Any similarities between characters, events, or situations in the story and real people, events, or situations are purely coincidental.

First on Mars

Adam L. Davis

Prologue

MAX JALALI muttered under his breath, "Now I am become death, destroyer of worlds," quoting the words as he wrenched open the ship's oxygen intake valve. As expected, he was blasted away from the ship by the high pressured gas and sent tumbling towards Earth. His mobile activity vessel, MAV, automatically corrected his spinning and soon he was stable relative to the ship, but still moving fast. Multiple alarms were blaring in his ears complaining that he should probably slow down. He quieted them by entering codes into his arm mounted keyboard.

As he drifted through space, Max watched as the ship silently shrunk smaller and smaller, until it became a pinprick of light. The only sound was his own breath and the frightening sound of his own heartbeat echoing in his ears. As he realized the gravity of his situation, he closed his eyes and pushed out the doubting thoughts and then

memories from his childhood flooded into view. He recalled growing up always an outsider. The other children at school made fun of him for his turban, his clothes, and his way of speaking. The kids at temple disliked him for his love of space and science.

He thought about his scientific awakening. Each new discovery of science over the past one thousand years put humans further into a position of non-center. First, the acknowledgment that Earth is not the center of the Universe. Then that our sun is but a star just like the millions in the night sky. Then that our galaxy is one of billions of galaxies in a Universe so vast only a small portion is even visible. The more he saw, the more jaded he had become.

He fired up his MAV to burn retrograde and lower his periapsis even further into the planet's atmosphere. As he drifted inevitably towards his death, he gazed upon the world and thought about how unlikely it is that life even exists. The vast majority of the Universe is dead space. The vast majority of non-space, matter, is completely uninhabitable. Even on Earth, if you were to randomly land somewhere, you would most likely not survive long. Two-thirds of the Earth is water—you would drown. If you were lucky enough to land on ground you would likely be in a desert, rocky terrain, or tundra. You would

most likely die of thirst, starve, or simply die of exposure. This strangely gave him some measure of comfort.

However, this comfort didn’t last long. His very last thought, he realized too late as the heat enveloped him, was wishing he was back home.

Part I
The Voyage

1

One year earlier

IT WAS A COOL and bright sunny day in mid-March. The smell of the ocean permeated the air and seagulls flew overhead. Norbite told his car to drive him to the doctor's office and decided to call his mom while he was riding. They chatted for a while until he worked up the nerve to tell her how he really felt. As the car swerved around pedestrians, he took over the wheel to smooth out the drive. His mom reassured him and his shoulders relaxed. He hadn't realized they were bunched up like an over-tightened spring getting ready to snap.

Norbite Reilly had always wanted to achieve greatness. For as long as he could remember, he wanted to have his name in the history books, like Neil Armstrong and Buzz Aldrin. After he was accepted into the astronaut program, it seemed like his dream was closer than ever, but at the same time it felt even more out of reach. Sure he was an astronaut, but he was just one of many. How could he compete with these people, some with multiple PhD's, star

pilots from the Navy, and people with real world experience from battlefields or years in the private sector? Norbite had none of that—just a bachelor's in mechanical engineering and a few years working on aircraft engines. He had to keep reminding himself he was right where he belonged, but sometimes it felt like he would never be more than a bench-warmer, going on tours talking about being an astronaut, while never really pushing any boundaries—never doing the real work.

He was one year and six months into astronaut training at Johnson Space Center in Houston, still in a state of disbelief that he was actually accepted into the program. NASA had relaxed some of its criteria over the years, but deep down it was still hard to internalize. He couldn't shake the feeling that maybe they had made a mistake, or he was only filling a quota of inexperienced mechanics of average height with Irish last names.

He pulled up to the doctor's office, took a seat in the lobby, and waited for his named to be called. The sign out front said "Life Extension Medical." Norbite had read about the life extension technology called "life-x bacterians"—short for "life extending genetically modified bacteria"—and they were offering it to all of the NASA recruits, free of charge.

The nurse called his name and led him into a smaller room where she took his blood pressure, oxygen level, and

heart rate. The room was cold and sterile but felt new—like it was just built last week. She left and a few minutes later the doctor entered the room.

