliff of the city. Out of the large gap that Hinge occupied the misty rain fell and rose, but only a few rogue drops reached more than a few meters past the railings. The area around the railings appeared to have brand-new high-friction matting laid around it. Only a few people were standing on the matting, they held umbrellas and stood close together in groups.

Jannus led the children down the few steps.

The door of the gondola closed and a short loud noise was

heard as it started to leave.

The two parents, as well as Neptulak, Jerrika, and Jarby corralled the younger children in a crowd as they entered the general concourse of Hinge.

Psychus and Eduardo followed a bit behind the group. From the ground within the City, Psychus could see the cavern extended for quite a distance into the wall of the cressek. The buildings became slightly less defined the deeper he looked, as if less stone had been removed. The buildings near the front, one of which he was standing directly under, appeared smooth and ancient.

Eduardo stepped back out of position next to Psychus, he was looking at his phone. “One sec,” he said.

As Psychus turned, he pulled out his goggles and held one lens up to his right eye, and closed the left. He looked through briefly before putting them away.

A hole opened next to him, and Dr. Inochi stepped through, her skin was a creamy orange now.

“Greetings!” Psychus said.

Dr. Inochi was blinking and looking around a bit. “Where is this?” she said, looking up.

“Hinge City, Tief Plateau, Adobrasig.” Eduardo said.

“I’m sorry, I just stepped out of the clinic in Touchdown, still getting used to this,” she said moving her hands through the air in

front of her body.

“No worries, we had to take a minute too,” Psychus said.

“Come on, we’re going to a museum. See that group, that’s the family we have been staying with, you can meet them when we get there,” Eduardo said, beckoning lazily as he started walking to catch up.

Dr. Inochi and Psychus followed and were soon walking abreast to Eduardo with her in the middle.

“I feel pretty good, the one I’m not sure about so far is this feeling of knowing which way is down,” Dr. Inochi said.

Psychus had become so used to it already that he hadn’t thought about it. “You’ll get adjusted to it,” he said.

“Speaking of adjustments,” Eduardo started. “Have you used the radio chip yet?”

“No, but it was bugging me before I got it to go quiet. I had to ask Dr. Ceenafax about that when I woke up,” Dr. Inochi said.

“Ok, great, so you know how to tune it! Me and Psychus have a short range frequency nobody seems to use, try popping it like, ‘left’ I still don’t know how to explain it, but yeah.” Eduardo advised.

“Ok!” Dr Inochi said, they continued to walk.

Psychus could hear Eduardo’s voice making a sort of repetitive noise on the chip. After a moment Dr. Inochi entered the

channel.

“Hello?” She asked.

“Yes, this one!” Eduardo said aloud, ceasing the sound on the chip.

“Interesting, so are you guys just running a back-chat in here all the time?” She asked through the chip.

“Not particularly, honestly I think the most use these chips got was me asking for things,” Psychus joked through the channel.

Eduardo smiled.

They were passing between a pair of tall skinny pyramidal buildings, their tiered structure reminded Psychus of the cressek they had just crossed.

“Asking for things?” Dr. Inochi asked in their minds.

“Well, holes.” Psychus transmitted. “Did Eduardo tell you about the rhinoceros hunt?”

“No, you guys went on a rhino hunt?” she replied.

“It was great, well terrible, but Eduardo was great,” He explained.

“That’s amazing, how big was it?” she inquired.

“I’d say two-hundred-and-twenty meters tall, maybe three-hundred meters long,” Psychus estimated.

“Wow! What was the hunt like? I learned about the rhinos a bit in one of my classes,” Dr. Inochi asked.

“You know, Eduardo, I actually want to hear your perspective on it too, we didn’t really talk about it,” Psychus broadcasted.

“Right, so we had talked about it with Joctur, the big guy over there,” Eduardo said combining radio chat with a physical gesture as he pointed Joctur out. “He asked us to help, and Psychus agreed, which was fine. So the next morning we got up early and joined the hunting party,” he continued.

“We rode out and started setting up. Joctur was briefing us about the weapons, but someone started shooting before I even had a gun in my hands,” Eduardo explained. “So Psychus ended up with the one from the lesson, and Joctur ran off to start shooting.”

“Wait really?” Psychus asked. “I thought Joctur gave you a gun.”

“No, I was just standing behind you guys,” Eduardo answered. “So after the guy shot at it, it started running, and this thing was big. I know Psychus already said, but the way this thing moved, how it whipped up the ground beneath its feet, it was truly incredible. It really is such a shame we had to kill it. Anyway, it’s running up, and it’s gaining speed, all these guys are shooting at it, and the guns were so strong, and it’s coming so fast, and it’s so heavy it’s obvious this thing isn’t going to stop. But I was just frozen, I was watching this thing, the power it exerts, the mastery

it has of this planet. Honestly, no wonder it's on the sixty sat coin. Psychus snapped me out of it though, he asked me through these chips if I could do anything about it. If I hadn't had so much cheyttle that morning I don't know if I could have reacted in time, but I snapped to it. Almost out of reflex I put a hole in front of it leading to a kilometer up in the air."

