

Friedrich Cainer

A Time of Useful Consciousness

Rouse

I WAS STUCK in my own unremarkable hell; attempted slumber on a transatlantic flight.

I'd deployed all the tricks, the eyemask/earplugs, the expensive noise-cancelling headphones, and ridiculous inflated pillow. Despite these efforts the moment I fell asleep my head would drop forward and snap me awake. This cycled endlessly, sufficiently awake to be miserable but not enough to realise sleep wasn't going to work.

After an eternity of this something filtered through, a nagging observation still there after each attempt at sleep. I could smell cigarette smoke, not as if someone were smoking beside me, but that stale stink of old smoke. This pestered me until in a dream I heard a piercing scream that snapped me awake.

Last year I'd seen it happen on a flight. The smell first, followed by alarm, and finally theatrics. I sympathized with the smokers but the nicotine gum was cheap, most flights I'd chew my way through almost an entire pack. On that occasion three of the cabin crew had hustled a man back to his seat and took turns berating the poor bastard for the rest of the flight. The entire incident was the most exciting part of any flight I'd taken, so I was keen to watch a rerun.

After peeling off all the travel accessories festooned around my head, I was disappointed by the lack of any visible high drama. We were still in the night phase of the journey and rumbling around me were a half dozen snoring lumps in the dark.

My throat was a dusty ache and standing I squinted waiting for my eyes to wake up. I shambled my way between the seats, carefully dodging limbs in the aisle. On these large planes each cabin ended with a curtained-off section I'd once seen called the galley on a map.

The galley was brightly lit and the transition from the "night" of the cabin left me blinking. It consisted of a narrow corridor joining the two aisles and was packed with cupboards, toilets, coffee machines, and drinks trolleys. Sitting on the shelf was a thoughtful tray of snacks and tiny blue bottles of water. I downed an entire bottle of water in two gulps before stuffing my travel bag with a few of each before moving on. The smoke smell was lingering and I could hear distant shouting, so I poked my head into the next section.

Empty. I'd never seen an empty cabin mid-flight before. Rubbish was strewn on the floor, bags tucked under seats, thin, tangled tartan blankets, used earplugs, and crushed bottles.

For those like me, the 35 thousand feet champions of the sky that are the frequent fliers, this was a fabled Shangri-La. At some point we must have landed and dropped these people off. I hadn't thought that ever happened.

The smell was here, no stronger, no weaker. I wondered if gasping enough of this air at speed could ever feel like a smoke. Also an empty cabin wasn't something I was going to pass up on. I stretched and then jogged as best I could up and down the aisle. Failing to take any edge off my need to smoke I popped two bits of gum and decided to take a peek in the next cabin.

I held the curtain close at the edge and looked behind it expecting to see the first class cabin crew. Instead, there was another galley, identical to the one I had come from with the same trays of snacks and tiny water bottles.

I paused there at the entrance of that galley holding back the curtain for some time. The jog had cleared my head but the less dreamlike everything felt, the more uneasy I was.

I couldn't remember passing this section on my way in while boarding, and looking back at the cabin behind me I saw that none of the seats had screens. Walking up to the next curtain I prepared an excuse to give the cabin crew as to why I was making the classic faux pax of peeking into first class.

Instead, I was met with yet another empty economy cabin, another 20 rows of plain seats and another galley at the end. Walking briskly, I made my way to the end; another galley, another cabin. I made my way through cabin after cabin, some of the curtains were already pulled back, one was entirely ripped free and lying on the floor. Regardless each cabin was identical to the last, each empty.

Panting, I took a moment to calm down, I could feel the panic rising like some urgent itch needing to be scratched. Leaning over the seats, I opened the window blinds but could only see the dark of night and stars.

Moving back into the galley I detached one of the service trolleys and rolled it into the aisle; it moved smoothly on casters despite easily weighing over 100kg. Riffing through the contents, it was full of unfamiliar brands of soda and miniature spirits. Next, I ransacked the galley cupboards and checked the seat-back pockets in the next cabin. In all cases, there were no magazines, no safety brochures, no corporate branding anywhere.

As I started to make my way back, my foot stuck to the floor halfway down the aisle. Looking down I could see there was a large black puddle of something sticky covering the aisle. I'd missed it in my near panicked run. Kneeling, I gingerly dabbed my finger in the puddle.

As I raised my fingers to inspect, for the first time I looked back the way I'd come. The curtains were torn back revealing an uninterrupted view down alternating dark cabins and brightly lit galleys. My perspective shifted and lurched as I looked. Instead of a straight uninterrupted view, it looked as if I stood at the top of a hill. The floor rose to meet the ceiling, and I had a sudden moment of vertigo as my perspective shifted to the vertical.

Still kneeling I absentmindedly raised my fingers to my nose and sniffed. The smell snapped me out of it, my brain settling on the aisle as a steep slope rather than a near vertical tunnel. I stayed there for some time kneeling in the aisle, gripped by panic, fixated on that smell of smoke and fresh blood.

```
>> sysctl -w net.ipv4.ip_forward=1  
>> iptables -t nat -A PREROUTING -i eth0 -p tcp --dport 80 -j  
REDIRECT --to-port 8080  
>> brew install mitmproxy  
>> mitmdump -w dumpfile
```

Trolley

I needed to get back to the other passengers. There was going to be an explanation to this even if it meant I was having some kind of stroke. Instead of running I walked purposefully while focusing on calming my breathing. I took this flight between Melbourne and LA multiple times every year, and as long as I kept my eyes down I saw only the familiar. That sense of familiarity and normalcy was quickly ruined whenever I looked down the aisle, the curving floor reaching up towards the ceiling.

As I passed through the galley I closed the curtain behind me. If I had to lead people back this way, then I could spare them from some of the panic. After a few cabins, I shuffled into one of the rows near the front and opened the window blind. At first, I saw nothing as my eyes adjusted, then stars and only stars. The flight was over sea, and there was no guarantee of a moon, but there was nothing but stars above, stars below. I squinted into the dark looking for the border between sea and sky, trying to spot land or signs of life.

With my face pressed up against the window, I saw a flash of light from the corner of my eye. Looking at the galley in the direction I had just come from I saw a figure standing in the opposite aisle holding back the curtain.

She obviously couldn't see me, so I stood and waved. 'We need to wake the others, something is wrong'.

[Her eyes widened in shock.](#) She glanced down the aisle, and then raised a single finger to her lips before ducking back behind the curtain. This was the last thing I needed, others had obviously woken before me and were spreading out across the plane... or whatever this place was. I jogged back the direction I'd come only to find she'd already left. I thought I'd

lost her but then saw her moving quickly down the aisle before crouching down at the far end.

She must have found another puddle of blood like I had and was probably in shock. As I made my way up the aisle, I heard a sound behind me. Like a strange mirror of before, another figure stood at the far end of the aisle behind me, this time all I could see was a silhouette in the dark.

They stepped forward and rested a hand on the headrest in front of them. We stood like this in the dark cabin for an uncomfortable silence staring at each other. Then slowly their grip on the headrest tightened, and in a single movement they pulled themselves up. Their legs reaching out behind them to the back of the seats and the other hand grasping a headrest in the next row. They stood perched on the chairs like a sprinter kneeling before a race.

The modern mind is conditioned to ignore our basest flight or fight reflexes. A helicopter is not a hawk; a truck is not a charging beast. We rationalise away the fear and acclimatise ourselves to the exceptional. That's how I wasted that first heartbeat, trying to rationalise away what the animal part of my brain had already identified as predatory.

It used that time to accelerate, pulling itself across the top of the chairs. Two rows lost before I started to move. As I ran, I could hear the staccato beat of the chairs flexing under its weight and heard it land into the aisle behind me as I ducked through the curtain into the galley.

The trolley I'd searched earlier was gone, but only for a moment as looking up the aisle ahead, I saw it hurtling toward me. The woman from earlier had both hands gripped on the handles and was putting her full weight behind it.