After they exchanged greetings, the doctor explained how they would take a sample of his DNA, replicate it a billion times, then develop the bacteria around it. Then they would inject the bacteria into him, which would work to destroy any foreign organic cells—including cancer cells—in the body and deconstruct them into their composite minerals. The bacteria themselves didn't replicate so the whole procedure would need to be repeated every five years. He wasn't sure how he felt about it.

"So, this will make me immortal?"

"I can't promise you immortality," the doctor said, his voice calm and reassuring. "In fact, I can almost guarantee you won't live forever. I'm not sure 'forever' even means anything, not in the way we understand it. But what I *can* promise is that we have the technology to significantly extend your life. So, why not take advantage of it? Since the dawn of humanity, we've been obsessed with the idea of living longer, of beating death."

Norbite reclined on the examination table, his arms folded across his chest. The doctor's voice was soothing, the kind that comes with years of experience, and his face matched it—worn, wise, the kind of face that had seen

countless lives come and go. Yet, despite the reassurance, Norbite couldn’t shake the unease gnawing at him.

"Yes," Norbite said slowly, his voice edged with skepticism. "But never like this." He paused, eyeing the doctor with suspicion. "Medical science always seems to screw things up the first time around. And this... well, this feels like something new."

The doctor smiled faintly, a knowing look in his eyes. "I understand your hesitation. But progress is never without risk. I assure you this has undergone extensive testing, in both animals and people. The question is—are you willing to take the leap?

“We’re afraid of what we don’t understand. Just because you don’t understand it, doesn’t mean it’s dangerous. Every technological advancement of society has been met with fear: electricity, radio, the microwave, computers. This doesn’t mean new technology is without its problems. Any new invention can be used for good or for evil—take nuclear power for example: it can be used as a source of energy and, in nuclear weapons, it can cause immense destruction. The hard part is having society make the right choice of what to do with it.”

"You're probably right, but I’m just not sure I’m ready for it."

"Do you have any specific questions that I can answer to help you decide?" The doctor looked down at his watch and shifted in his seat.

"No. I just need to think about it for a while."

"Okay. Then think about it and when you're ready, make an appointment with the AI out front." The doctor left the room, leaving the door open behind him.

Norbite left the doctor's office and walked back towards his modest car parked outside. He hopped in and drove back to his apartment.

He waved at some neighbors as he approached his complex, went in, and headed to his room on the second floor. He navigated the tangled web of pizza boxes, dirty clothes, and half-read books thrown around his living room and flipped on the news.

A reporter's voice filled the room, mid-sentence, discussing the latest developments from NASA. There was growing speculation that a manned mission to Mars was just around the corner—as early as next year, 2039. The plans were already in place, with only two major hurdles left: selecting a crew and securing the funding. Norbite's stomach twisted in knots in a mixture of excitement and fear. He could be one of the people chosen.

Norbite turned off the TV and thought about the life-x procedure. He knew in his heart it was the right thing to

do; he only had to prove it to his head. He spent several hours researching the procedure, the results of experiments, conjectures on the long-term effects, and the possible side effects. Eventually he came to a conclusion; he would do it. If there were problems, at least now he could say he made a thoughtful choice. He wouldn't be alone. Most of the other astronauts had made the same decision.

That night, Norbite had a dream. He dreamed he got a letter informing him he'd been selected to go on the mission to Mars but when he landed on the red planet, he was completely alone. He looked around and saw rocks and sand stretching for miles in every direction. His communicator didn't work. He tried to shout into space hoping someone would hear him but his mouth wouldn't move. He jumped up and his body continued flying up as if there was no gravity. He soared higher and higher into the air, and as he looked around, he could see the towering volcano of Olympus Mons in the distance with the black sky above. Suddenly, he felt like he couldn't breath as he sailed into space. He clawed desperately at his mouth, trying to pry it open.

