

The Choice

A short story

By Hildo Bijl

Part 1 – Equilibrium

71 years after departure

Stability Engineer's logs – 71 years, 249 days AD

Today should have been a new beginning. And it was. Just not the one we'd signed up for. And I guess, for some, not even one they'd accept. Except we have no choice.

This morning we finally arrived at our new home: Arcadium. I still can't shake the shivers of when I first laid eyes on the planet. Colonel Thanos said that, with its blue and green colors, it was just like Earth. An easy claim, since he's nearly the only one who remembers it, or has ever seen a planet with his own eyes for that matter.

Everyone aboard envied Lieutenant Hendrix, who got to go down first. Our eyes were glued to the screens as his capsule decelerated into the atmosphere and made a safe landing on the plains of the southern hemisphere. We cheered when he said the readings were all as expected. Oxygen levels were spot on. The temperature was slightly higher than on Earth, but we'd gently cranked up the heating on our ship ever since we departed, so that would be just fine. In short, we were in for paradise.

Even the locals, some quadrupeds grazing nearby, came over to welcome the amazed Lieutenant. He pulled off his helmet to return the greeting, for the first time breathing in the fresh local air. It was as serene a scene as you could imagine. That is, until the Lieutenant started coughing up blood. A minute or two later he lay dead on the surface.

A drone was sent to retrieve his body, and Doctor Lent took a spacewalk to examine it. It was a good thing he did, because his suspicions were confirmed. The Lieutenant was killed by a virus. Or actually, by eighteen of them, and if even a single one had gotten on board, we'd have all been choking on our own blood before supper.

I suppose it's bad luck. When Earth sends a colony ship to a planet, they check whether the destination supports life. They can't verify that said life isn't hostile. Sadly, blaming "bad luck" doesn't

offer any consolation, especially if you've been traveling for over seventy years.

The Lieutenant's body is still out there, floating next to the ship. At each revolution of the ship, I can briefly catch a glimpse of it through my bedroom window. It serves as a stark reminder that, despite decades of travel, we have no home. It's not that we're lacking things. The ship can provide us with everything we may need. Just not an actual planet to live on.

Stability Engineer's logs – 71 years, 250 days AD

Instead of viruses, there are questions running rampant across the ship. Can the little buggers be killed? Can we become immune to them? Can we ever safely breathe the air of Arcadium?

Doctor Lent told us that he can only answer those questions by studying them in his lab. So as I write this, he is isolating the viruses and bringing them on board.

I know that there are dozens of safety measures in place. The lab has its own environmental system, and it can only be accessed through an airlock. Still, I can't help wondering whether we're not making a huge mistake here.

Stability Engineer's logs – 71 years, 252 days AD

While I was having dinner with Captain Janis in her quarters, the Doctor came rushing in, breathing heavily.

"Captain," he saluted. "I have results."

"Perfect. Let's hear them."

He tried to speak, but failed to get enough air. "My apologies," he panted. "I've spent a bit too much time in the lab the past few months."

I suppressed a smile. People always underestimate gravity at the outer rim. Because of the spacecraft's spin, everyone is heaviest there, at 120% of regular Earth gravity. The Doctor's lab, being closer to the center, only has half of that.

"Take your time, Doctor," she assured him. "Whenever you're ready."

"Okay," he said after a few extra breaths. "It's fascinating, actually. I have isolated some cells from the animals we found on the surface and studied why the viruses do not affect them. It turns out that they have a defense mechanism built into every single cell of their body. Or at least, nearly. My hypothesis is that, when they start to reproduce, this defense mechanism is lowered, but only within their sperm and egg cells. The viruses then symbiotically help spread their DNA, allowing them –"

"Spare me the details of alien hippo sex for later, Doctor," the Captain cut him short. "Is there any way in which we can become immune?"

The scientist shook his head. "No Captain. We would have to modify every cell of our body. Even back on Earth that would be impossible."

"Can we eradicate the virus?" the Captain continued.

"Viruses, Captain," the Doctor corrected her. "And no, they're pretty much everywhere. We can't eradicate them planetwide."

"So there's no way we're ever going to breathe the Arcadium air and live to tell the tale?" the Captain summarized.

"None that I can see, Captain," Doctor Lent confirmed.

The Captain gave him a resigned nod. "Guess we have to tell the crew."

The conference followed an hour later in the mess hall, with it being the largest hall of the ship. The place was filling up with officers, crew and civilians, while the Captain was still fine-tuning her

announcement with Counselor Alotis. As the one responsible for the mental well-being of everyone on board, the past few days had been especially taxing for the young woman.

“Just keep it short and clear,” she advised the Captain. “The people need to know what they can expect. Don’t give them any false hope.”

“Got it,” Captain Janis nodded. She adjusted her uniform, making sure it was perfectly symmetrical, and picked up the microphone. “The results of what killed Lieutenant Hendrix are in,” she called out, instantly quieting the crowd. “The news is bad. It was a set of viruses that inhabit Arcadium. We cannot become immune to them and we cannot eradicate them. The planet is hence uninhabitable. That leaves us only two options. Fly on and hope to find a planet that we *can* live on, or return back to Earth. I will consult with the leadership and make a decision in the next few days.”

She put the microphone back on the table and turned to leave the room, while noise erupted among the people. Someone shouted a question, “What kind of viruses are they?”

It was the enthusiastic voice of Doctor Lent, amplified by the microphone he had picked up, that replied. While the Doctor discussed the intricate details of intraplanet microbiology, the Counselor was urgently gesturing to the Captain to cut him off, but Janis only shrugged. *What harm could there be?* she seemed to think.

The damage came when, some minutes later, a civilian called out, “Can’t we just land the ship and live inside of it?”

The doctor thought it over for a second. “Well, yeah. That should be possible,” he said.

“And if we do, can someone put on a space suit and leave the ship?” the same civilian continued.

“Yes he can,” the Doctor nodded again, leading to a storm of excitement from the crowd. “It’s just that, once he goes out, he can’t go back in.”

The last part was pretty crucial, but I could see from the way the crowd reacted that they hadn't heard it. Every single person in the room was already sharing the excitement with whoever happened to be sitting next to him or her. They had been infected by the idea. *We could land and go outside!*

Stability Engineer's logs – 71 years, 253 days AD

This morning I was early for the meeting. While waiting for the rest of the leadership, I checked out the ship's digital forums. Multiple discussions were already running wild, with subjects ranging from "We can land!" to "Open air above you." Few people remembered the words of the Captain.

Counselor Alotis and Doctor Lent arrived first, with Captain Janis soon after. We gave her a salute, which she quickly countered with "At ease." Technically we're civilians, but we are so strongly involved in the organization of the ship that we simply salute along with the crew.

"Yesterday night did not go as planned," the Captain started. I saw everyone nod, including the Doctor. It seemed he had already realized his mistake, which was a good thing. We could move past it. "We're in damage control now. The people desperately want to land. What will happen when we do?"

"If everything goes smoothly, then nothing, Captain" the Doctor said. "The problem arises when things aren't smooth."

"Explain," the Captain ordered.

"If we spring a minor leak in space, then we all know the drill. Air pressure drops, our sensors detect it, airlocks go down, people grab breathing masks, they're evacuated, the leak is fixed and we reclaim the section. But if we spring a leak down there, no one will notice. That is, until people start dropping dead. Then all we can do is close

the airlocks manually and sacrifice the entire infected area, with everyone in it.”

“Overpressurizing the ship won’t help?” I asked.

“A bit,” the Doctor shrugged. “But I can’t guarantee the viruses won’t come in.”

“Great,” Captain Janis replied, loaded with sarcasm. “And what about this idea of leaving the ship in a suit?”

“That works well enough. Lieutenant Hendrix was doing perfectly fine up to the point where he took off his helmet. But that’s the point. Once you’re out there, the outside of your suit is infected. We can try to decontaminate it, but there’s no way of making sure that all viruses are dead. Okay, short of burning it up to a crisp, together with everything inside it.”

“So you can never get back into the ship,” the Counselor noted. “It’s suicide.”

“Yes,” the Doctor confirmed. “And it gets worse. Sometimes we need space walks to maintain the outer hull of our ship. Out in space, that’s fine. But down there?”

“Suicide,” I softly added. We got the picture. It was grim.

“But the forums,” the Captain sighed, her hands in her hair. She’d been reading them too. “I can’t exactly tell them we’re leaving, can I? And it’s not just the civilians. Even the crew. We’ll have a full-scale mutiny on our hands.”

This wasn’t news to the Counselor. “People have already mentally identified with the idea of landing,” she said. “They’ve imagined it. In their mind, they’ve smelled the fresh air. Some people may see reason and drop the idea, but others will never voluntarily do so. They’re going to cling to it, with every fiber of their body, and try to dig holes in every argument or proof they’re given.”

“But we can’t just leave them,” I said. “There’s only one ship. We’re all in it together. We have to get them along.”

“You only get them along if they feel like they are heard,” the Counselor noted. “Like they have a voice. Or a vote.”

“You mean a referendum?” the Captain asked, giving the Counselor a surprised glance. “We’ve never done that before.”

“Will it work?” the Doctor wondered.

The Counselor frowned, thinking. “My guess is it will, assuming we can convince the part of the passengers that have not identified themselves with the idea too strongly, but we need solid data for that. We need to give them an exact picture what each choice, leaving or staying, will mean for them.”

The Captain gave me a suggestive glance. “I’m on it,” I told her.

Stability Engineer’s logs – 71 years 256 days AD

The past few days was the first time in my life where I really needed all the training I got from my predecessors. I must say, it’s fascinating!