“Move!” she screamed. This time I followed my instincts and dived into the galley corridor. The creature burst from underneath the curtain, all pale limbs and wiry muscle, human but not, and scrambling on all fours. It paused to look at me and opened its mouth as if to speak before the corner of the trolley bore down on it with a sickening crunch and threw it back into the aisle.

Standing I could see the woman was now sprinting up the aisle while behind me I could hear a wild thrashing and breaking of glass as the contents of the trolley spilled out. Instead of looking back I focused on running, a strange gait, half turned to the side as I scrambled down the narrow aisle. I briefly noticed the puddle of blood that marked the furthest I’d gone earlier and continued running.

My lungs bursting, I paused at the end of another aisle, blood roaring in my ears. Gasping, I managed a few seconds of rest before looking back to see the far curtain rise. The silhouette was wrong, the head split where the trolley had caught it. I spun and made for the toilet whose door I could see ajar. As my hand grabbed the handle, I tripped on something in the dark.

Head cracking against the door frame I fell into the toilet, my vision suddenly tunneled and full of stars. Scrambling to stand, I found no traction on the slick floor and fell again. Lying prone I yanked desperately at the door only to find it stuck by what I had tripped on. A man’s body was lying in the aisle, the floor around me covered in blood.

There on the floor of that toilet, concussed and covered in blood, I finally surrendered to panic. Thrashing and kicking at his hand blocking the door I accomplished nothing. Suddenly the body lurched backward, dragged into the dark. I dove for the door, snapped it shut, and engaged the lock. The toilet lit up as a migraine blossomed behind my eyes, it

combined with shock as I made eye contact with myself in the mirror, folded into that narrow space, drenched in blood and terror.

Behind the door I could hear shuffling, the door moving gently as if testing the lock. As the adrenaline left my system and the concussion took me I could hear it speak from behind the door. There was rhythm and structure like a language, but I could hear the effect the trolley had. It was a muted, wet and damaged sound. Whether exhaustion or concussion I fell unconscious there, equally soothed and terrified by those sounds, like a language from a childhood I'd forgotten.

Shock

Waves of nausea crushed me against the floor of that toilet for what felt like hours.

Eventually, I had the sense to rummage through my backpack for some painkillers and the bottles of water I'd grabbed from the galley earlier. I put on my eye mask and sipped the water in the dark until I was able to stand without immediately feeling like I'd pass out again.

While I recovered huddled on the ground I considered my next steps. Memories of recent events were fragmented but I could still remember the creature singing. A damaged and wet sound, it stuck in my head like a half-remembered song. I eventually realised that with the amount of time that had passed and recent events, the chances of rescue were slim to none.

Removing the eye mask I stood and looked at my reflection in the toilet mirror; I was a horror-show mess. My hair was plastered down by blood from the knock I'd taken to the head and the rest of me was covered in gore from the pool I was still standing in. It had mostly dried into a thick tacky mess that covered every surface in dark brown streaks.

I spent some time cleaning myself up, best as I could, enough so I could see how bad the cut on my head was and at least make myself look better than I felt. It gave me time to steel myself while I procrastinated cleaning the blood from my hair. I'd decided that staying here wasn't going to be an option so now it was just a matter of following through.

There was no noise from outside the door so I tried baiting movement by disengaging the lock before snapping it back. Hearing nothing, I counted down from 100 before throwing back the door and bracing myself to run. The body I'd tripped on was gone but even stranger

someone had left me a message. There was a crude arrow made of wet toilet paper plastered on the floor in the galley corridor.

Lacking any other options and fairly certain the creature wasn't in the habit of making paper mache, I turned and headed in the direction it pointed, away from the section I'd woken in. My head still pounded but with the painkillers it was a distant ache and moving was actually a relief after the time spent on the floor. Just as I was starting to wonder how far it was I saw a note sitting on the ground by the next set of galley curtains.

It looked like it had been slipped under the curtain so I knelt to pick it up whilst cautious to not get too close to the curtain itself. One side was blank and the other only consisted of 5 words, "Forgive me if this works".

As I started to stand back up I heard a click from one of the overhead compartments. Long pale limbs dangled as the creature slid out and landed on all fours. It stood and before I could run started to speak. Melodious and strange, it trilled with a rhythm like poetry.

I realised as it approached that I'd never stopped to properly look at it. Why had I been so afraid of something only ever half seen? At a glance, it was human. Pale like someone drained of blood but as I looked closer it had its own strange beauty. It was the ratios between the body parts that threw me, the face too narrow, the arms too long. Each on their own would look normal on someone else but together looked like some form of amateur taxidermy.

It walked up to me calmly and raised its hands to form an O between thumb and index fingers, the joints popped and cracked slightly as the circle extended itself. It worked its other fingers beneath the ring as fine filaments sparkled with a soft light.

This circle above my head, this was my crown. A profound treasure just for me. My heart hammered with elation and I could barely contain myself from the urge to take its hands in mine and pull the crown upon myself.

We both noticed it at the same time, the shuffling of someone trying to approach quietly from behind. The woman from earlier was moving up the aisle, walking low with something strapped around her chest. When she saw me notice her she started to run, quickly closing the gap, and slapped her hands on either side of the creature's head.

It had already been turning so she caught it low over the left eye and near the back of the head. Her hands left behind two blue gel pads connected by fine wires to the box slung around her chest.

"Shock Advised, Press button to continue" intoned a tinny speaker in the defibrillator.

The creature turned as far as it could and howled. In my mind I could see the wolves at night, shame and terror consumed me. In a rush it coronated me with its hands, the crown burned and sizzled satisfyingly as it connected.

"Oh please god stop! You don't understand!" I begged her.

She slammed the blinking red button on the defibrillator with a scowl of determined fury.

"Administering shock, Stand clear."

A moment of nothing and then the smell of burning hair and ozone. My first realisation was that for the second time that day I'd been knocked unconscious. I watched as the passenger methodically removed small red belts she had strapped to her waist. They looked familiar and I recalled seeing them handed out on flights to parents so they could secure toddlers in their lap. She wrapped each around the creature, planting a foot on its chest and then using her full weight to tighten each one almost to breaking point.

Once she had the legs and arms secured she straddled its shoulders and pulled out a thick wedge of what looked like compacted foil trays from inflight meals. She held this above the creature's head and waited.

The moment it opened its eyes it began to thrash but quickly went still. After making eye contact with me it began to sing. I leapt up to help but before I could reach her she slammed the wedge into its mouth and then smashed it home with the edge of the defibrillator.

I stopped mid-run, not sure of what I was running to or from as she ruthlessly hammered the wedge in.

"What... what the fuck was that!" I yammered.

"No, it's not dead"

"What?!"

She looked at me with a concerned expression while removing earplugs.

"Sorry, what did you say?"

"What was that?!"

"This?" She said motioning toward the creature.

"No, yes, no I mean what was that... singing?"

"[Glossaria](#), at least I think."

"What?"

"Don't worry, look I need to ask you something."

I looked at her blankly, still in shock.

"Where are you from?"

"The States. Michigan."

“Ok, the States, Michigan.” she paused before looking carefully in my eyes, “Hi, my name is Anna. Now we’ve covered where, can you tell me when you are from?”

Whistle

“Mental illness?”

“It’s Occam’s Razor. Insanity is the theory with the fewest...” I raised my palm in the direction of the creature, “... assumptions.”

After a long stretch of wild thrashing against its restraints the creature had, without warning, closed its eyes and gone deathly still. The all-consuming terror had slowly faded into hunger leaving us huddled low in the aisle, eating energy bars Anna had extracted from a ration pack. We both kept an eye on the creature, cautious of any sign it would dislodge the metal wedge she had hammered into its jaw.

“Do you or anyone in your family have a history of mental illness?” Anna asked.

“No.”

“Well I’m not a psychologist but people don’t just wake up one morning trapped in a fantasy world.”

“Time travellers and alien spaceships, it’s bullshit. Whatever that is isn’t my idea of a fantasy. ”

“Nor mine.” she paused meaningfully as she took in the surroundings, “...but I’m no time traveller. As I said, I didn’t travel into the past, it’s you who -”

“Got put on ice?”