Dr. Inochi produced a gasp-like sound through the radio. "So you made it run itself into the ground at full speed?"

"It seemed like a good idea, and it was the first thing that came to mind, so yes." Eduardo said.

Psychus interjected, "It hit the ground so hard we all bounced up off of it for a moment."

Eduardo laughed aloud. "Grown men with rifles running scared. I should have thought of something sooner, but I've never been quick to react. Maybe I should bring home some cheyttle when we leave."

As they walked a fair bit behind the family, following in their wake, Psychus saw that some of the buildings appeared to have staircases leading both up and down, carved from the stone. The buildings appeared to extend into the floor as well as to the roof. A few buildings, if they could even be considered built, were effectively pillars in the cavern, reaching from floor to ceiling and supporting the space the city occupied.

Some concourse level businesses lined the walking area. People sat on balconies on both the hanging and supported structures.

Psychus hadn't consciously noticed before, but in this large crowd he and Eduardo were the tallest two people.

Psychus saw Jannus point with her free arm. The family turned along another avenue, and approached a rather opulent looking and wide-based pyramid.

The trio followed more closely as the family descended a level down through a wide stone stairway that constituted the open entrance.

The interior of the area was much quieter than the city. The shape of the walls seemed to cancel out the chatter. It was a well lit lobby, the floor was tiled and smooth, within carved rectangular recesses in the walls Psychus saw some fossilized animals and plants behind glass. Many passages led away from the spacious entry. Above each of the tall carved opening there were large slat-like white and black plaques in hackety znak.

The family stopped and the trio integrated with them as Joctur and Jannus laid down some rules and divided the children into different groups than they had at the zoo.

Neptulak was given Wresse and the twins.

The groups began to split off.

Benno and Jactus were already arguing and pointing at different paths, Neptulak was trying to facilitate.

“I want to see the rhino shells!” Benno insisted.

“Our house is rhino shells, why do you want to see that? We had rhino eggs for lunch, I want to see the cressek-leaper exhibit!” Jactus retorted.

“They have all the different kinds from across all the plateaus though, don’t you wanna see?” Benno said pleadingly.

“Not first.” Jactus said crossing his arms.

“Ok, let’s flip a coin.” Neptulak said as she pulled out one of the large sixty sat coins that Joctur had given her as pocket money.

“Heads!” the twins said in unison.

Neptulak sighed and shook her head slightly. “Look, Benno you can be heads because it’s got the rhino, Jactus you’re tails. All good?” she suggested. Wresse was pulling at her other arm.

The boys nodded.

“Ok great,” Neptulak said, blowing her dark hair off of her orange face. “Hey Psychus,” she called. “Can you flip this for me, impartial witness, hands full,” she said reaching out with the coin.

“Sure, no problem,” Psychus said, taking the coin. He turned it over once and placed above his thumb which was pressed beneath the middle joint of his index finger. With a pop and a ringing noise, the coin spun up into the air, just above Psychus’

eye height. He tracked it as it fell and caught it in the same hand. He slapped it onto the back of his other hand. “Tails,” he called as he lifted his hand and spotted the ‘|O’ as well as the year and date it was pressed ‘∂ ξ Z Å’. He held it out for the boys to see.

Benno frowned a bit, then shrugged.

Psychus handed the coin back to Neptulak. “Cressek-leapers it is then. Want to come with us?” she asked him.

“Sure,” he replied, “Eduardo, Susan?” He asked, turning back.

“I think we’re going to break off, Joctur and Jannus and Dr. Inochi haven’t all met yet.” Eduardo said.

“Speaking of,” Dr. Inochi said. “I’m Susan Inochi, I came here with Eduardo and Psychus,” she continued graciously, introducing herself to Neptulak and the children.

“Nice to meet you, I’m Neptulak,” Neptulak replied.

“Cool!” Jactus said.

“Oh, Earth lady,” Benno giggled.

“Alright, well I’ll catch you around I’m sure, this place seems like a labyrinth,” Psychus said as the pair departed off in the direction of the passage Jannus and Joctur had taken.

“Ok, come on guys,” Neptulak said, leading Wresse toward the exhibit. Beside the passage they entered, a small set of fossils were on display within the wall.

Psychus saw the exoskeletons, cracked by time and made whole by archaeologists, held by thin non-obstructive black metal stands. He paused momentarily with the group to see the ancient creatures.