Let me explain my job. It basically revolves around three principles. The first is that I make models of how the ship behaves. For example, if we fly past a star, I’ll calculate exactly how it will affect the ship.

The second principle is that there are always disturbances that I cannot predict nor prevent. Like a small asteroid knocking us slightly off course.

The key is to look at what happens after a disturbance. Will its effects grow over time, or fade out? For example, if that asteroid hits us and subtly changes our heading, then we’re going to drift off course. This effect grows over time. It’s called *instability*, and it’s a guaranteed precursor for disaster.

The solution here, of course, is to adjust. This intervention doesn’t have to be aggressive; we don’t need quick results. We just

need to ensure that we gradually move back to our desired situation. If we are guaranteed to get back on course, we have *stability*.

This is where the third principle of my job comes in: *every* single metric on the ship has to be stable. Yes, all thousands of them. Even something silly as the stock of toilet paper. Last month this was disturbed by a diarrhea outbreak. Due to my programs, the ship automatically increased production, getting the stock back to normal. But if it hadn't, people may have panicked, claiming all the remaining paper for themselves. That's instability, and it's a really shitty situation to be in.

After three long days doing the math, I now know exactly what will happen with the ship if we land. It's time I invite the leadership over.

Stability Engineer's logs – 71 years 257 AD

Counselor Alotis was the first to arrive at my office: the stability room. Like the previous few times she was here, she stared in amazement at the dozens of screens hanging around. They all have graphs, plots and statistics showing ship metrics.

I can't exactly blame her for being intrigued. She's still new to the leadership, after all, having been nominated by her retiring predecessor two years prior. Back then, both Doctor Lent and I had voiced strong approval of her – meaning we didn't need the Captain as a tiebreaker – and so far she hadn't let us down.

A few minutes later Doctor Lent arrived at the stability room, and he was quickly followed by the Captain. We gave her a quick salute again.

"At ease," she automatically replied. "I'm glad to see the triumvirate already present."

That's her pet name for the three of us. Though she is in charge of the ship, the Counselor, the Doctor and I appoint her. If a majority

of us want her out, she's out. Of course we've never had reason to fire anyone so far, and I doubt we ever will, but I guess it's a good motivation for her to keep us in the loop.

"Engineer Kaxon, do present us your results," she ordered.

"Of course," I said, pulling up my notes. "The main problem with landing is that we cannot do any mining. We can't bring anything into the ship, right?"

"That is correct," the Doctor confirmed.

"So we're stuck with what we have. Our supplies will drop until even the ship's recycling systems cannot generate anything new."

"How long will we have?" the Captain enquired.

"Barring any disasters, between forty and sixty years, depending on how much rationing we do," I said, looking up the numbers I'd written down earlier. "We may even reach seventy years, assuming we invent things that can stretch our resources just a bit further."

"Better leave out that last part in your official report, Engineer," the Counselor added. "No need to give people false hope when there's already plenty of it to go around."

"Are you sure we shouldn't give people a complete and accurate picture?" the Captain asked, but the Counselor raised an eyebrow.

"We should, but this isn't it. If you give people ten scenarios, one of which is very likely to happen and nine of which are unlikely, they will just focus on whatever outcome they most hope for or fear. If we want people to believe the truth, we'd better keep things simple. Tell them what will most likely happen, and how certain we are of it. It doesn't get more accurate than that."

"Very well," the Captain said. "Engineer, make it so. And what are your results for when we go back to Earth or fly on?"

"We can make it back to Earth without a problem," I said. "Of course it'll take seventy, eighty years or so, but we won't need any rationing if we mine a few asteroids along the way. We can use those

to restock the ship's recycling system. The same thing holds when we fly on."

"You mean we can travel on indefinitely?" the Counselor asked, her voice filled with surprise.

"Yes we can," I nodded. "Not taking into account events you cannot model, of course. Think of obvious accidents, like the Captain steering the ship into a planet."

"Wasn't planning to," the Captain noted.

"Good, Captain," I said. "Given those assumptions, it's a stable situation. Not a single one of the quantities I'm monitoring grows out of bounds. That means we'll be fine."

Stability Engineer's logs – 71 years, 258 days AD

I just finished up my report and sent it out to every single soul on the ship. It only contains objective data on the scenarios we can expect – I've kept my own recommendation out of it – but the numbers paint a sufficiently clear picture.

Personally, I can't imagine anyone voting to land. Okay, we will have real gravity. And sure, the view will be better, with green plants and quadrupeds instead of endless stars. But we can't even go there to walk among them!

And even having gravity isn't all that perfect. Currently, we're prevented from floating around because our ship spins. It's like a large carousel: it slings everything and everyone outwards. That's why the gravity always points towards the rim. But if we land, then gravity will simply point in the same direction everywhere! It will mean we'll have to start walking on the walls.

In short, landing means we give up our future for supposed luxuries that would hardly make our life any better. We're going to have more serious disasters, more scarcity of resources, and for

what? A dream that can never come true, and which we subsequently cannot escape from.

I'm glad I don't have to get involved in the discussion. It's not my task – I only provide the numbers – and it's better if I stay away too. According to the Counselor, if I do get involved, people will feel like I'm choosing sides. It will only weaken my results – the numbers I calculated – because suddenly I'm not seen as impartial anymore.

The referendum is scheduled in a week. It seems like a short time, having only seven days to decide the course of not only your own life, but also that of every future generation. But then again, it's not like people have any urgent matters to attend.

Stability Engineer's logs – 71 years, 263 days AD

There's two days left until the big vote, but it already seems that pretty much no one wants to return to Earth. Why go back to a world that's so crowded that they're sending out colonization ships left and right? They also don't want to adjust course to another colony, to be treated as second-rate citizens. We want a place of our own, be it a planet or a ship.

It does leave the discussion of whether to land or fly on. This evening a debate was organized between the most fanatic proponent of landing, a civilian named Marik, and the most fervent opponent, Colonel Thanos himself. Counselor Alotis was hosting the discussion, a job I didn't envy her for.

"We've all read the Engineer's report," she had started. "We all know the scenarios we can choose from. I want to hear which situation is preferable and why." It was her attempt to get a discussion based on facts.

"To me it's obvious," Marik had argued. "We've come all this way to colonize a planet. To feel the soil beneath our feet. To breathe in the fresh air. To be pulled in by real gravity. We have arrived! To

simply pack up and leave is sheer folly.” The fervor in the young man’s voice was increasing as he spoke. “We knew it wouldn’t be easy. We knew we would have to improvise. So let’s do that! Let’s invent ways to battle these viruses, or whatever is down there. Let’s build ourselves a home, like we planned to!”

I must admit, his enthusiasm was contagious. I also long for a sky overhead, and to go for long walks without having to pass by the same point all the time. But in the end I have to agree with the Colonel.

“It just ain’t possible, son,” he said. “You’re brave, I give you that, but there’s no sense in fighting a fight you can’t win. Not if there’s a way to avoid it.”

Stability Engineer’s logs – 71 years, 265 days AD

The Counselor had joined me in the stability room, watching the screens update as the votes came in. Everyone twelve years old or older was allowed to cast one. That resulted in 568 total potential votes.

A full hour had been reserved for people to enter their preference into the ship’s computer systems. While the two of us had voted in the first few minutes, some people insisted on waiting for the last moment. With a couple of minutes left on the clock, there were still nearly a hundred entries open.

“This referendum is actually about the wrong thing,” the Counselor absent-mindedly blurted out.

I looked up from the screen. “What makes you say that?”

“Think about it. What would make a good question for a referendum?” She leaned back in her chair, a thoughtful frown on her face. “Suppose that we’re going to add some color to our solar panels, and it’s either going to be red or blue. Do you think that would be something we could have a referendum on?”

“Well, yeah,” I snorted. “I imagine a lot of people have a strong opinion on that.”

“And what about the square root of twelve-thousand three-hundred and twenty-one? Can we decide its outcome through a referendum too?”

I nearly choked on the sip water I was swallowing. “Gosh, no. We could just calculate that. Or, if the problem is more complex, have some people research it and present the results.”

“So what’s the difference?”

“Obviously, one concerns a preference – something people have an opinion on – and the other concerns something we can investigate.”

“And what’s the case with the referendum today?”

This one seemed easy enough too. “A preference. Do people want to live inside a ship that’s stationary and on a planet, with rationed resources and impending death, or do they want to live on a ship traveling through space, without the rationing?”

The Counselor’s frown told me I was wrong. “Think back to the discussions of the past week,” she said. “It hasn’t been about preferences, has it? Marik was constantly arguing that they could fix things. That they could make it work, down on Arcadium, despite Doctor Lent stating the contrary. The people following him won’t vote to land because they like it so much planet-side. They’ll do so because they believe they can eventually go outside.”

“Your point is ...” I replied, trying to put it in words, but she beat me to it.

“This referendum isn’t about a preference at all. It’s about whether the people believe that Doctor Lent, and with him the entire leadership, was right in its assessment.”

“So this is all one big vote of confidence?” I asked, shocked.

The Counselor nodded. “And it gets worse. If we lose this vote, then the obvious response would be to reinvestigate the claims we

made. But that's not what's going to happen, is it? Instead, we're going to rush head-first into the atmosphere of a planet that's likely to kill us off."

With trouble I swallowed back another gulp of water. "What can we do then?"

"We don't have to do anything," the Counselor said, looking up at the screen, which had just updated again. "From the looks of it, we survived the vote well enough."