“Something like that; look.” She said, motioning to the creature. It had opened a single eye and was staring at us with no hint of interest or emotion.

“You sure you don’t want to kill it?” I asked slowly as the creature turned its gaze on me.

“No, I’m far from sure but...”

She left the sentence hanging but I knew what she meant. Harming the creature now would mean touching it and neither of us were in a state to do that. We sat for some time in silence with the creature staring back. I realised all three of us were most likely thinking about the same thing; the murder of someone helpless.

Anna stood up, “We should move, I need to see what happened to my team.”

She was dressed in what looked like a grey diving suit but with pockets and a backpack integrated into the fabric. Apparently it was some kind of combined space suit and computer she was controlling via her contact lenses. I was still struggling with what the creature had done while she unloaded all this information on me so the facts of where and when she’d come from were still murky. She had explained that while I lay unconscious in the toilet she had hidden in a small cupboard in one of the galley sections. From there she watched as a half dozen of the creatures had methodically dragged corpses back toward where we’d woken up.

“Do you think it’s safe to be moving around, especially considering the way they ambush?”

“I don’t think it’s ever going to be safe but we can take precautions. Ear plugs, for example. But I’m not sure if we’ll see any in that direction, they all headed away from here together. We can’t be certain but I think this one was left behind to deal with stragglers.”

“Worst case we can always find you another defibrillator.”

She smiled grimly before glancing down at the creature with a frown. “I think we got lucky.”

We stood up and after making sure the straps on the creature were still tight we warily headed in the direction Anna’s team had gone.

“It never looked like luck from my end. What was your role on your team?”

“Data Scientist. My specialty was Applied Data Archaeology.”

I mimicked a plane flying over my head; only realising halfway through the grim irony of the gesture.

“Computer Programmer. I was one of the researchers who was looking at how the Librarians on [Ganymede](#) used computers to design structures like this place.”

“The Librarians on Ganymede...”

She laughed gently “Yeah, that’s what we called them. They’d left by the time we found their base but yeah, there really were little green men watching. Except they weren’t green or men.”

“So you knew about this place before coming here?”

“In a sense, we found partial designs for the cabins. It’s not really a copy of any one model of plane but sort of an approximation of lots of different aircraft.”

“How did you get here?”

“There was a launch facility on Ganymede that would create ships on demand and send them on a one way trip. Only trick was it would only send one thing, people. There was a software level lock that would stop anything launching that wasn’t a person.”

Anna paused at a galley curtain to check all was clear before motioning to continue.

“So, if a computer was doing this, deciding if that cargo was a person or not, you must be talking about Artificial Intelligence?”

She squinted slightly at the term. “That’s not a description we use nowadays really, the software that drives our cars or performs surgery has the same outcomes as intelligence but there is no mind behind it, just data and statistics.”

“I don’t understand, that all sounds like intelligence to me.”

“So would calculating longitude or adding up a bank balance in Victorian England.” She saw that I still looked uncertain.

“Ok, insulin and whipped cream,” She said while raising both palms indicating the two options. “Insulin that’s for diabetics is made in a lab from genetically-engineered bacteria.”

“Remember, I’m from the ‘past’.” I emphasised the final word with air quotes. “No, that’s how it was made in your time, we don’t have diabetics anymore but the GM bacteria you used was pre-2000s.” She ignored the look I was giving her and soldiered on. “Anyway, insulin is made in the lab, now if you’re a diabetic and become hyperglycemia you can inject that synthetic insulin and it will treat it just fine.” She closed her left palm into a thumbs up.

“Compare that to whipped cream in a can, it contains zero actual cream but can serve as a handy replacement for the real thing in a dessert. But, and here’s the key bit, you run into trouble if you try to make butter with it. In that case you’re just going to end up with an oily mess.” With that she slapped her other palm on a headrest as she walked by.

“Artificial whipped cream can only perform the narrow task it was designed for; mistaking it for the real deal just leads to trouble. Incidentally, that’s what I specialise in, highly advanced whipped creams.” she said, looking back with a laugh.

“So the insulin equivalent, the real deal doesn’t exist? There is no real AI, nothing that’s smart in the way people are smart?”

“Not from lack of trying. Every university in the Reboot has at least one department working on it. I do have a theory though, I think that’s what the Librarians were.”

“Artifi- you mean Synthetic Intelligences?”

“Exactly, it would explain so much but nowhere in their archives could we find a copy of themselves. Wherever that code is the only place it ran was inside those crab-shaped bodies of theirs.”

I put a hand on her shoulder and gestured for her to stop. “Look, no light.”

The cabins we’d passed through were dark but at each end the galley section had a bright light shining from above and below the curtain. Yet here we could see nothing. Also, now that we’d stopped moving I could hear a faint whistling noise in the distance.

As we crept up the aisle I could hear it slowly rising in pitch, the sound was clearly coming from somewhere in the roof. Anna motioned to stop. “Keep an eye out.”

She then touched one of the bulges on her shoulder and pointed up. A bright torch light flicked on and illuminated the ceiling. It tracked the direction she pointed as she scanned around looking for the source of the noise until she spotted a small hole. Around the hole the roof was discolored and uneven like scar tissue.

“It’s a bullet hole.” she muttered before switching off the light.

Rummaging around in her pack she retrieved a small metal tube the size of a short pen. Standing on the back of the chairs she pushed it into the hole and held it in place for a few minutes as the noise increased in pitch until suddenly stopping.

“Why did the noise stop?”

“The hole was shrinking,” she replied. “I think walls can repair themselves and the noise was the air escaping.”

I looked up at the still visible end of the pen. It looked like she’d stabbed the roof, the edges were still ragged and discolored. A small blue light in the pen flicked on and started to pulse. Anna had sunk into a nearby chair with a distant look that I’d learned meant she was

looking at some computer display in her contact lenses. Her face had paled and her eyes flickered as she absorbed whatever it was she could see.

“It’s a camera isn’t it?”

She nodded mutely, after waiting for more I persisted. “What can you see?”

There was a long delay before she simply replied “Stars.”

I began to protest but she motioned for me to sit and pulled out a flat computer screen she had strapped to her leg. The screen flicked on and a bright logo was displayed just long enough for me to read the initialism: URRP - United Reboot Research Program.

“Look, this is what it’s seeing, there’s some color correction but otherwise this is live footage.”

The video was split between light and dark. On the right side was the blue of an ocean and sky which lit everything else from below. On the left were stars which spun lazily around and around. Cutting down the middle was the view from the inner surface of a torus made of a pale blue stone. Suspended in the middle without any connection to the ring was a sphere of the same material.

“This torus structure, this donut shaped ring, that’s what we’re inside. Before letting that sink in I should show you this.”

Anna made a pinching motion on the screen and the image zoomed into a white oval shape cut into the sphere.

“What the hell is that?”

“My guess? An airlock.”

She zoomed the screen in as close as it would allow. As it zoomed in closer I could see a red handle and what looked like English writing around the edge.

“An airlock shaped like an aircraft door.”

Hlé

“One point four kilometers if you kept walking, until it loops back at least.”

“How many cabins is that?”

“Sixty six including the galleys. The entire ring we’re inside rotates around that sphere in the middle about fifty meters per second, fast enough to feel like gravity but it’s big enough to not make you feel sick.”

Anna’s suit had been turning the camera footage into a 3D model which was displayed on the thin computer she’d handed me.

“Why would the Librarians kidnap us and bring us this far only to slaughter us?”

Anna looked genuinely shocked. “I don’t think these creatures, whatever they are, have anything to do with the Librarians. They were peaceful to a fault; even the kidnappings were well-intentioned.”

I was far from convinced. “How so?”

“It’s complex but they thought our world was going to end. From about 1970 onward they’d identified something in our society called a paperclip maximizer. It’s a silly name but profoundly dangerous. If Reboot hadn’t been created I wouldn’t be here. It’s possible nobody would.”