Norbite woke up lying on his back and covered in sweat with his bed sheets wrapped around his body. He

threw off his sheets and got out of bed and noticed the dawn light streaming through his windows in golden bands. It must have been only minutes before his alarm would go off. He rubbed his eyes and tried to calm his tense muscles. It had been a long time since he'd had a nightmare. It had seemed all too real. He showered, ate breakfast, and headed to his office, and by the time he arrived, he had forgotten all about his dream.

2

RIN YAMAMOTO KNEW she was going to Mars. She had known since she was a five year old girl, after her family had moved from Tokyo to San Francisco. Whether it was next year or in ten years, she was going. Something about the red planet fascinated her and pulled like a super-conducting magnet. She had organized her whole life towards it. NASA seemed like the best option so she had focused most her life on becoming an astronaut.

Now that she had achieved this goal and was in candidacy training at the Johnson Space Center she was on Cloud Nine. This was the last month of the two year program and she was thoroughly enjoying it.

Her background was in aeronautical engineering and astrophysics so the most demanding part for her was the physical and medical training. Every candidate was trained to withstand high g-forces, long periods of

physical labor, zero gravity training, and basic medical knowledge in case anything should go wrong during a mission. Although difficult for her, she put every ounce of her being into doing her best, since it would help her toward her ultimate goal. Outside of work, she spent a lot of time reading—both fiction and non-fiction—about Mars. It did’t leave much time for a normal life.

At the moment, Rin was sitting on the couch in her apartment with a young engineer. He was in the middle of a tirade about the latest developments in robotics, a nanobot/macrobot hybrid. Like so many men she knew, his wardrobe never strayed far from a jeans, T-shirt, and hoodie.

She pulled her ebony hair back over her left ear and asked, "Why are you so interested in robots anyways?"

"From my point of view, if you can't beat 'em, join 'em. We humans are too stupid not to create an AI smart enough to destroy us, so we better get ready and have a plan to fight back."

"But aren't you basically helping the robots by giving them bodies to fight with?"

"I get why you would think that, but the difference is I'm making sure these robots are subservient. You have to fight fire with fire. AI is going to get a body as you say at some point, regardless of what anyone does. That’s what some people don’t understand."

They would argue like3 this from time to time; not leading to anywhere. Rin felt that he was succumbing to typical rationalization—making up a good reason for his profession after he already decided to do it—but there was no changing his mind. People can be so difficult, she thought. Another reminder of why it's best not to get too attached.

She shifted her gaze to the window and saw a tall man sitting on a bench, his figure framed by the soft light of the fading day. He was in a small tree-covered park with a walking path. Birds were chirping. The blue sky reflected off the murky brown retention ponds. She wondered for a moment if that man was also rationalizing, but she was interrupted by the engineer.

"You got something in the mail by the way." He handed her an envelope.

She opened it and a sunny expression glowed on her face. She jumped up and down. "I got in! I'm going!" She stifled a laugh and showed him the letter. "Mars!"

3

KURT CAMPOS SAT on a park bench and reflected on how he came to be at NASA. Only five years ago he had written Ed O'Donnell, now the Mars Mission Director, asking for special consideration to join the astronaut training program. Kurt was an army veteran who quickly rose to the rank of Captain before getting sidelined by an IED. After losing the use of his left arm, he only regained it after years of treatments and physical therapy, which normally would have dashed any hopes of being an astronaut. Now he was on the phone with the mission director being asked to join the first manned mission to Mars.

"You're asking me to take on a lot of responsibility," Kurt said in a serious tone. "I would be the commander, separated by light minutes from earth; meaning every tough decision would be mine. Not only that but I would have knowledge I'd need to keep from the crew?"

“After all you’ve been through, you can handle tough choices and keep secrets…”

“Yes, sir, but I want to put that past behind me.”

The director preached about how the mission to Mars was supposed to be one of optimism and new beginnings, but Kurt kept a skeptical look on his face and ended the call, promising to call back. He remembered a time when powerful people had said similar things to him in the past—and those words had turned out to be worth about as much as a refrigerator to an Eskimo.

People tended to look up to Kurt—it comes with the territory when you’re one of the biggest and strongest guys around—but it wasn’t all dandelions and roses. Being in charge meant that he felt responsible for everything that happened, the good and the bad; and in war, there’s a lot of bad to go around.