I followed her gaze. 29 percent of the people want to land, 69 percent choose to fly on, and only eleven people opt to return to Earth. Simply put, today we turned into space nomads.

Stability Engineer's logs – 71 years, 266 days AD

This morning I joined the rest of the leadership in the science lab. I'm not sure if it was the excitement of the past few days, or just the low gravity in the lab, but I felt euphoric.

"I gathered all the information I have on the viruses in a data module," Doctor Lent explained. "I'm about to send it back to Earth through a small rocket. It'll take a few decades to get there, but they'll know what has become of us. In time, they may even send another colonization ship to Arcadium, if they can come up with a way of dealing with the tiny natives."

"Are you sending said natives along for study too?" the Captain wondered, but the Doctor vehemently shook his head.

"No, Captain. Apart from the fact that they don't safely fit into the module, it doesn't seem like the best idea to send eighteen incredibly deadly viruses to a planet with half a trillion inhabitants. They'll stay right here, safe in the lab."

"Good," the Captain said. "In that case, the module is good to go. And so are we."

"Where will we be heading then, Captain?" the Counselor asked.

“There’s a few nearby stars we can check out,” she said. “There may be habitable planets there.”

The Doctor gave her a subtle frown.

“I know, it’s extremely unlikely,” she replied. “But then again, the journey always matters more than the destination, doesn’t it?”

Part 2 – Disturbance

254 years after departure

Stability Engineer's logs – 254 years, 322 days AD

The unrest today started with little Jack. Or actually, it had begun the moment we left Earth. It was just that we didn't notice it. I mean, we were all aware of it, but none of us realized the implications. Not even me, while it is my job. And in hindsight it's so obvious.

The boy was caught stealing food from the mess hall kitchen. It's amazing how he was able to pull that off for months. I guess he's a natural at blending into the crowd. With the place always being packed, no one bothered to pay attention, assuming he was someone's child, tagging along to work. The only reason we found out was because, with the growing shortages, we're now keeping track of every scrap of food we've got. Despite what happened, I didn't expect the outcry. I guess it's because no one can agree with what to do with him.

Some tension has been building on board for the past couple of years. With over four thousand of us on a tiny ship, you tend to get on each other's nerves. Still, with no one ever being alone, crime is a rare thing. The last big incident is already more than a decade ago, when a small group of crew members hacked into the ship systems and added entries for fake people, just so they would be allocated more space. Back then, the previous Captain stripped them of their jobs and their entertainment rights. It was a harsh penalty, basically condemning them to not only shame, but also boredom. One of them committed suicide, a few months later.

But this feels very different. This time only a small group is calling for similar punishments. They say that, with the current shortages, we should send a message that theft is not allowed. We all get our allotment of food, space and screen time, and we just have to accept that. At the same time others argue for more leniency. It's just a kid after all, and we can't blame him for being hungry.

I'm kind of tempted to agree with the latter group, but for different reasons. Punishing the child won't fix anything. Okay, other than venting our own anger. Of course the proponents call it differently. "Justice," whatever that may mean.

Instead, we should fix the root cause of the problem. And if we do that, preventing events like this from happening again in the future, what use is there in making the child's life miserable? Today's feelings are not important in the long run. Solutions are.

It's not my decision though. My job isn't to do politics, so I steer clear of the public discourse whenever I can. It's Samuel's call, as captain. I only hope he will be able to withstand the calls of the vocal pro-punishment crowd.

Stability Engineer's logs – 254 years, 324 days AD

The leadership had a meeting today to discuss the issues at hand. I'd say we should have met two days ago already, but Samuel didn't consider it urgent enough.

"Do you think we should do anything with Jack?" he asked. It dropped my jaw.

"Do anything?" I repeated. "We have him locked up. The whole ship is waiting for an official response. We'd better do something with him."

"The people expect some form of punishment," Peter, the counselor, added. "We have to set an example."

The words baffled me. "Do we hand out punishments based on crowd sentiment?" I asked, half stuttering from outrage. "What about doing what's best for the ship?"

"You know what the ship is like now, Anna," the captain countered. "It's crucial to keep people happy, before any anger flares up. What do you guys think about locking him up for a year and halving his rations for two more?"

“That should calm them down well enough,” Peter noted to my disgust.

“The boy was already starving,” I blurted out. “Half rations will leave him with malnutrition for the rest of his life.”

“It’s his choices that caused all this,” Samuel said. “Not mine. This is final, so we are done here.”

I shook my head, unable to believe he would sacrifice someone’s well-being like this, just to appease a crowd.

Stability Engineer’s logs – 254 years, 359 days AD

Today I called the leadership together, because we really need to start fixing things. Okay, we did find a large asteroid last month, which gave us some reprieve, but by now we’re back to strict rationing again. It’s even come to the point where the public sentiment on Jack is shifting. While people first vilified the boy, now they are starting to admire him. They’re getting tired of the rations, and he was the first one to stand up to them.

“I’ve made my analyses, and I see no other option,” I told the other three. “We must tackle the root cause of the problem.”

“You don’t think we’re already doing that?” Samuel retorted, giving me a frown. “But if you have any idea where to get more resources, I’m all ears.”

I rolled my eyes. “The resource shortage is not the cause. It’s only a symptom we’ve been fighting for ages, without any real progress.”

“I’d say we’ve made plenty of progress in the last couple of years,” Peter said. “But please enlighten us. What’s the origin of all our problems?”

“Overpopulation,” I briefly said, gauging the reactions of the others. While the scientist, Xavier, gave me a curious glance, Samuel only looked confused, and Peter let out an incredulous sigh.

“It’s basic stability theory,” I clarified. “We have one ship metric, the population size, that is growing without bound. Inevitably it’s dragging other metrics, like the amount of food and space we need, along with it. The ship cannot provide an unbounded amount of this, so eventually shortages will arise. It’s plain logics.”

“You and your metrics,” Peter said, rolling his eyes. “We do not have overpopulation. We just need another asteroid.”

“Sure, that may get us through another month, and then all the problems will come back even worse. The ship simply wasn’t designed for more than a thousand people, let alone more than four!”

I couldn’t help thinking about the ship logs I read last night, written around the time the ship arrived at Arcadium. Back then, people still had their own beds. And I don’t mean that they slept in the same bed every time – they did – but no one else slept in said bed! I still find it hard to comprehend.

Samuel opened up his hands. “What’s your suggestion?”

“There’s only one option,” I said. “Birth limitations.”

“Out of the question,” Peter immediately said. “There’s no way anyone is going to accept that. Especially not now.”

“Then within ten years, by my calculations, we’ll regularly have people dying from starvation. Unless a huge crisis is going to solve all problems for us before then.”

Also Samuel was frowning. “I must agree with Peter. People are complaining enough as it is. In fact, this morning I received a challenge for a public debate on how we’re handling all this.”

Peter raised an eyebrow at this. “Who did it come from?”

“He’s called Adon,” Samuel said. “Have you heard of him?”

“Yeah,” Peter nodded with a frown. “He’s the hidden force behind some of the protests. A bit of a troublemaker. How did you respond?”

“I haven’t yet,” Samuel said. “Any suggestions?”

“It’s not much of a choice actually,” Peter noted. “We have to accept. People already feel like we’re ignoring their needs. If we refuse, Adon will use it to stir up further protests. But if we show them that we are listening, we may calm things down.”

Stability Engineer’s logs – 255 years, 5 days AD

The timing could hardly have been better. We found another asteroid a few days ago, right after the much diminished lustrum celebrations of the ship. It meant that people were at least watching the debate with a filled stomach. Though I guess ‘debate’ isn’t really the right word for it. Due to the lack of an agenda or moderator – an oversight of Samuel – it turned more into an open discussion.

“So tell me, why have you invited me here?” Samuel asked. I saw him glance at the screen next to him, his eyes going wide. He was checking the viewer numbers and, at least not to my surprise, the entire ship was watching.

“Isn’t that obvious?” Adon asked, keeping his eyes solidly fixed upon the person opposite to him. “The ship is in a crisis. Shortages are becoming bigger and bigger. We need a solution, and we need it fast. So the big question is, what are you doing about it?”

“We’re doing everything we can,” Samuel said, immediately shrugging the concerns away. Listening to the crowd wasn’t exactly his strong suit, he confirmed once more. “We’re continuously looking out for any asteroids we can mine. We have optimized our trajectory to increase the odds of discovering more. Next to this, we are regularly checking our equipment, to make sure they keep operating at peak efficiency.”

“Sure, those tiny differences help,” said Adon, but the small roll of his eyes showed he didn’t really care. “We need more though. Are you looking into solutions that actually make a big difference?”

“Like what?” Samuel asked with raised eyebrow, his confusion showing that Adon had already driven him into a corner. “You mean birth limitations?”

“Bah,” Adon snorted. “That’s not going to feed us next week, is it?”

Samuel raised his hands, asking for more clarification.

“Here’s the thing,” the young man explained, leaning forward across the table. “People are tired of rations. If someone really wants to eat, we should enable him or her to simply get more food.”

The men and women next to me, who were staring at the same screen as I was, nodded upon hearing this. Adon had really struck the right note here. Sadly Samuel didn’t notice.

“If we do that, we’ll be out of food in no-time,” he said. “It’s the rations that have –” but Adon’s raised hand quickly quietened him.

“Hear me out,” he explained. “I’m not saying we shouldn’t limit the amount of food we hand out. There’s only so much, and we’ll have to make do with it. I’m not denying reality. I’m just saying we can distribute our resources more efficiently.”

“And how would we go about doing that?”