In front of a few miniscule four legged fossils the notice read: “*Oobaloides cavasaltui*: The earliest known species to carry the synapomorphic trait of a hollowed body cavity, now seen in all cressek-leaper varieties. This female specimen (left), preserved in cressek sediment, lived three-sixties-and-nine trisexual years ago as dated by Potassium-Argon radiometric dating. The weight of this individual while alive has been estimated to be less than ninety gewichten.”

Psychus looked closely at the remains of the prehistoric animal, its legs appeared to interlock, as if they were telescopic, its neck was like this too. The pill shaped tan mineral that constituted its body cavity seemed specially shaped to house the limbs and the head. The structure at the end of the neck, analogous to a skull, was held slightly above the nearest neck joint so as to display its spherical shape. The base of the sphere had an opening, and the front had a small pointed beak. The legs ended as narrow pegs.

Along the inside of the passage there were more fossils placed in cubbies. Hewn into the monumental museum itself, each display carried a verbose description of the lifeform-made-stone.

As they progressed, the fossils gradually changed, they became larger in punctuated steps. Benno and Jactus zigged and zagged back and forth through the hall, reading each plaque together before moving on to the next.

Most of the fossils were complete and displayed in a life-like stance. A few were dismantled, some had been divided to display wonderful cross-sections from the internal cavities, as well as inside of the hollow leg segments.

Psychus paused to view a set of bifurcated bones. The skeleton was about a meter tall all told. Within the body cavity he could see two chambers. One long, skinny, ribbed volume ran along the top of the inside, divided from a much larger area beneath by a solid layer of bone. Both sections merged into one tube toward the front and extended into the neck. The tube itself was full of strange convoluted curved planar structures.

“*Oobaloides plumata*: The approximate time during which this creature lived ranged from two-sixties-and-fourteen trisexual years ago to sixty-and-fifty-nine trisexual years ago. Despite microscopic evidence of periosteal vessels similar to those which supply blood flow to feather follicles found in modern cressek-leapers, all of the feathers of *Oobaloides plumata* were probably bristle feathers with the small clusters of decorative plumulaceous feathers for mating and aggression displays, rather than the

majority pennaceous feathers seen in the present day that are used to increase air time and maneuverability during jumps.”

Psychus also noticed that the ends of the feet, which had been aesthetically similar to a human finger in the smaller more ancient species, instead in this creature had taken a more conic shape. The bone of each foot ended in a smooth point. Within the cross-section of the feet the hollow area had arcing structures from higher up the leg, like buttresses, all ending at the thickened tip. A few ancient fluffy feathers were laid out as fossils in front of the animal.

The group continued through the hall, the sizes of the fossils began to vary and shrink. Psychus stopped at a fossil about half the height and length, half a meter by a meter respectively. The plaque was accompanied by a set of long fossilized flight feathers. “*Oobaloides saetati*, The fossils of this animal and its eggs and waste are found throughout a wide timespan within cressek caves all over the world, ranging from sixty-and-forty-one trisexual years ago, until fifty-five trisexual years ago. The remains are common enough that they act as index fossils, used to date other species found less commonly but within the same formations. This cosmopolitan species was probably so successful due to a pair of adaptations which are characteristic of modern cressek-leapers. Firstly, the appearance of the filoplumiphor; a filoplume bearing

ring-shaped sensory organ on the bill used to detect small subterranean movements while feeding, both for predator avoidance and prey seeking. Second, the development of digestive tract convolutions which facilitate the digestion of plant matter through symbiotic relationships with methanogenic Adobracheans. This cressek-leaper was probably the first to be both completely feathered and consume a mixed omnivorous diet. This was a major shift away from the diet of the cressek-leapers preceding it, having been oriented toward the consumption of small Arthroplacomorphs, or in the case of some larger species, fish. These adaptations allowed the massive radiation of cressek-leapers we see in the wake of this creature's global conquest."

The beak of the creature was indented in a ring near the base. Psychus looked closely at the bones. The color of the smooth remains was more gray than tan. The eye-sockets of the skull were pointed slightly less toward the front of the head, and more toward the sides. At the feet of the animal were a small series of symmetrical cylindrical coprolites, even just looking at them Psychus could see what appeared to be small bits of shell from the Adobrasigian bugs.

A small plaque individual to the coprolites sat in front of them "While able to consume plants, the diet of *Oobaloides saetati* was primarily arthroplacivorous. At higher elevations the concentration

of shells of small animals (*Rotampoda tubaelox*, *Oogonis formidae*, *Siphonosaprus xerotans* et al.) within the waste pellets of this species decreases, this is thought to reflect competition with ancient oobals for sparse prey. Being able to thrive at these elevations was highly dependent on the ability to change diets as needed.”

Psychus saw that the next few recesses were smaller and more densely packed into the wall.

A small plaque between four of them arranged in a rhombus explained: “While the cressek-leapers of today form a ring species throughout the cressek network, *Oobaloides saetati* was so successful in its niche that it’s many diverse descendants ultimately competed fiercely for the same resources using small variations in body-plan as well as reproductive and feeding strategies. Seen here are representatives from four lineages which do not have modern descendants.”