“I’ve seen the word Reboot on all your equipment, is that some kind of company?”

“No, it’s more like the European Union, but even that is largely part of the Reboot now. The movement was formed by countries as a reaction to what the Librarians wrote about us, about our societies. Each country varies greatly in implementation but they share a central tenet;

Citizen Primacy. Nobody and nothing can challenge the power of the citizenry within the Reboot.”

“Isn’t that just a democracy?”

“You’d think so, but no. Most countries didn’t enshrine that in law, not legislating citizen primacy negates the benefits of democracy over time. We really shouldn’t have needed the Librarians to point it out to us. As far back as 2014 a team of political scientists at Princeton conducted a study asking to what degree the average citizen influences government policy; you know what they found? The citizens’ preferences had no influence, nothing statistically significant at least.”

“Christ, how did it get to that point? I only left in 1999.”

“Well, sorry to break it to you, but the study held true from the 1980s onward. Democracy was the cover story, the real political process was between the vested interests.”

“Well, now that I think about it, I guess that’s not entirely surprising. So how did Reboot fix it?”

“That’s a topic for another time, suffice to say everything is held against that yardstick of Citizen Primacy; defending that is the entire purpose of the movement. Our countries exist for only us and any attempt at usurping that would be defended against.”

“To the point of violence?”

“Thankfully it hasn’t come to that but having seen what’s happened outside of the Reboot nations when I left... yes, it’s probably inevitable.”

“Sounds like nothing has changed.”

“When I left there was a cold war over labor, the global economy had been gutted by mass automation. The only jobs left were those highly skilled enough that they couldn’t automate. Reboot made their move so quickly it took years before the countries outside it realised what

had happened. We opened our doors to those highly skilled people and offered them a way of life that had been lost. Clean air, safe food and water, strong communities and a safety net. The Scandinavian countries had been doing it for decades, Reboot just made it their mandate. The terror of unemployment had heavily suppressed wages but within a few decades the countries outside of Reboot had lost enough of their skilled workforce for it to really hurt. They need us for our consumers and labor, we need them to stop making the climate crisis worse and harming their citizens.”

“They’re hurting their own people?”

“It’s inevitable. If the country doesn’t exist for you and your value is measured only by what you can do that’s [economically useful](#) then what happens to those who have nothing to contribute? At least, nothing they would want to contribute willingly.”

My brother was a truck driver and it sounded like he might have been the last generation of those. As a salesperson, I wondered if I’d be in that group of people who had nothing left to offer. I picked the tablet back up and idly started rotating the image. Anna had shown me the controls which were surprisingly intuitive. “Ok, so back to these creatures then, if not the Librarians then who are they?”

“I have no idea.” Anna said while I pensively zoomed the image in again on the sphere’s airlock door.

“You know that’s not the only mystery. We haven’t had a look at why that galley is dark yet.” I said, looking ahead.

Anna nodded in agreement and showed me how the computer we’d been using could act as a flashlight before putting our earplugs back in. We entered the pitch black galley cautiously, shining the light across the floor. The galley was strewn with bags, various equipment such as rope, tripods and even a large hunting knife. Instead of the usual galley

corridor connecting the aisles there was a wall blocked the passage made of a soft pale leather. Running my hand across it I could feel regular lumps behind the thin wall, each shifting around as I prodded them.

Anna looked deeply concerned as she picked through the equipment. After a few moments she found a bulky backpack that was similar to part of her suit. This one, however, had the material of the suit torn at the edges like it had been violently ripped free. She pulled at a sheet of the suit material that was under the divider curtain but it remained stuck so she drew the curtains open.

Behind the curtain was a total darkness, not the dark of the galley or the dimly lit cabin, but an utter absence of light without any indication of depth. It was like the world simply ended behind the curtain, as if it opened out into a space without stars.

Anna slammed the curtain closed and even in the dim light of the tablet I could see she looked panicked. With a gesture, she cut the light from both her shoulder torch and my computer, plunging us into total darkness. In the dark she placed a hand on my shoulder and gently squeezed, indicating for me to move back. As I took my first step backward her grip tightened before suddenly wrenching free.

With my ears still plugged I couldn't hear anything but one moment her hand was on my shoulder and the next there was a blow to my face slapping me to the ground. The computer was knocked from my hands, plunging us into the dark, and as I scrambled for it among the bags I started to smell the familiar scent of burning hair.

My fingers finally found purchase on the computer and after switching it on the first thing I saw was Anna's feet suspended above the floor kicking wildly. Turning the torch upward I could see high above her the face of a creature. It was not above the wall but rather was actually part of it. The face was distended and smeared across the wall's surface and its

appendages had unfurled from a fold hidden somewhere at the top. The toes of its feet had lengthened and were now holding Anna aloft whilst she fought back against the hands that were forming into a crown. The creature's hands glanced off her head, burning tufts of hair.

Grabbing the hunting knife from the floor, I leapt up and stabbed at the wall, running the blade down the wall's length. It cut easily and out poured thousands of gumball sized beads in a flood that knocked all of us back. Most were filled with a yellow transparent fluid but others were grey and opaque. The creature was torn from the wall and both it and Anna fell under the wave of beads.

I was washed back into the aisle, the beads flowing around me and slipping under foot, and as I crushed them an acrid stink filled the cabin. There was no sign of Anna or the creature until suddenly they both burst up from the beads. She was wrestling with the head and arms, the crown now broken. I saw the legs were still hanging from the roof, twitching clawed toes still attached by bloody strips of skin.

Ploughing through the beads I grabbed the creature by the head and together we pulled it off her. Behind its head and clawed arms was skinless flesh, raw and wet. Beads clung to it, half embedded in the tissue as if still being extruded. We picked it up like a gruesome hunting trophy and rammed it face first through the far curtain. As it slammed into the inky darkness Anna screamed in pain loud enough that even with the earplugs I could hear it. Her hand was stuck, the tips of her fingers caught in something behind the curtain.

She braced herself against the bloody creature which was now lodged into the dark. With a foot planted firmly against its back she wrenched herself free and in the process pushed the creature even deeper into the black wall. The tips of her fingers were bruised like a bad frostbite and she cradled them in obvious pain.

The flood of beads had stopped and we leaned against the walls catching our breath.

“I don’t... this shouldn’t...” Anna muttered between gasps before pointing in the direction of the far aisle.

The beads had filled the entire galley and emptying out we could see another wall of skin. No longer supported by the beads it was slowly tearing itself away from the wall. It revealed the other aisle and suspended there between the curtains was a man caught in the black field mid-sprint. His head and shoulders were lost in the darkness whilst his arms hung limp at his sides.

Anna scrambled over the mound of beads until she could get close enough to confirm the worst. The nametag on his suit read Robert and even with the earplugs I could tell she was sobbing. She motioned me to leave so I gave her a moment and returned to the aisle where I slumped into the nearest seat. I caught my breath even though the fuel stink of the transparent beads was almost overwhelming. Spotting one of the opaque beads, I picked it up and opened it carefully with the knife. It was full of a strange grit. I spotted a glint of metal and digging further I quickly regretted my curiosity.

Peeling away the rubbery skin of the bead and brushing away the grit revealed a single tooth, ivory white with the dental filling still intact.

Peek

Anna grimly held up the skin from one of the burst yellow beads by the tip of her knife. She sniffed it cautiously before pulling her head back in disgust. “Biofuel,” she said, gagging slightly. “Let’s be careful not to burst any more of these.” With that she flicked the skin away from her and nervously brushed her hand against her legs.

“So was this... is this what they’re eating?”

“I don’t know, I think-” she paused with a look of nausea, “I think I’d feel better if they just ate people, like animals. This is something monstrous, to render people down into these...” she trailed off, gesturing towards the pile of beads in the galley.

“Why was Robert left alone? Actually scratch that, what is that black wall he ran into?”

“That’s Hlé. Icelandic for Pause. Anything in the field is experiencing time far slower than we are. It’s how they preserved everyone here until I’m guessing those creatures found a way to shut it down from inside the field. We have no idea how it works. One day the Librarians decided to update their code and then suddenly their technology went from advanced but understandable to basically magic. Hlé was one of those technologies.”