“Well, maybe you would like more food, and don’t really care about sleeping so much, while someone else needs less food but desires some more time in a bed. Why wouldn’t we allow these people to trade?”

“Keeping track of that would be an absolute hassle,” Samuel said with a frown.

Adon shook his head. “It is if you want to arrange it yourself, but why would you? Instead, why not let the people figure it out for themselves? I suggest that, instead of giving people food and allocating them bed time, we simply give them credits. Say, a hundred every day. They can then spend that on whatever they find they need.”

“You mean like money, how they have it back on Earth?”

“Yeah, exactly like that,” Adon confirmed.

“It’s still way more work than we can handle,” Samuel said. “The distribution of credits, figuring out prices, doing the administration. We only have so many people on this ship, you know.”

I silently snorted. It was a ridiculous response. There were too many people on this ship in the first place, and most of them had plenty of time on their hands.

Adon wasn’t satisfied either. The young man let out a deep sigh. “I feared you would react like that,” he said, shaking his head. “Even when a solution is thrown in your face, you’re still running away from it. You simply don’t have the courage to do what this ship needs you to do.”

“Hey, that’s –” Samuel countered, but his opponent quickly shut him up, merely by talking louder.

“That’s why I believe this ship needs a new captain. And if the leadership won’t arrange this, then we, the people, will do so ourselves. It’s why I will organize elections for a new captain, exactly two weeks from now. And this time everyone on board gets a vote.”

Stability Engineer’s logs – 255 years, 7 days AD

The captain was cursing all through the meeting. “That backstabbing piece of meteorite. It was all a trap!”

“Yeah, and you fell for it brilliantly,” Peter noted. “I told you, just listen to his ideas and go along with them. Don’t make it appear like we’re doing even less than we are!” He let out an exuberant sigh. “We should never have given him a stage in the first place.”

“Well, whose idea was that?” Samuel retorted. “Someone said we had to accept his invitation.”

“Guys, stop it!” I intervened. “Blaming each other doesn’t help anyone. We need solutions, and we need them now.”

All of us were dreading a potential election. We knew the ship's history. If people get to choose, they may just choose what *they* want *now*, irrespective of how it affects the entire population, including future generations, in the long run. In fact, that's why we choose captains the way we do. They are the men and women, as deemed by the chief scientist, the counselor and the stability engineer, who best take into account the long-term well-being of the entire population. Not whatever happens to be the current whim of the people.

"So what's next?" Samuel asked. "Go along with his ideas after all?"

Peter vehemently shook his head. "Doing so now, after we said we wouldn't, is a massive sign of weakness. We have to stand strong and face the storm head-on."

"It's not your neck that's on the line," Samuel said, giving the counselor a frustrated frown. "But fine, I'll try it your way. Let's see which way the public sentiment will fall. And if it does go in the wrong direction, we can always try alternatives."

Stability Engineer's logs – 255 years, 13 days AD

I can't believe what the idiot has done. With six days to the election, he has caved in to the pressure. He didn't even discuss it!

There's two things he blundered into, actually. The first is that, already within the upcoming days, he is going to introduce money. It's exactly the proposal that Adon came up with, except made different in many insignificant ways. Like how we all get a thousand credits daily instead of a hundred, and how we don't get them all at once, but just a bit every hour. These pointless changes are a futile attempt at making people believe it was his idea all along.

The reason behind Samuel's change of heart is obvious. Peter has checked the mood on the ship, and it seems quite a lot of people

have lost faith in the captain. He's trying to up his popularity, before the supposed election will take place.

Yes, 'supposed'. The second thing he has done is disavow the whole thing. He can't stop it from taking place but, and these are his words, he will "do as much with the results as with those of the latest constellation popularity contest." He can't go any further than this in openly ignoring the sentiment of the people.

Adon has immediately replied that the election will still proceed as scheduled. It seems like he is bent on having this glorified popularity contest take place either way. People praise his clarity on the matter, but at the same time no one knows what he will do after the results are in.

Stability Engineer's logs – 255 years, 19 days AD

I must say, we've never gathered in the captain's quarters for the constellation popularity contest. Yet despite Samuel's intention to completely ignore the election results, he had invited the leadership over to witness the end of the show.

It always feels strange, being in that room. It's not the view of space on the outside. Okay, the viewport, stretching five full meters of translucent composites, does give an amazing view of the stars. No, it's the feeling of space on the inside. I know it's nothing more than a large room not packed with people, but this is the only place I've ever gotten to witness that.

All eight eyes were glued to the large screen on the other side of the room, next to the door. Adon has enabled everyone on board to follow the votes as they came in. In fact, he has done more than that: he has made all the source code of the voting system available, as well as given everyone read access to the database. It ensures that every single person on board can check exactly what is going on at any given time.

It's as transparent as can be, which is something I definitely can't say about Samuel and his indecisiveness. The man hadn't even signed up for the election, but Adon had thrown his lot in, just for the sake of it. Of course there were others too – the list was a total of six names long – but everyone knew it was the challenger's show. So when the ballots closed, none of us was really surprised.

"He got 92 percent of the votes," Xavier said, "and only 6 went to you, Sam."

"Yeah, but less than half of the people voted," Peter noted. "44 percent to be exact. That means more than half followed your advice of ignoring this whole farce."

"Yeah, or they simply didn't care," I added, noticing the clever twist in his argument.

Samuel rolled his eyes at me. Then he let out a frustrated sigh. "The piece of asteroid dust. I wish we could just lock him up or something, but he's clever enough to stay within the law. So the big question is: what is he going to do next?"

I shrugged. "It's blatantly obvious he's after your job."

"But he has no legal ground to stand on," Peter reminded me. "The rules are clear. The three of us," he pointed to Xavier and me, "appoint the captain. He can't get around that."

"If there's one thing I've learned from Adon, then it's that he doesn't care about the rules so much. He'll find a way around it." Samuel gave us a thoughtful frown before he quietly added, "But maybe so should I."

Needless to say, I left that meeting feeling rather dreadful about the upcoming weeks.

Stability Engineer's logs – 255 years, 32 days AD

It's hard to comprehend how fast things can change. Suddenly everything has a price tag. An extra portion for dinner? That's a

hundred credits. Eight hours of sleep in a low-gravity bed is three hundred. Higher-gravity beds go up to six hundred. Want an hour of extra sleep? That's another eighty.

Funnily enough, it's not just basic necessities that are being traded. There's also a variety of items going around, from stuffed toys for children to jewelry for adults. We've never had personal properties. Giving a person exclusive access to something always seemed like a ridiculously stupid thing to do. But now it already feels normal for people to have their own keepsakes.

With property also comes the need of protection. How are you going to prevent others from taking what you earned? The ship has never made as many locks as in the past week. Given the rumors about weapons disappearing from the guards' quarters, I doubt we already have enough of them.

I'm also worried about Adon. We've heard exactly nothing from him for over a week. It's a clear sign that he's secretly working on something, but I haven't got the faintest clue what.

Stability Engineer's logs – 255 years, 49 days AD

I still have trouble believing it. We've never had this before.

Today a man died from starvation. I didn't personally know him, but his name was Carl and he hadn't even reached his fiftieth year yet. Okay, the doctor's report will say he died from some kind of cold, but if you'd seen him, the malnourished state he was in, you'll know that the illness only finished him off because he hardly ate the past few days.

It started a week ago, when the shortages came back. Now, whenever food becomes available, it's sold out in no-time. If you're quick enough to buy some in time, you always face a difficult choice: eat it, or sell the bunch with a massive profit, at the cost of hunger.

After all, prices are soaring. Today, the going rate is five times of what it was last week!

Sadly Carl didn't have any such choice. He was bedridden and needed most of his credits just to be able to lie down 24 hours per day. Needless to say, he wasn't in time to buy food for the low price, nor could he afford the high one.

The ship physicians visited him two days ago. (I'm glad they're still free.) They prescribed him some medication, but forgot to take his lack of credits into account. The pills cost the man his last bit of money. Personally, I think any food would have been better for him than skipping it in favor of some not-so-nutritious tablets. At the same time, I don't blame the doctors. They are having just as much trouble comprehending this mess as I do.

Adon did take this occasion as opportunity to resurface. He is now loudly calling for Samuel to recognize the election results and step down. His main argument is that the captain, through inaction and mismanagement, is responsible for the loss of life and the hardships that everyone is going through.

The worst part is: I partly agree with him. Samuel is not in control; far from it. I have considered voting him out myself. Peter will definitely back the man – the captain is pretty much in his pocket anyway – but I might get Xavier along to reach a majority.

There's just one problem. We don't have any better candidates. We haven't had any for the past six years, ever since the previous captain passed away. It's why Samuel got the spot in the first place. Sure, we have Adon now, but given that Samuel has only been following the young man's ideas, would he fare any better? I strongly doubt it.

Stability Engineer's logs – 255 years, 57 days AD

Digital news travels quickly, but with people everywhere on the ship, spoken stories move even faster. I was savoring my hard-fought lunch when the rumors reached the mess hall.

“Adon just got arrested,” someone behind me said. My ears piqued, I listened further. “He said something wrong to the captain, who immediately locked him up.”

I couldn't believe Samuel was that stupid, so I immediately ran down the stairs to his quarters. Peter was already there.

“Damn it Samuel, you're turning him into a martyr,” the counselor shouted. Then he noticed me.

“What did he do?” I asked him.

Peter let out a frustrated sigh. “The fool baited Adon into saying he thought he was captain, which technically could be considered mutiny, through an old flimsy law that has never been used. Then he had the guard arrest him.”