The cubbies barely contained the fossils, they had only centimeters of clearance from the carved stone.

Psychus stepped back and looked at them all at once. He could see tiny distinguishing details, a ridge of bone ran along the dorsum of one of the creatures, it reminded Psychus of a fin. Another sported flattened feet. The pointed feet that their ancestors had carried had widened into a chisel shape. Yet another seemed to

look at Psychus from the ancient past through enormous hollow eye sockets, its beak was short and the ridge of its filoplumiphor was deeper and wider than the others. The last fossil had shortened back legs, and thicker front legs, the pointed structure of the feet showed signs of breaking and healing throughout the life of the animal.

Neptulak came and stood next to him, she let Wresse wander the few steps to look closely at the lowest fossil. “That one looks like it would have been cool!” She said pointing to the one with a fin.

“I want to see that one in action, personally.” Psychus said smiling as he pointed to the hunched one at the bottom.

Benno and Jactus had come to a pair of halls, between them a large skeleton of a modern cressek leaper. Of the halls, one was going left and another going right. The boys waited as the rest of the group caught up.

“Ok, what’s the choice here?” Neptulak asked as she approached them.

“Well, nothing.” Benno said.

“We both want to go this way actually.” Jactus answered pointing left.

Psychus looked up and saw a plaque over each hall. The one on the right said ‘Ancient Macroscopic Microbial Structures’

while the left said 'Fossilized Fruits and Eggs'.

"Oh good," Neptulak said. She began to lead Wresse down the passage.

The walls of this passage weren't carved, only painted. They showed a spiraling mural of various ancient cressek-leapers toward their exhibit, and in the other direction, full grown plants and their reproductive organs, their fruits, strange looking sprouts, and cross-sections of eggs and seeds in development.

A short walk through the passage brought them into the hall for these embryonic structures.

As they entered this area, Psychus spotted another passage heading onwards, it's plaque reading 'Hall Of Rhinoceros History'.

In-between the passages was another fossil display. Psychus took a moment to look, the twins standing on either side of him as Neptulak walked Wresse to look at a petrified fruit.

The remains appeared to be some kind of cressek-leaper, but it's dark fossilized bones were open on the front, it laid in a natural death pose. Within the opening, Psychus could see a grouping of small oblong tan stones surrounded by a ring of bunched up plant-matter that had become a tangled calcified mass. There was a plaque. "This clutch of eggs and their nest are from an unidentified ancient species of oobal. They were found fossilized inside of a

larger, more ancient cressek-leaper fossil. The opening of the cressek-leaper body cavity shows signs of disruption by a burrowing animal. Given the way this fossil seems to have formed, tens of trisexals of years ago, an unfortunate or careless cressek-leaper drowned in a small pond near the top layer of the cressek it inhabited, and was preserved until trisexals of years later when a burrowing animal tunneled into, and made it's home within the body cavity of the fossil before ultimately abandoning it. Eventually an expectant oobal made its nest from the burrow. A sudden rain filled the burrow with sediment, leading to this perfectly preserved slice of life within the cresseks of the deep past."

"Wow, pretty unlucky to lose your eggs to a flood," Benno said.

"Yeah, but the oobal isn't even in the burrow, you know how they are with their eggs. It probably went on to have more later." Jactus insisted optimistically.

Psychus didn't know so he asked, "What do they do with their eggs?"

"They're indiscriminate. One time an oobal laid eggs on my bedroom window." Jactus said.

"On your window?" Psychus clarified.

"Oobal eggs have some sticky stuff around them when they

come out, it dries into a bonding paste. I've seen markings from their eggs on pretty much anything. They can even lay them on the side of a rhino!" Benno added.

Psychus thought about what they said, he hadn't seen anything like that, but he took their collective word for it. "That's pretty cool," he said appreciatively.

The twins and Psychus separated again the two boys started popping from clusters of small egg and seed fossils to larger wildly articulated fossilized plant structures in the hall.

The exhibits didn't seem to progress in any particular direction in time. Instead they were clustered by ancestral relationships.

Neptulak was pointing out little details to Wresse at a cubby containing frilly fern-like plants. They had been pressed flat eons ago and were still held in their sedimentary resting places.

Psychus stopped at a display of fist-sized transparent orange fossils held up on thin glass stands, and lit from beneath. He looked closely and saw that the structures were a type of preserved botanical resin. Within each of them, a perfectly safeguarded microcosmos was entombed. On the left some small fruit, black through the amber, appeared to be bursting as sprouts grew from the seeds inside of it. Its skin was folded and wrinkled, as if it had dried a bit before being encased. The sprouts each sported four

tiny leaves. Their thin little stems were twisted and curved, impacted by the contact with the resin, in between them were tiny bubbles that caught the lights in the installment.