He stopped and watched the birds in their cryptic dance, sailing around in circles, sometimes landing and sometimes cruising just above the water before soaring back up again. Pointless it seemed, but also beautiful in a way.

After some time—could have been ten minutes, could have been an hour—he called back.

“Mr. O'Donnell, I’ve always done what I believe is right for this country and for the world. I believe the Phoenix project will advance the frontiers of both. I’m in.”

4

NASA FORMED a committee to choose the seven astronauts for the Phoenix 5 mission; so named because it was the fifth mission using the Phoenix moniker. The mission director, Ed O'Donnell, had a large amount of influence in choosing them but had to convince some of the older members of the committee—some of whom should have retired years ago in his estimation.

Ed knew the crew had to be the right balance of talent, knowledge, grit, and team cohesion. Picking the right people is an art more than a science. He had a certain talent in that art that could only be gained through years of hands on experience picking people and putting teams together. He'd experienced every kind of team breakdown, malfunction, failure, or success.

They spent months combing through the potential candidates, interviewing, and trying out different combinations of people in team trials. Ed had to make some concessions, but overall he was happy with the final team selected.

After individually notifying the chosen people, NASA held a small press conference to announce the results. Several reporters and vloggers were in attendance broadcasting the event.

The mission director himself appeared in a nicely pressed blue suit to give the speech. He had the appearance of a weary old general who had been through many battles, with short cropped graying hair and a black mustache.

"After screening hundreds of candidates based on skills, emotional fortitude, and group cohesion, we have selected our crew for Phoenix 5, our first crewed mission to Mars. Since they will have many mission critical responsibilities, the members of the crew necessarily represent a wide variety of specialties."

"We are happy to announce the seven great astronauts selected are:

Kurt Campos: Seasoned pilot and combat veteran as Commander.3

Chris Joshi: Nuclear Physicist.

Max Jalali: Biologist and Botanist.

Rin Yamamoto: Aeronautical and Astrophysics Engineer.

Akshara Tagore: Computer Engineer and Programmer.

Kara Guzman: Medical Specialist and Mental Health Specialist.

Norbite Reilly: Mechanical Engineer.

They represent some of the very best this country has to offer and we thank them for their service. Thank you."

With that he descended from the podium, ignoring the questions called out by the reporters. *He had work to do.*

During the 2010s, while Ed was a low ranking manager, NASA had planned a very conservative mission to send humans merely into orbit around Mars. However, that was before the unexpected doubling of their budget. After that point, it became clear they could do much more and were pressured to do so by Congress and the President. After the UN treaty of 2027 in Copenhagen, often called the "Space Treaty", the first country to grow plants on an unclaimed planetary body could claim ownership to the surrounding land under international law. Competition with China and other countries was increasing as they scrambled to grab up unclaimed parts of the solar system.

So the Phoenix Missions were born. They began with robot missions meant to scout the surface for underground lava tunnels and water-ice. These were sent in the 2030’s and were mostly successful, with Ed benefiting and being promoted after almost every mission. The second phase—the current phase—was to send an initial group of

astronauts to form a habitat and start growing crops. If this was successful, they planned to send an ever increasing, but rotating, group of astronauts to the surface and essentially colonize the planet. However, it was unclear to Ed how many people could be sustained this way and how long they could stay on the surface. There was a large variation in the estimates of the space community—some saying only a handful while others were saying they should send hundreds of people to Mars.

Ed oversaw the planning of the entire mission. He led dozens of teams representing hundreds of scientists, planners, and engineers, all focused on different aspects of the mission: rocketry, logistics, computation, risk mitigation, medical concerns, horticulture, nuclear power, and many others, some of which he barely understood.

One thing everyone could agree on was how to get there. The Hohmann maneuver is the most efficient way to travel between planets in the solar system. It involves altering the vehicles orbit just enough to meet the target planet, and each planet needs to be in the proper relative orientation for this to work. While Earth and Mars approach each other every twenty-six months, their minimum separation varies over a fifteen year cycle due to the elliptical nature of each planet's orbit. Choosing the right year to launch has a significant impact on the power required to transfer a payload from Earth to Mars. For this

reason, the year 2039 represented one of the optimal times to run missions to the red planet.