“It's only going to add fuel to the fire,” I said, appalled. “People already feel like the leadership isn't there for them.”

Peter rolled his eyes at me. I didn't have to explain to the counselor how the population would react.

“So what do we do now?” Samuel asked. “Release him again?”

Peter shrugged. “We already took the step of locking him up. Might as well see which way the sentiment will turn. If we keep him isolated, we at least prevent him from inciting further problems.”

“In other words, we're going to do nothing at all,” I said, shaking my head. “Seems like we've become really good at that.”

Stability Engineer's logs – 255 years, 59 days AD – part 1

I'm sad to say that the captain has made his final mistake.

Protests had been going on all day yesterday. Today, with no further news from Adon, they further intensified. His loyal fan base wanted to hear from him, or at least get some sign of life. The silence they got from Samuel only further fueled the conspiracy theories claiming he had ordered the man killed.

Eventually the captain caved, as usual. He set up a video connection to the brig, to let Adon speak to his followers. With strict conditions of course. I'm sure the fool kept his finger hovering over the off-button in case they were violated.

Xavier had joined me in the stability room when the captive's face popped up on the main screen. Instantly the whole place became quiet, with dozens of eyes glued to the display. The whole ship knew things were on edge.

Unsurprisingly, the young man played his part perfectly. With disheveled hair, wrinkled clothes and tired eyes, he gave the lens a smile. I could hear people around me catch their breaths.

"As you know, I've spent the past two days and nights in the brig," he started. "It's not so bad actually, because it's given me the perfect occasion to get to know little Jack a bit better." He pointed to the small kid sitting next to him on the floor of the tiny room. "He's having a hard time, with the food rationing he's on. I tried to give him a bit of my portions, but of course the guard wouldn't let me. They insist on controlling everything. Despite all this, the boy is keeping his hopes up, believing things will get better soon."

The prisoner let out a tired sigh, as if he was looking for words. I knew it was all for added drama, but the people around me were drawn even closer into the screen.

Eventually Adon found his voice again. "For his sake, I hope that they do," he softly said. Then a bit louder he added, "If you also want things to change, then do come get Jack and me out of –" The screen went black before he could finish the final sentence. Adon's last line had pushed Samuel's restraint over the edge.

I put my hand against my forehead and let out a deep sigh. This was so wrong. By cutting off the transmission, Samuel had confirmed what people suspected: that he was afraid of the man. That even he himself thought he was losing control.

But it was more than that. The whole thing violated what it means to be in charge. Of course a captain shouldn't always go along with every crowd sentiment, not even when it's supported by a majority. But when he is so afraid of his own people that he suppresses open discussion, he has strayed from any sensible path.

I was about to turn off the screen when we heard soft popping noises coming from the other side of the ship. I'd heard many sounds during my life on board, but these weren't among them, so the hairs on my neck immediately stood on end. Using my access codes, I summoned the feeds of dozens of security cameras onto the screens around the room, and gasped when I realized what I was seeing.

It was a full-scale assault. Several armed people were converging from multiple directions towards the captain's quarters. Some had guns, others only knives or metal sticks. I could see Samuel in his room, pulling a pistol out of his desk drawer. Peter was with him, shouting orders to the guards outside. Though both lieutenants had weapons as well, they didn't seem as comfortable using them among the throng as their assailers did. Soon the two of them were mowed down, together with six innocent bystanders that couldn't flee in time through the narrow passageways.

It took exactly five hits before the door to the captain's quarters gave in to joint blows by the men outside. Samuel was still hiding behind his desk, shivering. Peter, annoyed by the cowardice, pulled the gun from the man's hands and fired at the first person coming through the opening, hitting him in the shoulder. The victim was quickly pulled back outside by his friends, who then started firing back through the entrance.

It was mayhem. For several long seconds, shots were fired everywhere. Some went into the desk, most went into walls, but a single stray bullet hit the large viewport straight across from the door. It left a small dark hole.

I knew the screen had a gel-based cover on the outside to absorb small meteor impacts, but I wasn't sure if it had the same protection on the inside. My doubts were answered soon enough, by the cracks that were spreading all over the opening. I gasped at the implications.

Peter shared my fright. He stood there with wide eyes, staring at the damage, until a bullet hit him in the chest and he fell. It didn't matter though, because a second later the viewport gave out and most of my screens went black.

Stability Engineer's logs – 255 years, 59 days AD – part 2

It's amazing how, if you cut off the head of a ship, all the parts still continue to function, as if on instinct. They seem to work even better, without anyone or anything distracting them from their tasks.

It took only an hour before mechanics had put on their suits, went out through the airlocks that had automatically sealed, and shut the hole. No one ordered them to. No one checked up on them. No one even discussed the costs of the equipment they used. They simply fixed it, and when the pressure was restored, we could assess the damage.

I hardly recognized the place. The hallways were filled with bodies. Though I knew it was futile, I bent over one, a teenage girl, and checked for signs of life. Her neck was still somewhat warm to the touch, but the lack of a pulse confirmed what her glazed eyes had already told me: she was far gone. No one can survive in a vacuum for longer than a minute or so, let alone an hour.

I tried to shake off the horror around me. While I couldn't do anything for these people anymore, I could help the rest of the ship. Step one was maintaining my composure. Step two was continuing my way to the captain's quarters.

I didn't even make it there. When I walked down the stairs to the lowest level, I already saw the huge open space. The walls and ceiling of Samuel's room had been torn out by the instant decompression. Only the reinforced outer hull had held, with a large aluminum patch covering what was once the viewport. The remains could be best described as a large hall. I'd never in my life seen a space so large. Even with all the damage, it took my breath away. I only wish I'd seen it under more pleasant circumstances.

The final tally was 212 bodies lost, floating in space somewhere, and 347 more suffocated. More than an eighth of the people on the ship died today, and it had all happened within a single minute.

Stability Engineer's logs – 255 years, 60 days AD

The ship was grieving. So was I, but I was also the one with the least time for it. A new captain had to be chosen, someone who would sort out this mess, and it was up to me to do so. Of course Xavier had a vote as well, but the scientist was so sick to his stomach that he seemed to go along with whatever proposal I put in front of him.

Seeing no other choice, I eventually climbed all the way up to the cellblock. I sent Jack out, directly pardoning him. I didn't even know whether I had the authority, but I simply assumed I did. The boy had lost his father yesterday, so he deserved a break. Plus it allowed me to sit undisturbed across Adon.

This time the disturbed look on his face wasn't fake. I'm not sure what he had expected from his call to action, but it certainly hadn't

been this. Still, he wouldn't have been Adon if he didn't use it to his advantage.

"You've come to make me captain?" he asked with raised eyebrows.

It hit the wrong nerve. "Shut it," I said. At least I didn't have to pretend to be angry anymore. "Your actions killed hundreds and nearly destroyed the ship. There isn't a man, woman or child on board that hasn't lost a close friend. You deserve to be floated out with them."

I could already see a glimmer of fear on his face, but he tried to hide it. "There's still hungry people on this ship. People that want me as captain, like they showed yesterday."

"You mean the ones that killed Samuel? Damn it, Adon. You know how much a gun costs on the black market? If those men were hungry, it was only because they saved all their money for weapons. Your followers weren't poor and hungry. They were looking for power, just like you. And in case you haven't realized it, your most fervent fans all got sucked out the viewport."

Especially the last comment seemed to hit home. He must have lost friends too. "Okay," he sighed in resignation. "What do you want?"

"I want stability," I said. "That's the one thing this ship needs right now, and it's why I want to offer you a deal."

Adon raised an eyebrow. I had his attention.

"You will be chosen as captain, but under my rules."

He frowned. "And what would those be?"

"Most importantly, birth control. We need to bring the population of this ship down to two thousand if we are to survive in the long run, with any kind of luxury. This limit will be amended to the ship constitution, such that no single captain can change it."

"Seems like yesterday got us well on our way there," Adon grimly noted. "What else?"

“We prevent further shenanigans from taking place, by going back to the old way of managing things. That means no more money, no more elections and most of all no more revolutions.”

“That’s never going to work,” Adon said, shaking his head. “How can I be captain and subsequently turn my back on everything I stood for? People will see through it right away.”

I saw that he had a point. “Fine,” I sighed, focusing on the priorities. “We keep money, as well as elections for the captaincy, but we add to the constitution that the positions of stability engineer, chief scientist and ship counselor remain filled, no matter who the people choose as leader.”

“Sounds alright with me,” Adon shrugged.

“At the same time, we won’t have people dying from starvation anymore either. That means limits on how much food someone can buy, in case of shortages, and the same for bed space. Basic necessities must always be fulfilled.”

Adon nodded. “Agreed.”

“In that case, let’s draft this amendment, captain.” Getting the last word out of my throat was harder than I thought it would be, but just like the rest, it had to be done.

Stability Engineer’s logs – 255 years, 63 days AD

Adon remained true to his word. All my demands made it into the new ship rules. For many they are hard to accept. That is especially true with the introduction of life licenses: you now need one to be allowed to bear a child. But all in all the complaints aren’t that bad. They know change is necessary. I guess that seeing a huge part of your ship get blown up has that effect on people.

The new captain did add a clever twist, saying I blackmailed him into accepting the conditions. I guess in a way I did, but still there was no need to set me up as scapegoat. Not that I mind so much.

The most important thing is that all ship metrics are stable once more, because that's what's necessary for the ship to survive. And if I get an angry frown in the hallway every now and then, then that's fine by me.

Xavier still has doubts at times. "Do you think it was wise to get involved in politics so much?" he asked me over dinner.