The plaque before and below the fossilized sprouts described the specimen. “*Lycosimilis antiqua*, seen preserved in the form of these sprouts burgeoning from their mother-fruit gives an interesting case study of tomato evolution. The amber that killed and is now preserving these seedlings was likely produced by an overhanging tree under which the plant grew. The fruit went uneaten long enough for the seeds to germinate, and just in time the resin dropped from above, sealing a moment in time for us to view. This vivipary, seeds germinating within the fruit, is still seen in tomatoes of today, but their primary dispersal strategy most likely was, and continues to be epizoochory. This is supported by spectral analysis of the skin apparent through the amber. The concentration of specific chemical derivatives indicates that, as is true today, tomato plants produce lycopene, caffeine, methylphenidate and capsaioallicin (1-[(*E*)-1-[(4-Hydroxy-3-methoxyphenyl)methyl]amino}-8-methyl-6-nonyloxy]-1,2-diallyl-1-disulfanuide) at rates high enough to modulate feeding. Lycopene stimulates feeding in most animals on Adobrasig due to the visual cue, while methylphenidate and capsaioallicin suppress appetite and decreases food preference toward tomatoes beyond

small amounts, lastly caffeine leads to a high degree of return. The lycopene is more concentrated toward the skin with modern tomatoes producing as much as twenty-five doppelsexigewichten per gewichten of wet mass. Conversely the methylphenidate is richest within the seeds. This adaptation incentivizes animals not to crush the seeds, thus spreading the tomato to the tops of many plateaus. As with many other taxa, this led to the diversity of wild tomatoes through genetic bottlenecking and isolation.”

Psychus looked at the next piece of amber, it appeared to contain an animal like one he had seen in the ‘small world’ exhibit at the Outreach zoo. He inspected the plaque.

“These two common species, seen here in an uncommonly populous sample, represent a complex ecological relationship.” It began.

Psychus looked closer at the sample, the small insectoid creature was holding its spoon-ended front limbs around a tetrahedral structure that Psychus recognized as a seed from an Adobrasigian plant. Attached under the animal’s body Psychus saw irregular lumps forming a small mound. He continued to read.

“*Egliopsis coleocarpus*, An unchanged species from antiquity, known today as the Equatorial Egliops Beetle, is seen here carrying both the seed of a wild plum - *Adobriprunus sativus*, and the suspended mass of its own eggs. Before being captured in a

large droplet of resin this creature was most likely burying its eggs with their own individual seeds to consume upon hatching. This behavior has been observed in the current day between the same two species and other members of their genera. The relationship benefits both participants significantly, the seeds are spread, and on the occasions that the egg does not hatch, they germinate far from their parent plant, often in more favorable and moist environments. For the beetle, the oily seeds provide energy and water for their offspring, as well as imparting them with flavorful compounds produced by the plant that reduce their palatability to predators.”

Psychus marveled for a moment at the odds, he knew he couldn't reasonably estimate them, but he was still impressed considering it seemed so unlikely to have happened, but there it was, captured more perfectly than a photograph.

The next stand had a set of nine small pebbles of amber arranged in a pleasingly spaced square. Within each Psychus could see one or more tiny tetrahedral seeds. He moved on to the next fossil that caught his eye, he was spoiled for choice and the twins were setting the pace.

He looked over a floral spike with partially matured fruits near the base . The fossil ended abruptly before the edge of the stone. Perusing the area he saw fossilized rhinoceros eggs, the thick

fragments of trampled shells from the nest of an ancestor of the mantalort, the cross-section of various small bodied Ooarthroplacomorphs showing the unlaidd eggs that perished with them, and some orb-like fruits with roots growing directly from them. He recognized some of the things by association, and for others he scanned the plaque to learn more.

Benno and Jactus had already almost exhausted the information available in this area.

Psychus stopped at one more fossil, it was the snapped branch of a tree. The smooth blackened limb sported a cup-like opening at the base of each twiggy bud along its length. A few of the cups seemed to be filled in with a different material than the rest of the fossil

Psychus read the plaque. “*Mutuusa arborius*, The Ambrodesia Tree, is found only in equatorial territories today despite the historical range it once occupied. This ancient example of the species was dated to within the last trisexual years. It is seen here in the interim period during the opening of the pollination cups and their occupation with the eggs of small flying *Oogonis* species. This branch had probably fallen in a storm before being washed away into the bottom of a cressek and getting buried in muddy soil.”

As he finished reading the inscribed text, the twin boys,

Neptulak and Wresse had gathered at the far end of the seeds and eggs exhibit. He hastened to continue along with them through the museum.