In February of that year, NASA would launch the Rigel capsule (named after Rigel, the seventh brightest star in the night sky) from Kennedy Space Center with its crew of seven on board to rendezvous with the rest of Phoenix 5 already in orbit. It would be composed of several modules that were brought into orbit using reusable rocket boosters and assembled in space. It would have an ion engine module, which used Xenon for fuel, a power module with a molten salt nuclear reactor, a cargo module, a living module for the crew, and a command module which also served as an escape pod in case of critical failure.

To counteract the negative effects of zero gravity—muscle loss, bone degradation, and eyesight problems, among others—the living module included a rotating torus ring that provided a centrifugal force of 0.8g (eighty percent of Earth's gravity). The gravity on Mars for contrast is about 0.4g.

The ring would be expanded and inflated after being installed in the Phoenix 5. This allowed it to be much larger than a typical payload. It would include living quarters, bathrooms, and a small dining area that could comfortably fit all seven crew. Most of the essential life support systems would also be included on the living module, such as the oxygen generator and water reclaimer.

They planned for the cargo module to contain all of the food necessary for the trip, some water, the equipment for constructing a base on Mars, raw feed materials for the 3D printers on board, and some small science experiments.

Many processors would be located throughout the ship, but the main AI computer was located in the command module. It would act somewhat like the brain of the ship, collecting data from many sensors, communicating with the crew through voice recognition and synthesis, and sometimes even making decisions, such as when to notify the crew of a system failure.

5

One year later

THE DISEMBODIED VOICE of the ship filled the living module at high decibels, "Warning! Critical pressure drop detected in the primary oxygen generator." The ship repeated this warning three times before becoming silent. Red lights filled the ship and flashed as if to say, *This is bad. This is not a test.*

The three of the astronauts who were awake at the time, Norbite, Akshara, and Rin, sprang into action. They had all been trained intensely for the possibility of emergencies like this. Norbite and Akshara made it to the airlock first and quickly decided that Norbite should go out first while the other stayed behind to monitor the situation. Rin was asking the ship questions, trying to stay calm and figure out what had happened.

Norbite suited up and noticed immediately that one of the MAV units was missing. He exited the airlock and quickly maneuvered to the primary oxygen tank. When he

arrived, he saw a steady stream of gas spraying out into space where the intake valve should be.

His first thought was that some kind of debris must have impacted the ship and ripped a hole through the exterior skin. Although the ship had a system of hundreds of sensors and lasers to prevent this very catastrophe, it still was within the realm of possibility. Kessler syndrome, billions of debris too small to track orbiting the planet at very high speeds, had become quite a problem in recent years and they were still in low Earth orbit.

However, when Norbite arrived at the hole armed with a welder, he noticed that it was not caused by an impact. His pulse quickened.

Someone had clearly wrenched open a valve.

"Why would anyone do such a thing?" he thought and felt a ripple of fear course through his body.

After Norbite fixed the oxygen leak, he made his way back into the ship, taking great care to follow every procedure properly. After he sealed the airlock behind him and disrobed from his space suit, Kurt, Rin, and Akshara were there waiting for him.

Rin spoke up first. “He’s gone. He opened the oxygen valve and then flew away.”

“Who?” Norbite asked, with a look of pure confusion.

“Jalali. We’re down one MAV too. He took it with him.”

Norbite had the odd sensation he was floating above his own body, like the words he was hearing were from someone else's life. His head was already filled with pressure from being weightless, but now he felt like he must be underwater, not floating in a space ship.

"Damn. Why?" he heard himself say.

Kurt replied, "We don't know. He must have had a mental break of some kind. We'll have to ask command to send up more reserve oxygen and a MAV."

Akshara added, "It's going to set us back some."

Norbite asked, "Is it going to… are we going to miss our window?"

Rin replied, "No. I've ran through the trajectories with the ship. It thinks we can still make it if we leave within the next twenty-four hours."