I shook my head, silently laughing at the irony. I'd been wondering the same thing myself for the past few months, before I figured it out. "That's the thing: it wasn't politics," I explained. "If one side is arguing to get our solar panels painted red, and the other side wants them blue, then that's politics. But the fact remains that, if we paint over our solar panels, we won't be getting any energy."

Part 3 – Divergence

398 years after departure

Stability Engineer's logs – 398 years, 34 days AD

This morning saw a planned suicide. That alone isn't so special. I mean, we have one every few weeks. It's become common that, when a couple wants to have children, one of their grandparents voluntarily gives up their life license (and necessarily their life) to allow them.

Today's death feels very different though. The victim, if I can call him that, didn't give his license to his family. No, he sold it, passing the money on to his great-grandson. With the boy's parents in heavy debt, this was the only chance for the little guy to have a proper education, as well as anything resembling luxury, during his youth. The old man's death provides the boy a fulfilling life, but at the same time it does rob him of his last chance to ever have a brother or sister.

The buyer will use his acquisition to have a third child of his own, but I know it's not just the desire for offspring that led to this. It's Felix Miller, after all, and he will stop at nothing to flaunt off his wealth to the rest of the ship. He has certainly got the desired attention, because by now the whole population is discussing what our lives are really worth.

Stability Engineer's logs – 398 years, 39 days AD

The ship still hasn't gotten over this week's events. It has not come to organized protests, but there's definitely a lot of disgruntlement. It allowed for interesting discussions during my weekly dice game with Don and Jerik, as well as a fascinating discovery.

"I don't understand what all the fuss is about," Don said, shaking his cup and placing it upside down on the table. "There have always

been debts. The economy is still growing, so why do people say things are getting worse?"

"It may be that people are financially better off, while other facets of their lives are becoming worse," Jerik suggested to the scientist. "If you have three gains and one loss, the loss still feels heavier than all gains combined."

That was typically Jerik, ever the psychologist. The counselor was wrong though. "Nothing is getting worse," I explained. "All my metrics are improving. The efficiency levels we're having these years are higher than ever. And with our population at a steady two thousand, that means there's more for everyone."

"Just like there's more sixes for all of us?" Don said, giving his dice a dismayed look after raising his cup. With another loss, he was seriously running low on chips.

I smiled, taking advantage of his miscalculations. "No, that's just a matter of properly managing probabilities ... " I said, before a thought hit me and my mouth was left ajar.

"Oh, here he goes again," Jerik laughed. "Another mathematical venture, I take it?"

"Well, yeah, but hear me out. This can be important," I told him. "Suppose you roll the blue die. The chance that it lands on a one, or a two, or even a six, is all the same. Probabilities are divided equally, right?"

"Yeah, you know squat," Don shrugged.

"Exactly," I nodded. "You have zero information. But what if someone else rolls the red die, and tells you its value is lower than that on the blue one?"

"Then the blue one probably has a high value," Jerik noted.

"Precisely," I said, impressed by how quickly he grasped the situation. "There's a high chance that it's a five or six, a low probability that we have a two or three, and zero probability for a

one. This gives you more information about the value of the die, but it's not complete yet."

"Until you lift the cup and find a six," Don added.

"Yes, that's when you know everything. One number has all the probabilities. A hundred percent, to be exact. We have perfect information." I checked the eyes of my companions, to see if they were still following me. Jerik gave me a slight nod, so I continued.

"The amazing thing is that there's an equation that tells us how much information we have. It gives a single number describing where we are on this scale, between all probabilities divided equally, and all probabilities given to one number. This number is called the *entropy*."

"Great," Don snorted. "Now, what's your point exactly?"

"My point is that we can apply this equation to our ship!"

"Then every person represents a number on the die," Jerik translated. "And just like probabilities are distributed over the numbers on the die, money is divided among people."

"Exactly. It works the same," I vigorously nodded. "It tells us where we are on this scale, between all money divided equally, and one person owning it all."

"And more importantly, how it has been changing over the past decades," Jerik added, seeing the potential. "So what does your equation say?"

"Heck, I don't know," I said. "I just got this idea!" Excited, I wondered about the next step, until I realized exactly what I had to do. "I need more data," I blurted out as I fled the room, leaving my pile of spoils behind.

Stability Engineer's logs – 398 years, 40 days AD

I figured out why Don was so pissed yesterday at the game.

It turns out that it's not just people that are in heavy debt on this ship. Also the Captain's administration is short on cash. And guess what: one of the creditors, Thomas Baxon, came to collect.

For Baxon it's not really about the money. He still has plenty in his account. It's just a clever trick of pressuring Captain Mazor into doing something stupid, like selling the science lab. Since today, the whole place is in private hands. The group of investors is technically unknown, but I know Baxon will have gotten a large chunk of it all.

Patrick Mazor calls it a sale that made a lot of money. It's great political talk, but that doesn't make it any more correct. Selling your properties doesn't make you any richer. It just temporarily fills up your bank account. That is, until you need whatever you just sold, which is the point where you have to start paying others.

It also means Don is out of a job now. Sure, he keeps his advisory role – it's in the constitution after all – but without his own lab, he needs to scrounge up whatever side-activities he can, just to keep access to the facilities.

It's not income that my friend is worried about though. It's regulations. He has always been strict about safety in his lab. As we're all aware, it's far too easy to accidentally blow up a large chunk of the ship. But of course his rules don't apply to private property. I just hope that others are as careful as he is.

Stability Engineer's logs – 398 years, 44 days AD

"Why is he here?" the Captain asked, as grumpy as ever. He was pointing at Don.

"He's still your advisor," I pointed out. "And he's a friend." I had brought him and Jerik over to the Captain to discuss my discoveries on what I'd grown to call *wealth entropy*. Jerik insisted on calling it the *equality index* though, arguing the name was easier to grasp.

“The simplest way to see it, is by considering two people,” the counselor explained. “They’re both equal in every way, like age, gender and health, but also skills and connections. The only difference is that one starts off with a million more credits than the other, for example through an inheritance.”

“The big question is how this difference will grow over time,” Don added. “After a few years it will already be a bit bigger, but add several decades and the first guy will be a massive amount wealthier. The situation is inherently unstable. Differences always grow over time.”

“My equations expand this concept to the entire ship,” I continued. “It proves that the entropy – sorry, the equality – always automatically reduces shipwide. It’s a simple consequence of how money works. Wealth grows, and hence so do inequalities.”

I showed him the plot of how the entropy had steadily gone down, ever since money was introduced on board. It started at the theoretical maximum, with everyone being equal, but by now it was only a fifth of its original value, and nearing zero.

“But you’re wrong,” Mazor said, pointing to various spots on the graph. “Your index does increase here.”

“Look at the years,” I told him. “329 AD, when Alex Jones bought back the mess hall and donated it to the people. 351 AD, when Julius Monroe gambled his entire inherited fortune away. Or 372 AD, when Yari Miller had his extravagant spacewalk addiction, putting the whole ship low on oxygen for months on end. Those are the only cases where the entropy actually jumped up. So yeah, it is possible for the entropy to increase, but do we really want to rely on dumb rich people blowing away their money as the sole stabilizing factor of our economy?”

“What else is there?” the Captain retorted. “We can’t just take half of everyone’s money and give it away.”

“I never suggested immediately taking half,” I countered. “That would throw shocks through the entire economy. We have to do it gradually, a percent or two per year.”

“All the same,” Mazor replied, rolling his eyes at me. “No one with a sane mind would ever go along with it.”

“And yet it’s the only thing that can save the ship,” I shrugged. “It’s plain logics that the entropy will continue to decrease. Until it hits zero, of course, which is when a single person owns the entire ship. But I can assure you that we’ll never get there. We’ll have a massive conflict way before that happens.”

“Is that a threat?” the Captain asked, outraged.

“No!” I called out, baffled by the suggestion. “It’s a mathematical fact, as certain as gravity.”

Sadly Patrick Mazor did not believe me. “Get out of my sight, right now,” he angrily blurted out, glancing at his guards. Moments later, the three of us were back in the hallway.

“We have to fix this,” I told my friends as we walked away. “And if the Captain won’t listen, we simply need a new one that will.”

“What are you saying?” Don asked, curious.

“I’m saying there’s an election coming up in a couple of months, and I heard one of us was looking for a new job.”

“Oh, no, I’m not going to be a part of this,” Jerik said, obviously spooked. “Don’t get me wrong. I’m all for fixing the economy and such, but I don’t want to annoy the Captain further and lose my job as well, just for the sake of trying to get him a new one.” At the last part he pointed to Don.

I couldn’t blame him. The counselor is a bright guy, but he’s still young. He has his entire future ahead of him, unlike an old man like me. Luckily my plan didn’t require him. It did demand for an eager chief scientist.

I looked at Don, who smiled and said, “I’m in.”

Stability Engineer's logs – 398 years, 78 days AD

The most peculiar thing about managing a ship is the tax law. Keeping the whole thing up and running requires resources, and hence money, which needs to come from somewhere.

People always say taxes should be fair – that people should contribute their share – but fairness always turns out to be whatever is most convenient for whoever is talking. The rich like to have everyone to pay the same, while the poor want the stronger shoulders to carry heavier loads.

The truth is that taxation is just a tool. You use it to steer behavior, usually to prevent shortages. Low on aluminum? Tax it higher, the price will go up and people will be more careful using it. Low on clean air? Tax emissions and things will improve. It's how you keep all metrics within bounds.