Chapter Φ

Great fleas have little fleas upon their backs to bite 'em,
And little fleas have lesser fleas, and so ad infinitum.
And the great fleas themselves, in turn, have greater fleas to go on;
While these again have greater still, and greater still, and so on.

- Augustus De Morgan, Siphonaptera.

“Hello, I’m Doctor Susan Inochi” she said as Eduardo introduced her to the couple, refraining from offering her hand to shake, as Jannus was carrying a the baby, and Joctur was holding hands with two of his young daughters.

“Hey hey, I’ve seen you on the news!” Joctur exclaimed. “Is it true the medical technology on Earth is so good you can live forever?” he asked.

“Yes, it’s been that way for millennia.” Dr. Inochi replied.

“Don’t you think that delivering that level of technology in a single category of knowledge, let alone every category, and simultaneously, will have some sort of insane consequences?”

Jannus said pointedly, less asking than dragging into view.

Joctur slowed a bit and diverted the girls to some sort of fossilized rough and conic structure.

Dr. Inochi had considered that people may react this way. “On Earth we as a society have taken what used to be thought of as unreasonable, unrealistic, and even untenable and brought it within the grasp of humanity. Perhaps the consequences will be insane, you’re right. The consequence brought about by the life expectancy creeping up faster and faster until it vanished into the distance was mainly increased demand, in general. On the other hand, technology stepped in there as well, providing an as-needed extraplanetary supply chain. In my defense, and from my perspective, depriving you folk from this knowledge when the opportunity presented itself would be morally similar to murder. If I can bring you things that will save lives at no cost to myself, and improve the quality of life, and I choose not to, then I’m a jerk at

the very least. “ she said, finishing with a deep breath.

“Fair enough, I do see what you mean. It is a very strange position to be in. But, the population of Adobrasig is so small” Jannus said, yielding the point and raising another concern.

“Adobrasig is bigger than Earth, when Earth ascended to that level of medical technology, the population was already in the dozens of pentasexals, it must of been. You can correct me if I’m wrong, but according to historical records Earth already had more than halb times the amount of people as Adobrasig has now, back when The Seed launched.” she continued, pausing for Dr. Inochi to confirm.

“Pentesexal?” Dr. Inochi asked, clarifying the quantity.

“Sixty to the fifth.” Jannus explained.

“Ah, then yes, that’s correct.” Dr. Inochi acknowledged.

Eduardo had joined Joctur and the girls.

“Well, if you hand this level of technology off, it’s not like it was on Earth. You have a gradual build up, maybe some major breakthroughs, but it’s all happening over a long time, and the population matures alongside the new inventions. The systems in place at any given time are naturally going to lag the most modern

designs, but they will be comparable.” Jannus started, Granta cooed in her arms, she paused to adjust her grasp slightly, using her pregnant belly a bit like a shelf. “And don’t take this too harshly,” she said lowering her voice a bit. “What’s done is done, and I’m a beneficiary, so this is really just something I wanted to bring up with you if I got the chance.”

“That’s fine I do see where you’re coming from, but go on, you were setting up for some comparison about the populations.” Dr. Inochi said, steering a bit. The two women started walking slowly as the two men and two girls were making their way through the hall of fossilized ectoparasites.

“Right, well, the systems segue into each other, and the generational overlap is reasonable, but this handoff... it seems like the societal equivalent of trusting a child to drive a vehicle. There’s less than a pentasexual people on Adobrasig, mostly people who still live in relatively rural pastoral ways, at the very least, our way of life will change. For the better I trust, but I sense danger. You can’t hang onto seventeen children without some preservation instinct.” Jannus said, finally smiling.

Dr. Inochi mirrored the gesture. “Well, it’s nice to meet you and I appreciate your perspective.”

“Thank you.” Jannus said. “I’m just worried about the genetic technology, and the weapons too. Did you need to bring the weapons?”

“Well, today in fact, I did see that the genetics techniques available on Adobrasig are rather limited, I think a degree of flexibility could be useful. Obviously a lot of it goes beyond curing genetic diseases.” Dr. Inochi said. “For weapons, you have to understand, if I was going to bring anything I needed to bring the weapons too. If I bring a new technology that implies weaponization, then it’s my duty to beat you to the punch and just point them out to everyone all at once. Rather than to leave that down to the individuals who would make that discovery and exploit the asymmetrical information.” she finished.

“I see.” Jannus said, she really seemed to feel better. “Let’s catch up with my husband.”

The women hastened a bit to join back up with the others in their group.

The two men and two girls were admiring a set of fossilized fragments from small parasites, the fragments alluded to a simplistic form, rounded like a pot, perhaps with more than one opening.

“What are these?” Jannus asked.

“Egg-Mimicking *Osteosap* shells.” Said Hetra, pointing out the small descriptive plaque.