6

ED O'DONNELL SAT in a closed room meeting with Terrence Woodward, the Director of NASA, and Jesse Mason, the Director of Media Relations. It was a much larger room than they needed. Its white walls were mostly blank except for some photos from previous NASA missions. The air was charged with a tension that felt almost tangible.

Ed was livid. He asserted, "Each member is integral to the success of the mission, dammit."

"But if we slow down the mission we could miss the window altogether and be set back for two more years!"

"Then we better get it done quick. We can't go on without him. He was the botanist for god's sake!"

Jesse interrupted, "Might I suggest that we pick someone from middle America this time?"

Ed, looking visibly upset, responded loudly, "Jesus Jesse, how can you bring up his background right now? That has nothing to do with it!"

"Yes, I know that, but think of the optics."

"We picked him partly for optics in the first place. God I hate politics," exasperated Ed.

"Alright, alright. Let's not get ahead of ourselves. Didn't we plan for back-ups? Wait lists?"

Ed responded, "Yes, we did. Good point. I'll go through the wait list and see if there's a good replacement."

"Good. Have it to me by tomorrow. We can't afford much lead time here. I'll get a shuttle lined up for the replacement. Meeting adjourned."

The next day Ed had the perfect replacement, Phoebe Rosales, a botanist with a degree in Biology and a minor in Astrobiology. She was married with two teenage children. She was also the next in line after Jalali.

Jesse was not pleased. He called Ed saying, "It would make the crew majority female and removing a mother from her children might not portray NASA in a positive light in the news cycle. Shouldn't that be a consideration?"

"Well is there any reason why you think she's unqualified?," replied Ed. Jesse paused for a moment and didn't say anything. Ed smashed the touchscreen button to

end the call. Positive light or not, he couldn't afford to have the decision delayed any further.

Nothing could get in the way of this mission being successful even if his pick for the crew was controversial. The news can be finicky. Once the mission is successful, they'll all come around.

Ed presented the choice to the Director and without hesitation he agreed.

7

THE MISSION DIRECTOR spoke to Kurt and the rest of the crew from the main screen in the dining hall. He congratulated them for their quick reaction to the situation and requested everyone to be evaluated by a therapist within the next twenty-four hours. It was painfully reminiscent of Kurt’s debriefing after his all-too-close encounter with death back in his combat life.

Ed continued, "It is suspected that the combination of the life extension therapy with the stress of the mission, the g-forces of the launch, and the micro gravity of space may have caused stroke-like symptoms and resulted in Mission Specialist Jalali's mental breakdown." He paused to let the crew respond.

Kara gasped, "How is that possible?"

Chris scowled and asked, "Hasn't the life-x therapy been well tested? How was this not a known reaction?"

The director responded in an even tone, "Yes, it has been well tested on Earth. However, there had not yet been any space flight tests. No one thought it would make a difference—sadly, it seems it did."

"Each of you should have at least one hour of light therapy and one extra hour of exercise per day until we sort this out. We will make sure to thoroughly monitor everyone from this point forward. Also, please monitor yourselves and each other. We don't want any more surprises. More details will be forthcoming as we learn more."

Kurt wrapped up the call and said, "Thank you, sir. We will do as requested. Again, I'm sorry this happened."

"Not at all your fault, Commander. No one saw this coming." He closed the channel.

Each of the crew passed their psych evaluations with flying colors over the next day. They were a bit rattled, but these were well-trained astronauts.

They each said their final goodbyes to their friends and families as they passed over the continent. This would be their last chance to have low latency conversations due to the laws of physics that would quickly lengthen the gap in both space and time between them and Earth.

Two hours later, the VisionStar shuttle, a large reusable spacecraft built by Final Frontier that was the spiritual successor to the original Space Shuttle, arrived with the

re-supplies needed and Phoebe Rosales. The shuttle docked with Phoenix 5 and Phoebe climbed aboard in zero G. Kurt was there in the command module to greet her while the rest of the crew waited in the central chamber.

"Welcome aboard, Phoebe," said Kurt, reaching out to shake her hand.