The one thing we have a shortage of now is people spending money. The rich are hoarding their stockpile and the poor don't have any. So the solution seems obvious: tax savings.

Yet we can't; not without a massive conflict. After all, taxing people's income is already considered by many as theft. Would they ever let us tax what they already own?

Stability Engineer's logs – 398 years, 107 days AD

Don and I figured that, if we wanted to win the election, we should at least talk with our voters. So we hosted a variety of focus group meetings, to check out the sentiments. Today's discussion stood out to me. It started with a simple question. "Is it hard to earn enough money?"

"Not really. Business is going alright," a guy named Michael said. He had his own catering business. "A few months ago I switched

from basic food to more luxurious produce. The profit margins are way bigger there.”

“Advertising is going well too,” Zac said. He was one of the richer guys in the room, managing the ads that regularly show up on the ship screens.

“Teaching isn’t,” Aaron added, his eyes downcast. “There are fewer teachers every year, simply because it doesn’t earn enough.”

Zac let out an indignant snort. “If there was demand for it, there would be money.”

“Really?” Aaron said with raised eyebrows. “Well, I can tell you there’s plenty of kids needing education, so the demand is there. Just not the parents that can afford it.”

I wasn’t surprised with that comment. When the rich have money but the poor don’t, services naturally focus on the first group. The result is a shortage of people willing to provide, for little money, to the latter bunch. People like good teachers.

“That’s ridiculous,” Zac countered. “Of course they can afford it. If they can’t, why would they book high-gravity beds? Why would they get high-resolution screen time? Heck, why would they buy fancy food?” He nudged his head towards Michael at that last comment. “My data prove that they do.”

Aaron let out a painful sigh, shaking his head in remorse. “Because it’s the only way that allows them to stop feeling poor for a second,” he softly said. It was an answer that shouldn’t have surprised Zac, considering his ads conveyed exactly that message: just buy what we have to sell and your life will magically improve.

What struck me most about this conversation wasn’t the difference in viewpoints though. It was the destabilizing influence of Zac’s work. When more poor people bought expensive stuff that they didn’t really need, their remaining money would flow only faster away from them. It meant my equality index would decrease even faster than I predicted earlier. I’d have to adjust my equations.

Stability Engineer's logs – 398 years, 151 days AD

Our campaign was going entirely according to schedule, until something happened that I could never have predicted. With two weeks left until the election, Felix Miller announced his candidacy for the captaincy.

The whole thing is a farce. It's another way of him showing off. He doesn't know the first thing about running a ship, and being the rich boy that he is, he knows even less about the problems most people are facing.

This is proven further by his empty campaign promise. He pledges to create more well-paying jobs. The big unanswered question is who would pay the salaries for those jobs. Miller doesn't specify that crucial part.

The thing is: having more jobs doesn't mean having more production. We currently need only four people to pilot the ship, while a century ago that was twenty, and it's all because of automation. So if you throw the machines out again, you have sixteen jobs back! But is that really an improvement? Or does it merely result in pointless labor?

I'd say the problem is not a shortage of people wanting to work, or a lack of people needing their efforts. Talking more with Aaron (the teacher) the past few months showed me that very clearly. The problem is that the ones who need services the most are also the ones who cannot afford them. Any solution to our predicament has to start there.

I just hope the people will realize that. From what I've gathered, Miller is quickly rising in popularity. Will they see through his charade in time?

Stability Engineer's logs – 398 years, 165 days AD

The election results would come out during our weekly dice games, so naturally Don, Jerik and I were together to watch them.

I don't think Don and I could have campaigned any better. The whole plan to fix the economy was ready. We'd calculated it through and through, showing the people how 90 percent of them would improve financially because of it. We even had the mathematical proof that it would bring the entropy back up again over time!

Don's nerves were all over the place. It was only logical, with the polls predicting a very tight race. The result, however, was not all that close.

The good news is that we beat Patrick Mazor. He received 24 percent of the votes, while Don got 31. It shows that the people are tired of the old way of running this ship. However, the surprising winner of the election is Felix Miller, with a tally of 42 percent.

Miller had gotten the support of both the richest and the poorest on board. The reasoning of the latter group puzzled me, and Don shared my amazement. "Why would they ever go for that pile of space dust?" he scoffed.

It was the wrong question to ask a psychologist. "There's always multiple reasons," Jerik said, providing the explanation Don wasn't asking for. "Partly they just want something new, and you guys are still seen as part of the current establishment that got them in this mess. Partly it's because this whole money thing is abstract: throw in an equation and people automatically stop caring, even if it's really important. But most of all it's basic psychology."

My raised eyebrows urged him to explain further.

"Your campaign promised a tax raise, right?"

"Yes, we'll slightly tax the savings that they hardly have," I confirmed. "In return we'll thoroughly improve their lives."

“But do you remember what I told you a few months ago? If you have three gains and one loss, then the loss usually feels heavier than all gains combined. This especially holds when your life is already hanging in the balance.”

It made me think about something Aaron had told me. He was always worried about getting through the week. Sure, if I could get him more income throughout the year, or reduce his health care expenses, that would be nice. But considering a slightly increased tax payment this week could already send him over the edge, he could hardly take that chance.

It was only then that I saw our mistake. We’d been trying to give people definite long-term improvements, while Miller only had some unsubstantiated ideas about quick fixes. But when short-term survival is the only thing on your mind, you’ll still feel better about the latter.

It means we have to provide the people with stability first – ease their worries – before any big fix could be applied. Given my job title, I can’t believe I didn’t think of that.

Stability Engineer’s logs – 398 years, 174 days AD

The least I could do was try to convince the new Captain of my ideas. This morning I told him all about our new equality index. I even used Jerik’s layman terminology, to make it easier to grasp, but I’m sad to say it didn’t help.

The one thing Miller was refusing to believe was that the index would on average decrease. “You just can’t predict people in that way,” he argued. “If there’s one thing I’ve learned, then it’s that a person will always find a way to surprise you.”

I let out a deep, frustrated sigh. He really wasn’t listening to what I was saying. “A single person, yes,” I nodded. “But groups are

inherently more predictable.” I took another sip of water from my glass, desperately trying to keep my patience.

“A person is like a drop of water,” he calmly said. “You know it’ll fall, but it’s impossible to predict exactly where it’ll land.” He then dipped the tip of his middle finger into his tea, and subsequently flicked it towards me.

The hot drop hit me on my left cheek. Giving the man an annoyed frown, I wiped it away with the back of my hand.

He merely shrugged. “I aimed for the nose,” he added, as if it had somehow proven his point.

It was the straw that broke the camel’s back. I firmly grabbed the glass of water in front of me and threw the contents into his face.

For a second, his baffled eyes stared back at me. “It’s true: you can’t predict where a single drop will land. But if I throw enough of them at you, I can be quite sure that both you and the wall behind you will be thoroughly soaked,” I fervently told him, driving home my point. “The only way for you to avoid it, is by dodging what’s coming. And in exactly the same way, we are guaranteed that a crisis is coming. The big question is whether we dodge it or not.”

The look on Miller’s face quickly turned from utter disbelief to a furious anger. It was enough of a cue for me to stand up and grab my documents. “I guess that we won’t,” I added through clenched teeth, after which I turned around and left the room.

Stability Engineer’s logs – 398 years, 207 days AD

I couldn’t believe what I was seeing this afternoon while traversing the hallways. A young woman was begging for security to let her through the airlock, from the section she worked in to the one where her kids were schooled. But with her pay being late, she couldn’t bring up the required fee, meaning she was unable to return to her children. The scene froze my heart.

This whole mess started nearly three weeks ago. In yet another effort to combat the debts of the captaincy, Felix Miller sold the airlocks of the ship to private investors, which in practice mainly meant his friends. His argument was the rising costs of these passageways.

Sure, the maintenance of these doorways has always been a huge drain on the ship budget, but with good reason: they are crucial for the safety of everyone on board. In fact, without them our whole ship would have blown out nearly 150 years ago. However, Miller claims that others can maintain them more efficiently.

Maybe he's right. Perhaps there are people that can keep them running with fewer costs. The big problem I'm seeing is that these investors eventually want their money back. To get this income, they've placed collectors at every airlock, requiring a fee from everyone passing by. Given that these guards need to be paid too, and that the investors still require a profit margin, I don't see how there's any cash left for maintenance. It means that this charade isn't just another example of futile labor, but also a huge safety hazard.

In the end, I paid for the passage of this young mother. I was amazed by how she kept thanking me I-don't-know-how-many times. It only breaks my heart that I likely won't be there the next time this happens to someone. And even if I could, there's no way I could afford helping everyone out.

Stability Engineer's logs – 398 years, 261 days AD

Today saw the first forced abortion in nearly a hundred years. A young woman called Cathy had not obtained the required life license by the tenth week of her pregnancy. As a result, she was forcefully brought to a medical clinic and subjected to vacuum aspiration, removing the fetus against her will. And to make things worse,

despite abortion being a routine procedure, it nearly killed her. The doctors are still unsure whether she'll pull through.

It makes me wonder why this is happening now. I mean, people have always been aware of the rules: no children without a life license. They have also known why: without it, we can't sustain ourselves. And they generally considered it fair: the habit of inheriting life licenses from grandparents lets everyone have two children. The problem is that the latter part is changing.

This started last year, when Miller was the first to buy one of these coveted documents. It got a lot worse three months ago, when already the fourth one was auctioned off. The previous three, bought by Miller, Baxon and Walters, had all been acquired because they wanted a third child. However, Baxon had not obtained this last one, his second, to use it. He didn't even want a fourth child. No, he'd only bought it as an investment, envisioning the price of these licenses to rise. He was right: the fifth and sixth one had recently been sold for a lot more. This did lead to a large shipwide discussion. Can you simply keep a life license, and hence someone's life, on ice?