“Oh, quite interesting.” Dr. Inochi remarked, leaning in for a closer view. “So these animals actively imitate eggs?” She remarked as she read the plaque. “The *Osteosaprotus spp.* found in cressek walls, typically nestled among collapsed or flooded nesting burrows, were most likely slow-moving, tunneling, ectoparasitic and ovivorous, as is found in the modern extant variety *Osteosaprotus vulgaris*. The signature behavior of replacing an egg within the nest of one of many different egg-laying ancient creatures, including some *Oobaloides*, *Orthoplacomorpha*, and most frequently *Rotampoda* species is displayed throughout their wide range in both space in time.”

“That’s a new one for me!” Dr. Inochi said upon reading the

plaque.

Eduardo interjected; “Dr. Inochi is a xenobiologist and has led exploratory missions to other planets, and for what that’s worth, it’s still extremely impressive by the standards generally held by people on Earth.”

“Oh!” Joctur exclaimed. The two girls looked up at him. “So this planet-hopping is just your shtick then?” he said with a chuckle.

“Have you ever seen an alien?” Asked Hetra.

“Well, yes, and actually, all the animals and plants here are aliens to me.” Dr. Inochi explained.

“I mean a smart, wait no, the animals here are smart. I mean one that can talk!” Hetra clarified.

Dr. Inochi latched on to the comment about smart animals, but answered the new question first. “I’ve never communicated with any of the lifeforms I’ve encountered, but I’ve seen complex communication and pack hunting strategies that require coordination and specific actions to be planned in advance. So, no I haven’t met any aliens that can talk. But, the animals here, what

makes you say they're smart? Do you have any examples?"

"I saw an oobal bury a tomato once, I think it was trying to grow more!" Hetra claimed.

Jakiah interjected, speaking with a bit of a whistling sound through the new gap in her teeth. "Sssh-sometimes-s I sssh-see the sssh-snails-s eating fig bark off the roots-s when they're sssh-sick with puterrota. I think it helps-s them get better." she said with a bit of difficulty and a punctuated smile.

Dr. Inochi was impressed, both by the animals, and the children. "Thats very observant of you to notice things like that, both of you. Zoopharmacognosy and zooagriculture are both very rare in my experience, but not unheard of."

Joctur cleared his throat a bit before speaking, "There are some ants in my front yard that feed each other, and when I dig around their holes I find so many hemimycotinoid clusters, I'm pretty sure they distribute the eggs and provide for them somehow. I'm not sure why, maybe you could take a look at them."

"I would love too, sounds like trophobiosis, if they're getting food out of it. It may be something else, but ants on Earth were

known for growing and tending something we call ‘fungus’ as a food source, which are quite similar to hemimycotinoids. In fact, I think they may be named for their similarity.”

“How interesting!” Joctur said.

Eduardo had moved a few meters down the aisle and was looking at another fossil. “Oh I don’t like this one.” he said.

The group shifted along to see what was held within the wall cubby. Mounted along the inner wall were several extremely-asymmetrical ring-shaped filiform structures each strand ending in a curled hook and barb, and each fossil sporting an opening in the near center. Like poorly-made hairy doughnuts, they sat silent and still, but their form screamed malice.

Eduardo read aloud from the plaque. “*Lichenoris fistularis*, The Cleaving Mouthoid, ranging from seven-sixties-and-twenty trisexual years ago until as recently as four trisexual years ago and found exclusively in the southern polar territories, was an ectoparasitoid organism with a wide variety of hosts. Its lifecycle began with a microscopic seed, carried on wind or whipped up by the footsteps of large fauna. The seeds would embed within the

joints found in the exoskeletons found in the majority of large adobrasigian animals within the historic range of this plant. Upon germination a small opening is generated through both trophisms and rapid plant movement. Moisture is released from this opening, and taken in by the roots. Infections with this plant were often autoinfective. Ultimately infection would often progress internally and lead to eventual death. Corpses containing the fruiting structures of this plant probably remained infectious for years at a time in the cold and dry southern polar regions.”

“Nash-ty.” said Jakiah.

“Yeah, pretty bleak.” said Hetra.

“Perhaps that’s enough parasites for now, this place is enormous, maybe we could see something completely different.”

Jannus suggested.

They looked around in the corridor, of the two sets of branching pathways, one read ‘Adobrasig Sciences’ and they headed toward it.

Glossing past irregular fossils, they entered a hallway between exhibits.

Within the rather cavernous and curved hall, the exhibit of Adobrasig Sciences was full of small interactive holoprojectors on plinths and collected layers of stone from many places on the planet.

The two girls walked up to one of the projections and started it over.

The adults in the group gathered around as well.

As a projection of a lava-textured spheroid rotated in the projection a soothing male voice spoke, accompanied by hackety znak subtitles. “twenty-nine-sixties-and-fifteen trisexual years ago when Adobrasig was new, the binary star system it formed around was only beginning to enter a degenerate orbit due to mass accretion. Adobrasig remained molten until twenty-two-sixties trisexual years ago.”