“So they’re frozen in some sort of black mist?”

“Technically it’s time-dilation. From their standpoint we’re sped up, in fact that’s why I closed the curtains, harmless light on our end becomes something more dangerous on their end. Also it’s not a black mist, it’s just that nothing behind that field is emitting enough light to be visible on our side. That’s what killed Robert. He wouldn’t have seen it and the second he passed through half his body would have been pumping blood at one speed and the other

half was effectively frozen.” Anna looked down at her fingers. The tips were now bandaged over what had looked like frostbite.

“You said the creatures had unfrozen the Hlé? Is that what they’re doing, just working their way through every cabin one by one?”

“Three by three, I think. Have you noticed how all the seats swap which way they face every three cabins? I think you’re right though, they’re clearing this place out systematically.” Anna got up from the seat and started rummaging through the bags her team had dropped near the field. She pulled out two streamlined blocks which she unfolded into an X shaped configuration.

“These drones can fly over the curtain rods dividing each cabin. I’ll leave one here to keep watch and the other can go the long way around to see what these creatures are up to.”

With that the drone leapt from her palm and whizzed down the aisle. The second drone she simply rested on a nearby chair headrest. Using plastic bags as gloves I cleared a path in the beads back to the Hlé field.

“Is it possible to see what’s on the other side?”

“Depends what the level of time dilation is, but yes. I have software on my suit that can composite a long exposure image from multiple cameras. We should be able to see what’s in there.”

From a pouch on her leg she removed a few of the small stick cameras she’d plugged the bullet hole with earlier. This time she affixed them with a roll of duct tape we’d found in the bags.

While the image developed we cleared the beads and salvaged the equipment Anna’s team had left. The creatures had either ripped the suits from her team members or, we guessed, had forced them to strip with Glossaria. Either way the ground was littered with

their equipment, bundles of rope, duct tape, scientific instruments, even a satchel of demolition charges.

Other than Robert there was no sign of their bodies but we were grimly aware that their remains were likely all around us in the form of the beads. The work kept me so distracted that I was startled when the second drone returned from its trip around the ring.

“I’ve got footage, want to see?”

We used the tablet to watch what the drone had recorded. It was only a 20 minute round trip but Anna had programmed the drone to return after capturing 10 seconds of footage once it detected people. Countless cabins flicked past, most of them looking the same but some showing signs of struggle. One showed signs of fire damage but all were empty. The drone paused at the entrance of the final cabin, close to us but on the far side of the Hlé.

The footage showed a cabin full of the creatures filling both the aisles and the seats. They stood in silence, heads lowered, all facing the Hlé. The drone had highlighted each creature with a small box. Along the side of each box was written a title ‘Person’ followed by a percentage.

“Interesting. Look at that percentage, this one in the bottom right is mostly concealed and yet the drone’s object recognition is 99.998% certain that it’s a person. Watch this.” Anna turned the drone to face us and pulled up the live camera feed. The drone’s software dutifully drew two boxes around both of us.

“98.2%... so it’s less certain we’re human than those things?”

“Exactly. The creatures must be adversarial inputs.”

“Well yeah, they’re bloody adversarial alright,” I said, more than a little confused.

“No, adversarial inputs, ‘input’ in the computer sense. They’re a flaw in Machine Learning algorithms. This drone was trained to recognise people using thousands, or even millions of

images. An adversarial input is where you train a second Machine Learning algorithm just to fool object detection. In the early days you could generate an image that was small enough to wear on a jacket that could fool object detection into thinking you were whatever you wanted; a car, a certain person, even a banana if you wanted. But in each case the input is optimized for only a single object and usually it only fools a single object detection algorithm.” Anna put the drone down and switched back to the recorded footage.

“So are universal adversarial inputs possible?”

“I’d have said no but I think we’re looking at one.” Anna hit play. “They’re all just standing there, I wish I knew how they switch off the-”

One of the creatures turned and made eye contact with the drone. We both inhaled sharply as it slinked down the aisle toward it. Just as it closed in the drone’s ten seconds were up and it turned around and flew back.

“Ok, not good. We need to get out of here and if that Hlé field is the only thing between us and them then we should get as far away from it as possible.”

“That’s not going to be enough, once it comes down we’re going to be trapped in both directions.”

“So we hide?” I asked dubiously.

“I have no idea, we could-” she paused as the camera software interrupted her. The composite image was complete, slowly formed from the imperceptibly small amounts of light that were crossing the Hlé. She passed me the tablet while staring blankly ahead at the image in her contacts.

It was a grainy black and white image but I could see the entire cabin inside the Hlé. There were about a dozen people, peacefully asleep. Sitting beside each of them with eyes wide open were the creature, patiently waiting.

Anna leapt from her chair and moved quickly toward the Hlé. “Grab a suit from those bags, I’ll remove Roberts. We’re going to leave these fuckers something to remember.”

“What are you going to do?”

“I’m going to attempt [communication](#), of a sort.” She gently removed the spacesuit from Robert’s corpse and wrapped him in a blanket best she could. In each aisle Anna hung a suit from the curtain rail nearest the Hlé. Once suspended she sat down again and worked on some computer interface I couldn’t see until the comms units on the shoulders of both suits opened up and pointed themselves at the Hlé.

“Ok, done. I’ve told the comms units to attempt communication using the microwave and laser units.”

“Communication with what?”

“Their heads. I’ll explain later, we need to go.”

“Go where? We haven’t decided how we’re going to hide yet.”

“We’re not hiding, we’re leaving.”

“You saw the drone footage, there are no doors anywhere.”

“Exactly.” She picked up the satchels of explosives. “We’re going to make one.”

Lucid

“The only upside is you’ll blackout before you die.”

We dumped the equipment salvaged from the Hlé field into a pile. The haul consisted of two backpacks, duct tape, climbing rope, the remains of Robert’s spacesuit and the satchel of explosive charges.

“So it won’t hurt?”

Anna had been securing the ripped spacesuit around me with a combination of safety belt straps to apply pressure and generous applications of the puncture repair tape. We’d found that each galley contained a survival kit intended to go with the life rafts. She paused thinking over my question before simply replying “No... it will hurt but the goal here isn’t comfort.” With a yank she pulled a belt tight around my waist.

“It’s to get us both through that airlock. I’d rather take a risk on that than the certain death that awaits us once the Hlé wall comes down. Also simply being alive is not enough, we need to be conscious and lucid enough to deal with that door.”

“Lucid?”

“You’re going to be alive longer than you’re going to be conscious and you’re going to be conscious longer than you’ll be lucid.”

“What, like drunk?”

“Essentially yes, once we leave here you’re going to be depressurizing, experiencing temperature extremes and drawing on a relatively unreliable oxygen source. Without a properly pressurised suit I think the best we can hope for will be just a few minutes, after that you’ll be awake but basically dead weight.”

“Oh great, dead weight and then just plain dead.” I pensively returned to my task of duct taping down the dozen small tubes that would feed oxygen into my helmet.

At Anna’s instruction we’d spent the previous hour smashing apart the consoles above the seats. Behind the plastic layer was an array of metal cylinders that were connected to the gas masks that drop down in an emergency.

“What are these things, oxygen tanks?”

“Oxygen generators would be a better term, pull this firing pin and it ignites a mixture of sodium chlorate and iron powder. Gives you about fifteen minutes of oxygen and importantly a fair amount of heat, you’ll need both. ”

“How do you know all this?”

“Partially because we found the designs for these cabins on Ganymede but mostly it’s my suit. Everything I see, say and hear is run through the suit and it just keeps offering information. When we were sitting down earlier I was staring at the no smoking signs on these consoles. That triggered the suit to pattern match it against possible matches and from there it found a Wikipedia article about aircraft emergency oxygen systems. I have no idea why the Librarians included the oxygen generators or the life rafts in their design, for all we know they thought they had some cultural value?”