Cathy answered the question for Baxon. She publicly claimed, "if you're not using it, then I will do so for you," and got pregnant. Sadly Baxon's lawyer didn't agree, and the committee resolving the dispute, headed by Captain Miller, followed suit, leading to Cathy's near demise.

But if abortions are so common, why did Cathy nearly die? That's what I wondered when I heard this. The reason wasn't exactly medical. It was gravity.

You see, Cathy had wanted an extra life license for several years already. So when Miller first bought one, she got an idea. If she could only get enough money, she could buy one too! It led to her staying in the cheapest rooms on the ship, pretty much permanently living in low gravity, just to save a few measly credits.

Of course the misguided plan didn't bring her anywhere close to Miller's riches, but it did cause her bone tissue and muscles to degrade. After several months, this had gotten so bad that she couldn't physically deal with the higher gravity of the outer ring anymore. Yet when the guards forcibly took her to a clinic exactly in that part of the ship, not one of them stopped to think about that. Combined with the abortion and the added stress, this didn't end up well for Cathy.

She's now forced to recover in a low-gravity clinic; all at her own cost, of course. I guess it's a good thing she saved up some money because, if she does survive, this will surely blow away her entire savings. It leads me to wonder: if she knew a forced abortion was the likely outcome, why did she do it? Why go through all the trouble?

The answer turns out to be her grandfather. She is very close with the old man, but at the same time she desperately wants to have a second child. How can she choose between one and the other? Especially after how hard things had been when she lost her grandmother, a few years ago?

When I heard this, I knew the whole pregnancy was a protest, not against the system, but against Baxon. It was about the way he so casually treated life licenses, while these documents forced others to make such grotesque decisions. It was Cathy's shout for decency.

Stability Engineer's logs – 398 years, 270 days AD

Jerik, Don and I were playing our usual dice game when Jerik's alarm call went off. "Duty calls," the Counselor said, dismally looking at his pile of chips. He was finally winning. Nevertheless, he pulled up the nearest screen and opened the connection to whoever called.

The face of a security guard appeared. "We've got a problem at airlock B12," the woman said. "It's the one to Baxon's quarters. A

group of men, led by Cathy's grandfather, is trying to get in. They've got equipment to blast through the doors, so they'll eventually get through. I need you to talk them out of this, before anyone gets hurt."

"I'm on my way," Jerik announced, turning around and running off.

I was shocked to hear about what Cathy's grandfather was doing. Cathy still hadn't woken up, but at least her situation was stable. I guess the old man wanted to make Baxon answer for what he and his lawyer had done to his little girl.

In the meantime, I used my security clearance to bring up the recordings of the camera in the corresponding airlock. When the image appeared, Don snuffed.

"That's not exactly a coordinated attack," he said with a frown, and I nodded in agreement. It was a group of five old men. Three of them were trying to torch a hole through the door, while the other two used makeshift weapons – a metal bar and a kitchen knife – to keep anyone from interfering. Yet from the looks of it, their main struggle was to remain standing in the higher gravity of the outer ring. The guards also did not take the threat seriously and stood idly by, waiting for the Counselor.

When Jerik arrived, the two armed men exchanged some words with him. We couldn't hear what they were saying, but it seemed like they were determined not to give up. Still, Jerik kept talking in on them, and I could see doubt slowly spread through the group.

"This should be over soon," I told Don, but my friend's eyes suddenly widened.

"Wait, what's happening?" he asked.

I looked back at the screen and found that a door between Jerik and the men had suddenly closed. *Of course*, I thought. *An airlock always has two doors, so you can still get across if there's a pressure*

difference between sections. Someone had just closed the second door, and it seemed obvious who it was.

“Baxon owns most of the airlocks on the ship,” I told Don. “You can bet he owns this one too. He must be manually controlling it.”

The five men, now locked up, renewed their efforts to get through the door, if only to get out of their current predicament. This didn't last long though, because a minute later they all grabbed their chests. On the outside, I could see Jerik repeatedly slam his clenched fists on the door, desperately trying to get it to open.

“That son of a meteor,” Don blurted out, his mouth ajar. “He's pumping out the air! But why? They were about to give up!”

When I placed myself in the rich man's shoes, I realized exactly why. “It's to send out a message. You don't go after Baxon, because if you do, he'll come after you.”

Needless to say, the image of the five lifeless bodies was going around all the digital forums well before the end of the day.

Stability Engineer's logs – 398 years, 273 days AD

Cathy finally woke up yesterday, just in time to witness losing her inheritance.

There's an old law, introduced over a hundred years ago, that allows the captaincy to claim the property of convicted criminals, if their crimes are serious enough. And it turns out that Baxon's lawyer is very good at spinning events. He made it sound like the five men were out to kill Baxon last week, and that the arrogant brat only survived because he flushed the airlock. He was supposedly only acting in self-defense.

Of course this outraged Cathy. It wasn't so much that she feared losing property; the old man didn't have all that much. It was that all the blame was placed on her grandfather, while he and his friends paid the ultimate price.

What she didn't expect was how far Baxon would go. His lawyer continued to argue that life licenses also count as property. As a result, the five licenses – now unused – would not go to the families. They'd go to the captaincy as well, to be auctioned off to the highest bidders.

When the arrogant fool even went so far as to give Cathy a smug smile, the girl got up and tried to assail him. Needless to say, in her weakened state, she hardly got close. Sadly, it was enough to convince Captain Miller to have her removed from the room, making her unable to further fight the verdict.

In the span of a month, she had not only lost her unborn baby, but also her grandfather, as well as her last chance to ever get another child.

Stability Engineer's logs – 398 years, 278 days AD

It's funny how the human mind works. If the need arises, we can accept losing our home. Even our freedom to have children is something we are able to give up. But to lose our property, our money, that we feel we deserve, to others we find less deserving, that's something we can never get over. Not even if it ends us. All of us.

I guess I should explain what happened. Today the life licenses were auctioned off. Most people wanted to follow the event on larger screens, but I preferred some peace and tranquility, so I retreated to the fully deserted science center to watch events unfold.

Unsurprisingly, because they were all sold at the same time, the five licenses each went out for far less than the previous ones. It was still way more than any regular person could afford though, allowing Baxon to rake in two and Miller another one.

None of them foresaw the public outcry that would follow. Previously only the group of hardliners, like Cathy, was outraged. This time almost everyone started to realize how much they were being played with, and how little their lives were really worth. So when Cathy, much recovered from her earlier plight, made the call, nearly half the ship rose up behind her, picked up tools and stormed Baxon's quarters.

Not even his airlocks were able to save him. After all, the people maintaining them were amongst the crowd, shouting for him to give up his riches and be convicted for the people he killed. Captain Miller tried commanding the guards to save the man, realizing that if Baxon fell, he could very well be next, but they refused to act against the crowd. After all, they all had friends among the fray. Everything was pointing to the man's demise. He would lose all he had.

As I followed events on the security cameras, I saw Thomas Baxon sitting on his bed, spooked by the sounds of tools working on the final door. He then seemed to make a decision. Taking off his necklace, he crouched next to his nightstand, inserted the key previously hanging from his neck and opened up the lower drawer. Out of it, he carefully drew a vial. As people finally broke into the room, he unfastened the safety and removed the lid, flicking the contents towards the assailants.

It wasn't until a minute later, when everyone – including Baxon – started coughing up blood, that I realized what it was. The virus! I ran over to the storage cabinet where it used to be kept. I couldn't even access it – I never had clearance – but through the transparent front I could see that the vials weren't there. *Of course, the piece of stardust owns the science center too, I realized. He has full access!*

I ran back to the console to initiate a shipwide lockdown. The virus had to be contained! I entered the commands, but immediately red lights flashed back at me. Many of the airlocks weren't working. Some had been sabotaged by the crowd to reach Baxon, while others

simply failed due to unknown reasons. A lack of maintenance, I suppose.

It hit me then that we should have never sold them. You can't privatize things that are not allowed to fail. After all, the market is based upon bad ideas losing support and faulty businesses going bankrupt. If something is not allowed to break down, it should never be on the free market in the first place.

Luckily, thanks to Don's adamant lobbying, all the science center security measures were still in place. The airlock was sealed, and for the next hour I couldn't open it up if I wanted to. Even the air refreshing system was now completely separate from that of the rest of the system. This was what saved me.

For the next half hour, I browsed the cameras to see everyone on the ship getting infected. It affected everyone differently. Some coughed, others got a seizure and a few simply froze. But regardless, everyone ended up on the ground, as lifeless as the stars we traveled across.

Stability Engineer's logs – 398 years, 279 days AD

The science center security measures are not meant to protect against threats from the outside. It's to keep the danger in. Sadly, it also means no one thought of packing up food or water inside. And as the sole survivor on the entire ship, I can't exactly call for help. So I'm left to choose the way that my life will end.

Shall I stay and die from dehydration? Open the airlock and let the virus have its way with me? Or use the poisonous chemicals here to finish things? Neither of these options is very quick. I guess that, if I cause an explosion, the decompression will at least make it less painful.

But before that, I have one more thing to do, while the ship's systems are still functioning. I am assembling all logs and recordings

from the ship into a single hard drive, to send it back to Earth. The rocket will take a century or two to get there, but eventually people will know of our demise. Maybe it will inspire them to make choices that we didn't have the guts nor the unity for.