The projection rotated to show a pair of stars orbiting each other very closely.

“twenty-one-sixties trisexual years ago, the fusion of Bobeaus and Quertanos began.” The narration continued as the stars made contact and appeared to bounce off of each other with a bright

flash.

“Over the course of roughly twenty-five trisexual years, through ongoing close glances that produced massive microwave bursts, and the shearing tidal forces of the chaotic behavior of their orbits, the pair of stars boiled the core of the newly hardened Adobrasig, and caused the crust to crack into the cressek formations still seen today.” it said as the projection showed the planet bursting from the inside with each flash. Each time the stars collided they lost more and more momentum, the flashes became more intense and more frequent until Adobrasig was cracked.

“Upon completing full fusion into Quertobeaus, our sun, the gravitational well was altered enough to change the orbits of the asteroids in the Hatrir belt dramatically to be reduced in distance to within the orbital radius of Adobrasig.” the projection said as a large ring shaped cloud of debris and ice was shown to move inward toward the single star.

“The moon of Adobrasig, Gob, formed during this event from the captured debris, and virtually all the water on Adobrasig was deposited as icy bombardment during this period.” The projection

stopped, lingering on a lifeless but moistened Adobrasig orbiting its sun.

“Ah, I see. So that’s where the cresseks came from.” Eduardo remarked casually.

The group walked past a staggered stone the size of a car wedged into a large cubby and approached the next plinth.

Hetra started the projection. “Lake Thobak began as Thobak, a meteor roughly one pentometron in diameter.”

The projection showed a long sharp meteor zipping through space toward the planet. “The collision of Thobak with what is now known as Jayan’s Lip, the plateau where Lake Thobak is found, took place at over seven pentometrons per second.” It continued, showing the meteor colliding with its incredible force, dead center with one of the largest of the lower plateaus. The projection showed the shockwave rippling outward through the planet, it quickly dissipated among the punctuated terrain that carried waves poorly.

“Oh my!” Dr. Inochi said.

“Due to the low elevation of Jayan’s Lip, the Thobak impact

crater filled with precipitation over time and now fosters the most biodiverse jungle on Adobrasig.” The projection showed the crater filling in with rainwater as the plateau turned orange with foliage around it.

Joctur led the group onwards.

At the next plinth, a small rusty oblong stone was propped up by sleek metal stands. Joctur read the plaque aloud “This fragment of the Thobak meteorite solidified while still in the air, thrown upwards following the initial impact. Donated by the Honiche family.”

The little girls looked closely at the stone for a moment before moving along with the adults in tow.

They passed slowly past a long thin column of stone laid on its side in a case. The column was divided visually by a change in the shade of brown approximately in the middle.

“This looks like a core sample, we took some of these on PMO-17” Dr. Inochi observed.

“Oh! Joctur you’d be interested in this I think” Eduardo began. “Dr. Inochi led an expedition to a very unique planet before

we came to Adobrasig.”

“Yes, it had two atmospheres, each with their own biospheres!” Dr. Inochi said.

“Wow, how’d that work?” Joctur asked
Jannus and the girls were listening too.

“A spontaneous partitioning of the denser Fluorine rich compounds and the lighter oxygen containing compounds seems to have occurred simply as a function of the gasses densities, but the stability of the atmospheric separation is due to microscopic crystalline fragments that increase the viscosity of the interface between the atmospheres beyond the threshold for resistance to brownian diffusion.” She answered, smiling.

The young girls seemed confused, Jannus seemed to be trying to picture the scenario.

“How long were you on... what did you say it was called?”
Joctur asked.

“PMO-17, I was there for several years, to you something like thirty-three weeks - but you tend to lose track of time with alien planets.” Dr. Inochi took a slow breath in and let it out, she

thought briefly of her crew. “So, what’s this one?” She asked.

Eduardo read aloud from one of the two identical plaques on either side of the display. “Sediment sample, Lake Thobak.”

Dr. Inochi cocked her head a bit, “That’s not very informative, is that all?” She asked.

“Seems so.” Said Joctur, leaning past Jannus to see the other plaque.

As the adults pondered the cylinder of striated stone, Hetra approached a slumped man in a white chair in the corner.

Momentarily they returned together.

“Hello, hello, yes. I can answer any questions you have about the exhibits in this section.” The man said as he reached them.

“What is significant about this core sample?” Eduardo asked.

“Well, if you look here” the man began, edging his way to the edge of the display and pointing to the point where the change in color occurred within the sample. “This change in color shows the degree to which the deposited exoskeletons of the animals of Lake Thobak have accumulated over time. From here up, the majority of the material is layers of animal shells, and from here down it is

silicate.”

“Thank you, that’s very interesting.” Eduardo said.

“No problem, is there anything else?”