“With all this [tech](#) you have, none of that helped fix the world’s problems?”

“When I left we were starting to get some very firm ideas on why things had gone wrong but not necessarily the tools to fix them. The generation before mine believed that you should take your hand off the steering wheel of society for the best results. It was only after we’d driven off the cliff did my generation try to grab it back.”

“Yeah and by the sound of it the cars were driving themselves by that point.”

“Ha, well exactly. We had all the technology for a utopia but our social structures hadn’t changed much from when most people were still illiterate.”

With that Anna yanked the final belt around my chest, also securing into place a dozen of the oxygen generators. The tubes snaked around me and fed into the base of a helmet she’d salvaged from her team. She then strapped on the backpack unit that we’d removed from Robert’s corpse. At some unheard command from her eight tubes ending in nozzles clicked out from the sides of the pack. She detached half the tubes and screwed them into her own backpack.

“These packs are propulsion units, originally designed for spacewalks but this model is modular. Four units is a Reaction Control System that will stop you spinning, eight is a standard zero-g maneuvering unit and twelve is a jetpack intended for traversing uneven terrain. The problem is that we need twenty four and we only have sixteen.”

“So how’s this going to work then, one of us gets out and then pulls the other up?”

“Something like that.” She unslung from her shoulder the coil of rope we’d found at the Hlé field. “Have you ever bungee jumped before?”

“Yes, in New Zealand once on holiday.”

“Well picture that-” she said while fastening the rope around me. “...but in reverse.”

**

Anna had just finished setting the charges when the drone returned from the Hlé field. We’d left it there to monitor for movement and its returning meant our time was up. Anna secured the rope one last time and then pressed her helmet against mine.

“Remember, pull the cord when the rope gets down to the last few meters, too early and I won’t have the momentum to pull you out. Ready?” I nodded in a mute lie.

She walked a few rows away from me and placed the coil of rope that was tied between us on the ground. Duct taping a flashlight to a nearby chair she lit the coil so I could clearly see it in the aisle despite the dark. Once she was satisfied both ends were secure she knelt down into a sprinters stance.

There was a brief moment where I thought she had reconsidered when suddenly the entire cabin shock. In the far distance I saw the curtains we'd left closed get torn from their rods and then the entire roof began to rip away, behind it all I could see was stars and the vast blue curve of the ring. The wind was a cyclone and all around me various debris were sucked down the aisle towards the widening tear.

The second explosion came 5 seconds later and they then followed one after the other a second apart. With each explosion the roof was pulling away like the lid of a sardine can as the spin of the ring could no longer keep it attached. Even in this roar of destruction the cabins remained dark only now briefly lit by the regular flash of the explosives.

It was then that I saw them, scrambling across the chairs and down the aisles in a swarm, unfazed by the hard vacuum of space. Only the fact I was now gasping for air distracted me from their charge. I yanked the pins on the oxygen generators and my helmet quickly filled with pure oxygen and a strong burning smell followed by a slowly building heat around my waist. The wind that had begun as a roar was starting to fade when the final charges in the galley ahead blew. The last noise I heard was the metallic screech of the roof tearing off before all was silent and dark.

Sensing a clear ascent Anna's backpack dazzled with twelve bright points of light before she was swallowed up by the dark, only the rope suspended vertically in the air marked her passage. I watched the rope in the aisle carefully, each coil snaking upward lazily at first and then faster and faster.

My chair shifted slightly and looking up I saw they now surrounded me, their faces expressionless, their lips moving wordlessly in the vacuum. In unison their heads snapped to look backward, the ring had been turning and our section was now coming into the light reflected from the planet below.

The damage from the explosions was too great and with a silent wrench the broken section snapped free from the rest of the ring. Now free the entire structure was like a whip uncurling, the baby blue outer surface of the ring was shattering like glass mixed with seats, luggage and drinks trolleys.

With the final coil of rope whipping away and I unbuckled my seatbelt, a single creature reached for me before I was wrenched upward by the force of the rope around my waist. My vision was a blur as I tumbled helplessly as if fired from a cannon. Like a horse kicking me in the back the RCS unit lit up and stabilized my freefall. I was still facing the ring below and watched as the wave of destruction approached the creatures. Even amidst the destruction they never broke eye contact as I rose above them and beyond their grasp.

EVA

The reaction control system in the backpack kicked me in the back like a mule as it turned me to face the sphere. I could see Anna far ahead, she motioned thumbs up as a question. I returned the gesture to reassure I was fine but almost immediately the various pains that had been masked by adrenalin caught up with me. I was in pain all over, normally a functioning suit would even out the temperature and pressure ensuring both were even across the body. With the jury rigged remains of the suit I only had pressure where the belts were wrapped around me, in those spots I was simply uncomfortable rather than hurting.

My waist was on fire from the oxygen generators but the rest of me was freezing cold, even with all the layers of insulation I'd padded on. My lifeline were the twelve tubes of oxygen rushing into the helmet. There was a burning smell to the air that I hoped was normal but otherwise I was still breathing. After each breath I could feel the air getting sucked out via the gaps around the neck despite the rolls of duct tape and repair patches we'd applied. Looking down at my chest I could see little jets of fog vented into space all around me.

Anna turned back toward the sphere and I could see her reaction control system light up before the rope went taut and I was pulled toward her. I could still feel the occasional kick from the backpack as it stopped me from spinning as Anna was remotely controlling the direction we faced. We drifted like this for a few minutes, the sphere looming larger and larger ahead until it quickly began to fill my entire field of vision.

I kept feeling a regular kick from the backpack and feared it might be malfunctioning. Looking behind me I saw the problem, one of my oxygen pipes had come loose and was flicking wildly behind me. With all the duct tape and belts holding the suit together it was extremely difficult to move but I managed to grab it. To my horror, another of the pipes

broke in the process, the plastic tube crumbling like a layer of thin ice. Even though the oxygen was warm the exposed tubes were freezing, I tried to limit my movements to only what was absolutely necessary.

As we neared the sphere Anna's jetpack cut out and she turned back toward me to motion we should start pulling the rope inward. We needed to regroup to decelerate together, hitting the sphere at this speed with my suit would be a quick death. Anna held a palm out to motion danger as a huge shard of blue stone from the shattering ring spun past my right shoulder. As it spun I could see an empty airline seat attached to the underside and the torn carpet of the aisle. Once it passed Anna motioned again to start pulling the rope.

We'd practiced this simple motion of looping the rope around our arms in the aisle but here in space it seemed almost impossibly complex. I paused after the first few loops of rope, it took some time to be sure but at least two more of the oxygen tubes had stopped. The heat from them still burned around my waist but somewhere between there and my helmet the tubes had shattered.

We reached each other with about two thirds of the way to go toward the sphere. Anna pressed her helmet against mine and asked if I was ok, I nodded and gave another thumbs up. She crawled around to my back and holding on we turned in unison before I felt the push from her jetpack kick in. As we decelerated I listened carefully and counted, only six tubes were still flowing.

The ring was a chaos of wreckage and through it the creatures writhed like ants. Anna pointed to the middle of a section still distant from the expanding collapse. Two silent explosions had just gone off, the short distance between them looked like it was at either end of a single cabin. The resulting debris was a rapidly expanding cloud of crushed seats, luggage and creatures, some of which were now heading toward the sphere.

Anna pressed her helmet against mine again. “They blew the fuel stores like we found at the Hlé field”. I could see tiny yellow sparkling dots from the unburned biofuel beads glinting in the light. The cloud of wreckage passed behind the sphere as we turned one last time to face the now visible airlock door only meters away.

Against the [pale blue stone](#) of the sphere the airlock stood out, not just because of the change in material but because of what was on the door. A curved red arrow above which the word “Exit” was printed. Below was a handle flush with the surface of the door which Anna grabbed for as soon as we came close. Once we were both still she braced her feet against the sphere and pulled the handle out then turned. The door opened inward before revealing a small blue room with another identical door on the other side. She looked up with a smile just as the creature barreled into her.