"Thank you, Commander. Glad to be here," replied Phoebe, her short brown hair floating around her head.

"Let me show you around."

Kurt led her into the central chamber to meet the rest of the crew. He noticed most of them had already met back on Earth during the crew selection process. After the greetings were over, Kurt asked them all to pose for a group shot, a publicity shot of the seven astronauts headed to Mars. He thought it would be good to get back to some level of normalcy. They all smiled for the photo although he knew underneath they must be all feeling the same mix of emotions: fear, confusion, grief, and under it all, excitement for the journey about to begin.

8

A BEAUTIFUL DAY in early March, 2039 was the first day of their long journey to the red planet. Hundreds of millions of people all over the planet watched video coverage of the history-making event. Nothing like this had happened since the first manned mission to the Moon.

Rin held on to straps as the living module's spinning torus was stopped to prepare for the burn. NASA determined that the complication added during acceleration was not worth the benefit of artificial gravity to the astronauts. However, the acceleration would only last about five hours. The Hohmann transfer only required a burn during the beginning and end of the journey through the solar system.

During the burn the astronauts experienced only half a percent of Earth's gravity. It was more of a suggestion than gravity.

She watched on screens as they pulled away from Earth. The only windows were in the command module and they pointed the wrong way, but they were able to access

multiple outside camera views. The cloudy blue planet turned slowly beneath them. A beautiful blue-green marble with a thin veneer of atmosphere that glowed. At night they saw the city lights of civilization light up like a bio-luminescent squid in the inky blackness. At their current orbit, they saw a sunrise and sunset every ten hours. This would be their last view of the sunrise over Earth for nearly three years.

The trip to Mars would take about eight months. Meanwhile, the crew had various jobs to do, but mostly they just had to wait. They spent some of their time catching up on news from Earth, playing VR games, practicing emergency procedures, talking, and sending video holograms to their friends and family back home—anything to keep the sabotage incident out of their minds.

Although they tried to keep an outward appearance of normalcy, Rin knew the incident had left a palpable impression on every member of the crew. Max's dis-appearance and the circumstances of his death were still something of a mystery, despite the assurances from NASA that it was a reaction from the life extension procedure. If it was some kind of reaction, how could they

be sure that any one of them would not snap at any moment?

The crew slept in shifts so that there was always at least three people awake at a time in case anything went wrong. However, they typically came together at least once a day as a group to mingle and eat in the dining room.

One such time as they were milling around Phoebe asked, "Is anyone else getting tired of this soylent stuff?" referring to the prepackaged food packets they ate that held all of the nutrition of a full meal without any of the taste.

Rin replied, "I don't mind it. Besides, we might as well get used to it. It's half of the calories on board the ship."

"It was integral to keep the weight of the ship down. The less weight they had to spend on food, the more they could use for supplies, so we should be grateful for it," added Chris.

"Well, it's just hard to be grateful for something so bland," said Phoebe.

"Did you try adding sriracha?" asked Norbite.

"Eww, gross. No thanks," replied Phoebe with a look of disgust. "Never mind. It's fine. I'll get used to it. I'm looking forward to eating more real food in about eight months, though."

“Well, we do have a small garden right?”

“Yes, but it’s just some herbs and lettuce. Not much substantial.”

As soon as she heard it, Rin realized she was right. This food was getting old fast.

Around one month into the journey, just before mealtime, Chris brought up a new development from Earth, "Did you guys see this? There have been reports that the Chinese are planning to launch their own Mars growth mission. Instead of a manned mission, it seems to be only an automated probe."

"Are you sure it's not just some kind of April fools joke?" asked Norbite.

"No, it's not. I checked."

Phoebe had also seen the story and confirmed, "Yes, it's true. Do you know where they plan to send it?"

"They wouldn't want to get too close to us, surely," Kurt said.

Chris braced himself as if having felt a brief chill. "Has NASA contacted us about this?"

Kurt responded, "No. They probably wouldn't say anything official until the rumors have been confirmed."

Rin’s skin prickled at the mention of China. Being from Japan, she often had been mistaken as being Chinese, and