I’d been distracted by my oxygen tubes, I was down to four and fighting to stay focused. I simply watched them both struggling in space as they floated away. The bright flash of Anna’s jetpack snapped me out of it. She was accelerating away on purpose and the rope around my arm was getting whipped away. At the last second I had the sense to wrap it around the door handle and brace.

The creature was clinging to her shoulders with one hand repeatedly smashing her helmet. They were both still accelerating when the rope snapped tight, Anna was flung backward and the creature having built up momentum was wrenched off her. It flailed and writhed right up until it made violent contact with the expanding cloud of wreckage. I clung to the airlock door and watched placidly as it passed through the shards of blue stone and was satisfied as it came out the other side in pieces. Some of the oxygen tubes were still flowing but I couldn’t tell how many, I kept losing count.

Anna was slowly spinning at the end of the rope. Pulling the rope she started to move in my direction as my vision started to tunnel. I pulled again, once more and then hooked the rope over the door handle before closing my eyes to sleep.

Paperclip

My helmet was gone. For a brief moment I gasped needlessly for air, panicking that I would find none. Instead the air was warm, plentiful and smelling faintly of cigarette smoke. My next realisation was the fact we, Anna was beside me, were sitting inside a vast pale blue sphere.

The walls rose up around us and pinned like grotesque butterflies were the creatures. In their hundreds they snarled and flailed against some unseen restraint. Most were whole but many had not fared well in the destruction of the ring. Limbs floated free beside them and a few were little more than a cloud of bloodless body parts.

“Where... wait are you ok? You were floating and I -”

“I’m fine. I woke up seconds before you.” she said distractedly while turning slowly in a circle taking in our audience. “They were already here when I woke up.”

Noiselessly a section of the floor rose up before us into a waist high square pillar. After it finished extruding from the floor it sat motionless until we approached it at which point text appeared in crisp black lettering.

Deactivate apparatus.

We both stood simply staring at the writing, hoping for more information. The silence was only broken by the creatures who still writhed wordlessly around us. Seeing no other options I motioned to touch it when Anna grabbed my hand.

“Not yet.”

“It’s not some kind of button?”

“It reads more like a command. Does it mean my suit? What apparatus exactly?”

“Also it’s in english, I feel like I should be surprised but it’s reassuring in a way. Should we empty out our bags and see what it might be?”

In response one of the creatures was lowered from the wall, we could see now what held them in place. Piercing its chest was a thin blue barb which like the pillar was extruded seamlessly from the wall. The creature came to rest above our heads, hanging like a fish on a hook, still impaled and flailing. We looked at each other in panicked confusion.

“That’s not our- we don’t own these things!”

They are your creation.

“We know nothing about them, we can’t deactivate them but I’ll gladly help you destroy them.”

With your consent I can learn more.

“Consent given” we chimed in unison.

The creature went limp and all the others followed one by one. Slowly their bodies were drawn into the walls with a jerking crunching motion as if pulled into a shredder. Each creature was destroyed one by one until only the one suspended above us remained. It hung limp from its hook above the pillar.

“Shit, my network connection is live, they’re sending me a... some kind of report, hold on.”

Anna kneeled down and assumed the distant look whenever she was reading something in her contact lenses. I went over to the pillar which had started to fill with text in the same black lettering as before.

Designation: Shareholder Reclamation Unit

Created: January 2437

Purpose: Rescue high net worth individuals

Estimated reclaimable assets: $\$3.02 \times 10^9$

Adjusted for inflation, share splits, acquisitions and crypto forks: $\$1.07 \times 10^{19}$

Of 6000 passengers:

107 killed during process

5891 killed during scan into simulated consciousness

2 survivors

Of simulated consciousnesses:

5012 unique simulated consciousnesses recovered

42510 duplicate simulated consciousnesses discontinued

879 unique simulated consciousnesses no longer recoverable

Apparatus consists of human shaped ambulatory unit running culturally filtered general purpose artificial intelligence with sufficient compute resources for multiple consciousnesses simulation to enable objective of economic asset recovery.

“What the actual fuck.” was my only response. Anna blinked away the data feed she’d been reading and came over to have a look. After giving her a moment to read what was on the pillar the writing cleared only to be replaced moments later with two words.

We apologize.

“What for?” Anna asked.

The general artificial intelligence these units ran on was derived on code taken from our exploration probes before they were recalled. We watched them, we didn’t intervene because we thought you created them. Based on the history stored within these units it is clear that we have done humanity a great harm.

“Define great harm.” Anna asked with an edge to her voice.

Based on the records stored in these units over 2500 years have passed since you left Earth, Humanity is now functionally extinct. At the time these units were created a

non-viable population of less than 4000 control all the resources in the solar system. They live in a symbiotic relationship with non-sentient corporate entities that you referred to as ‘paperclip maximizers’ which presents themselves as a heuristic for scarce resource allocation.

“Wait so, when they say ‘corporate entity’ ... these things were corporations?”

Anna tapped the pillar nervously while reading through the data the sphere was still sending her. Eventually she nodded a few times before replying. “No, not just companies, they were an entire economy, share exchanges, mergers and acquisitions. The bodies were just the compute platform networked together. Behind those faces were the ‘foreign branches’ of most of earth’s companies running millions of AI agents.”

Anna walked under the last creature which still hung limp from its blue hook.

“Those blank stares weren’t by chance, there was literally no mind there. The companies treat every action by the creatures as a joint venture, every decision was a market to bid on. This “rescue mission” was a huge deal on earth, almost every company had a stake in it.”

“Why? How is slaughtering people a rescue mission?”

“They weren’t rescuing people, it was their assets they were after. As far as the economy is concerned a person is just a legal entity, something that a real thing like assets or a bank balance can accumulate against. After all this time the accumulation was, well enormous.”

“Wouldn’t we have been declared dead after all this time?”

“No, the law decided on that before I left, time dilation isn’t the same as dying. For their own self interests they still agreed with that. You were declared dead but for those who

followed later their assets were held in trust. That's what they were here for, we kept sending people and their assets here for centuries, that's what they came to rescue."

"What about that term, paperclip maximizer?"

"That's the warning that the Librarians left, it's what kicked off the Reboot.

Originally it was just a thought experiment, what would happen if you created an AI capable of self-improving and then tasked it with something stupid like optimizing the output of a paperclip company. It seems benign at first and may solve immediate problems but inevitably that AI is going to compete for resources that doesn't make sense dedicating to paperclips. Even though its intelligence is increasing there doesn't have to be a point where it realises how meaningless the task is. It could keep optimizing until eventually all that's left is a ridiculous outcome, like a single massive paperclip orbiting the sun."

"But you said this started back in the 70s? We had nothing like this technology even in the 90s"

"That's where 'a heuristic for scarce resource allocation' comes in, that's what the paperclip maximizer was."

I simply looked at her blankly waiting for more detail.

"It's the economy, our economy was a paperclip maximizer, it was an AI. Instead of paperclips we tasked it with distributing scarce resources even after the resources ceased been scarce. We never recognised it as an independent intelligence to our own because it didn't run on computers, not at first at least. It was an intelligence running on legal documents and corporate charters."

"What about the billionaires and politicians who owned the companies?"

"Can you think of any stupid billionaires and politicians?" I nodded quickly as a few names ran through my head. "Exactly, some had a small amount of power but most were just

figureheads for their fortune or institution. Just look at global warming, very few reasonable adults would individually deny how serious a problem it was and yet the economy working in a distributed fashion successfully resisted fixing the problem. Human intelligence could see it would wreak havoc but the paperclip maximizer could only focus on the immediate impact to its own goals of capital accumulation.”

“So if it was so stupid and short sighted why couldn’t we beat it?”

“That’s the thing, it’s not stupid, it’s just chasing profoundly stupid goals incredibly effectively.”

Scarcity based economic models inevitably collapse and lead to better systems.

Paperclip maximizers that are encoded as institutions or economic models also collapse when they become overtly parasitical toward the host body.

Our interference and accidental introduction of general purpose AI software prevented this from happening.

The paperclip maximizer could run independent of human labor and as such was unchecked by social collapse.

Only a small population was needed to own all resources, the rest of the population were scanned and simulated until they ran out of resource allocation.

“Wait, so there are people who survived this process and are just locked up in a paused simulation? How many?”

Nine billion people.

The inside of the sphere was cavernous and I could hear our breathing echoing back from the distant walls as the news sunk in. All of humanity becoming ‘economically superfluous’ and in time discontinued as they had nothing left to contribute to the economy. There was no

great war or natural disaster, we just collectively accepted our lack of purpose and shut ourselves down with barely a whimper.

“Can we bring them back?”

Not as you are, combating a distributed non-conscious intelligence would require you to be modified.

We offer a choice for you and all those we recovered from the Creatures.

Stay here and we will simulate any life that you desire.

Return to Earth in a form that can right our wrongs.

As we stood reading those words I felt Anna’s hand reach out and grab mine, there was only silence as the blue room waited for our decision.

Kings

The first hint that something was wrong was when Lake Eyre in Australia filled with water. If anyone had been paying attention there had been signs that scientists and astronomers could have seen earlier. The shimmer of hard radiation as something small and dense, wrapped in Hlé braked into the solar system. Or how signs of structure and order could be seen soon afterwards in the Sun's magnetic field, the burning arches of its corona marching in a new unison.

But nobody watched, the total population of alive and fully embodied humans numbered less than four thousand. All that remained were self described captains of industry, the (mostly male) doers, shakers, lifters and makers of the world. Having achieved functional immortality the thousands of years of their lives poured through their fingers without any regard or joy.

They did grow concerned when their orbital assets went dark but panic didn't really set in until Australia disappeared. It didn't literally disappear of course, satellite imagery showed the continent still there rusty and red but something churned under the thick smog. Over a period of 24 hours a vast continent sized storm had formed. The wind that rejoined the global currents was colder, cleaner and stripped of most carbon dioxide and contamination.

John Rynhart, the self styled King of Australia and only embodied man on the continent stalked his vast mansion, teeth chattering as he scrounged for food and warmth. He'd torn an ancient tapestry from the wall and wrapped himself in it for warmth. Six days ago he'd been bed ridden, the centre of an array of life support systems. Just before the storm roared over the horizon the systems had gone dark, the stock updates silent and the lights flickered off.

Alone in the dark the first sign that something had changed inside him came when his teeth began to chatter. It took painful hours to untangle himself from the pipes and catheters that snaked into him but once free he could see first hand the mansion that he'd built around him. John had been functionally immortal for thousands of years and like all the others he'd gladly paid the price of being permanently bedridden.

The mansion shook, earthquakes had been increasing in frequency and intensity. He paused from his efforts at prying open a guest bedroom to wait for it to subside. The rooms had been built despite guests never been a possibility and he'd discovered that the domestic services corporation that maintained them had still been stocking the rooms with snacks and refreshments. Four thousand years of food restocked, wasted and disposed of by a company staffed by nobody for guests that would never come.

John was grateful as the door finally relented, the locks were complex but the frame was wooden and cracked from repeated blows. As he emptied the now moldering fruit bowl he glanced out the window. She was standing in the middle of a lawn, the grass already starting to grow long. He ducked down behind the bed, she'd been circling the house for days, appearing without warning and exactly where she could make eye contact. He felt for the holster at this side, he'd found and loaded an antique pistol from his museum. There were only three bullets but he'd tested one and it had satisfyingly destroyed a decorative plate hanging on the wall.

Another Earthquake rocked the building, this time the shaking didn't subside but escalated slowly until the walls began to crack. Hearing the sound of a wall collapsing nearby John began to run, slipping on the marble floors, his bare feet cut by the previously priceless vases that shattered around him.

Sprinting outside into the cold and screaming wind he fell sprawling into the mud as his mansion collapsed inward sending a cloud of fine pulverized concrete outward that washed over him. Coughing up and spitting out the dust he crawled out of the mud and collapsed into a flower bed he'd never seen despite having grown in sight of his bedroom window for millennia.

"I'd chide you for crushing those periwinkles but it looks like the storm had already got to them."

John screamed, half in shock, half at his deep seated fear of trespassers. He scrambled backward through the wet soil and crushed flowers.

"Who the fuck are you! This is private property, get off my -"
"It's neither."

"What?!"

"It's neither private nor property, unless the people have a good reason I've already designated this as a native park, once we've reconstituted the plants of course." she said while bending down to tenderly touch one of the wilted flowers.

This was all the distraction John needed, he unholstered his pistol and fired into her leg at point blank range. It was hard to say which failed, the antique gun or the antique bullet but either way they turned his hand into a fine red mist when both exploded. Before the pain and shock took him John stared bug eyed at her leg. The hole was quickly closing but he could see the inside was bloodless and smooth, like a pale blue stone. While John screamed and writhed she reached down and grabbed what was left of his wrist. The blood loss slowed to a stop and the pain quickly subsided.

"Better?"

John still slumped in the mud nodded mutely while cradling his missing hand.

“Don’t worry, it will grow back eventually.”

She leaned down to his level and lifted his face up.

“John, everything had changed, it’s all over. Right now I’m having this same conversation with everyone who is left and my friend is literally moving mountains to fix what’s left of the ecology. If it makes you feel better you’re not the first to open fire.”

He stared at her for a while in silence before pushing her hand away. “What did you mean about not having private property?”

“Just that, it’s no longer a useful concept.”

“You’re here to steal from me then?”

“No John, if you created something then I won’t let anyone take that from you.”

“I created all of this!” he said motioning with a sweep of his hand to encompass all of Australia.

“You didn’t create anything John, you inherited and then you lobbied and then you simply pissed away your life debasing yourself as much as possible. You’ve never painted, never sung, never created or loved anyone or anything. The human world as it once existed was just something you persisted alongside, you were just the legal entity that your fortune accumulated itself against.”

“It wasn’t easy, I fought for -”

“You performed a job John, you acted according to a set of rules and processes. To whatever degree the job was creative or human was insignificant. In the great competition of who could most debase themselves to the interests of their assets you were the winner. The only thing that stopped you from been automated was the fact that the AI subsystems lacked the creativity to realised they could do that.”

She kneeled down and gripped his head by the chin and held his gaze.

“We died out John. Do you understand that? Have you ever heard the term ‘functionally extinct’? That’s humanity. We went extinct and this is our resurrection.”

“What the fuck are you?”

She stood up and brushed the dirt and blood from her hands. “A person like you, well I was before I -” She paused for a moment staring at the crushed flowers. “Before I let my curiosity get the better of me. When I left the Reboot still existed, we were trying to make our countries work for us rather than for people like you. Live meaningful lives rather than ones in endless service. We failed but I’m here to fix it.”

“I’ve heard this story before” he snarled slapping her hand away “People like me should be punished for winning, do you have any idea what it takes to power a global economy?”

“Economies are just a heuristic John, you talk about them like they’re the weather, they’re not, they’re a thing designed by people with a purpose. Economies are just a way of distributing limited resources effectively and prioritising research and development. What we failed to do was transition to a new system once the resources effectively stopped being limited and the research slowed. Any economy only has a purpose insofar as it supports human happiness John, we haven’t needed people like you for far longer than you stopped needing people.”

With that she turned her back on him and walked away.

“People will always need leaders.” he shouted after her.

“Ok Ozymandias, why don’t you go see? Close to six billion people frozen in simulations they could no longer afford to power are waking up in brand new bodies we’ve created for them. While we’ve been speaking a community has formed about six kilometers in that direction.” she motioned away from the rubble.

“I own that land.”

“You go tell them that John. You’re anonymous right now but you go tell them the great man you are and see what kind of praise they heap upon you.”

“So that’s my punishment then?”

“No John, I’m only here to set things right, not stand in judgement. But if I did judge you then your future is punishment enough.”

“What could be worse than the theft of everything I created?”

“Irrelevance, John. Total and utter irrelevance.”